

# Integrated Health Care for People with Chronic Conditions

*A Policy Brief*

Norwegian Knowledge Centre for the Health Services  
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Norwegian Knowledge Centre for the Health Services  
Oslo, December 2008

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# Preface from the Ministry

Clinical research has led to spectacular developments in health care. It has provided us with knowledge about how to prevent diseases, like heart disease, how to reduce the consequences of disease, such as complications of diabetes, and to alleviate symptoms, such as those of lung disease, and how to rehabilitate people who have suffered a disabling event, such as a stroke. Healthcare systems have the potential to deliver interventions that save lives and improve the quality of life. We know this from well designed research and systematic reviews of that research.

Unfortunately, we also know that patients often do not receive effective care when they should, that they sometimes receive care that is not effective or safe, and that not all of the money we spend on health care is well spent. This comes from a different type of research – health services research. In the same way that clinical research is essential for informing how best to care for patients clinically, health services research is essential to inform decisions about how best to organise, finance and govern our healthcare system.

This policy brief is a good example of both the potential for health services research to inform healthcare policies and management, and an example of the limitations of health services research to inform decisions.

There is a lot of evidence about strategies that are effective or promising, including many of the elements of the Chronic Care Model. There is also lots of uncertainty about the effects of many strategies. Where there is evidence of effects they are mostly small or moderate effects, but important. Where there is lack of evidence, this means that more research is needed. We must, however, also remember that lack of evidence does not mean evidence for the lack of effects.

Altogether, this tells us:

1. The healthcare system is complex; there are unlikely to be simple fixes that will lead to dramatic improvements. This is not unlike most clinical interventions, which also rarely have dramatic effects, but nonetheless can make huge differences in peoples' lives.
2. We can make important changes that will make the Norwegian healthcare system even better than it already is. I hope that with information and advice from this policy brief, the workshop where it was discussed and from many others, we can develop a reform to implement both effective improvements now and help build a foundation that will allow us to continue to improve our healthcare system and to learn from our

experience more systematically by evaluating the changes that we implement when there are important uncertainties, as is often the case.

3. We need to work together to improve our healthcare system. We need the advice and reflections of researchers both in Norway and internationally. We need the advice and experience of clinicians working in the front lines. We need the advice and experience of patients. Important changes in the health services are not going to occur from the top down approach, at least not alone. The healthcare system depends on the vast efforts of the thousands of people trying to provide the best care they can to patients and the millions of people who use the healthcare system. It also depends on leaders at all levels of the healthcare system. We need both bottom-up approaches and policies that engage and enable people to make well-informed decisions and to act on those decisions in order to ensure that the health services are effective, efficient, equitable and compassionate.

At the end of the day, come April, it is the responsibility of the Minister of Health and Care Services to sign off on the Integrated Health Care Reform. The background information contained in this policy brief, which was prepared for the international workshop we had with you and the international experts on December 2<sup>nd</sup> 2008, were very useful input to the work of the Minister's external expert group and the process as a whole.

I and my colleagues in the Ministry of Health and Care Services are grateful for the valuable input to the process.

Vidar Oma Steine

*Director General, Head of the reform project  
Ministry of Health and Care Services*

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# Key Messages

- Uncoordinated care can affect the quality and efficiency of health care, access to care, participation in and satisfaction with care, and health outcomes for chronically ill patients. However, there is a paucity of data in Norway that provide a basis for estimating the size of the problem or clarifying the underlying reasons for inadequate coordination.
- The impact of many changes in delivery, financial and governance arrangements that could be made to improve the coordination of care for people with chronic conditions is uncertain; evaluation is critical when such changes are made.
- Components of the Chronic Care Model and disease management programs, alone or in combination, can improve quality of care, clinical outcomes and health care resource use, but the effects are not consistent and a number of obstacles may hinder their use.
- The impacts of delivery arrangements that have been shown to be effective (e.g. patient education and motivational counselling, provider education, feedback, reminders, and multidisciplinary team work) are generally modest, but important. There is uncertainty about the impacts of other arrangements (e.g. care pathways, case management, and shared care).
- Targeted financial incentives with the aim of achieving specific changes in how care is delivered probably influence discrete individual behaviours in the short run, but are less likely to influence sustained changes, and they can have unintended effects, including motivating unintended behaviours, distortions, gaming, cream skimming or cherry-picking, and bureaucratisation. Therefore, they require careful design and monitoring.
- Similarly, changes in the basic payment methods that are used for both clinicians and institutions in order to offset the inherent limitations of each require careful design and monitoring. A long-term perspective with continual adjustments is more likely to be successful, than dramatic one-off changes.
- There is not evidence to support any one governance model as being better than others. However, specific structures are likely needed at different levels to improve coordination:
  - Clinical governance (healthcare professionals' accountability for quality of care) for both primary and secondary care
  - Boards at the local level that conduct detailed oversight and monitoring for both primary and secondary care
  - A regional board that coordinates different local networks in the region
  - A central governance structure that sets broad standards, which the regional and local boards are responsible to adhere to and implement
- Consumer and stakeholder involvement in governance arrangements at all levels is a strategy for achieving better coordination of care and other health goals, as well as a goal in itself, but there is little evidence of how to best to achieve this.
- Because there are multiple barriers to organisational and professional change, simple approaches to implementing change are unlikely to be effective, change is likely to occur incrementally and to require ongoing attention.
- There are many tools that may be useful for implementing organisational changes, including analytic models, tools for assessing why change is needed, such as SWOT analysis, and tools for making changes, such as organisational development and project management. However, there is almost no evidence of their effectiveness.

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# Executive Summary

**As part of the development of the Integrated Health Care Reform, this report was prepared to inform deliberations among policymakers and stakeholders regarding how best to reform the Norwegian healthcare system to improve the coordination or integration of health care for people with chronic conditions.**

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## THE POLICY ISSUE

The aim of the Integrated Health Care Reform is to improve the health services through better coordination across different levels of care and from different providers within each level. In this policy brief, we focus specifically on coordination of care for patients with chronic diseases, although the goals of the Integrated Health Care Reform and the problem that it will address have not yet been clarified. The focus is on chronically ill patients because of the importance of chronic diseases in terms of burden of disease and healthcare costs and because coordination of care for chronic diseases is, to some extent, illustrative of challenges facing the whole system.

Possible reasons for problems with the coordination of care in Norway include separation of hospital (specialist) and community (primary) care with different administrative and financial structures and different cultures that may inhibit collaboration; financial disincentives that inhibit collaboration; inadequate implementation of the ‘regular GP’ reform as well as consequences of that reform; consequences of a centralisation process that occurred as part of the hospital reform; inadequate implementation of the Patients’ Rights Law (which, among other things, gives patients who need long-term care and coordinated services the right to an individual plan), as well as other regulations; barriers to good communication; and a lack of leadership and a common culture that promotes collaboration.

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## DELIVERY ARRANGEMENTS

Integration or coordination has been pursued in many ways in different health systems and many overlapping terms are used to describe these. A systematic review of care coordination found more than 40 distinct definitions comprised of five key elements:

- Integration of care activities has the goal of facilitating appropriate delivery of healthcare services.
- Numerous participants are typically involved in care coordination.
- Coordination is necessary when participants are dependent upon each other to carry out disparate activities in a patient’s care.

- In order to carry out these activities in a coordinated way, each participant needs adequate knowledge about their own and others' roles, and available resources.
- In order to manage all required patient care activities, participants rely on exchange of information.

The Chronic Care Model is probably the best known and most widely used framework for conceptualising the delivery of care to people with chronic conditions. It was developed as a framework to guide system changes and quality improvement and includes a number of components. Components of the Chronic Care Model and various other disease management programs, alone or in combination, can improve quality of care, clinical outcomes and health care resource use, but the effects are not consistent and numerous obstacles hinder their use. It is very uncertain whether all components of the Chronic Care Model, or any other model for chronic care, are essential for improving chronic care.

Components of broad frameworks or service delivery models that have been shown to be effective generally have modest effects, including patient education and motivational counselling, provider education, feedback, reminders, multidisciplinary team work, some interventions targeted at patients discharged from hospital or the emergency department to home, complex interventions to improve physical function and maintain independent living in elderly people, rehabilitation services targeted towards stroke patients living at home, computerised central recall, with prompting for patients and their family doctors, community mental health teams, collaborative care for depressed patients in primary care, and intensive case management for patients with severe mental illness.

The effectiveness of many other components is very uncertain, including evidence-based care pathways, case management, shared care, home visiting programs for older people with poor health, and most information and communication technologies.

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## **FINANCIAL ARRANGEMENTS**

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Financial arrangements have important implications for the coordination, quality and costs of care.

The benefits and costs of using financial incentives to improve coordination or quality of care are uncertain. In addition, there is a danger of perverse effects with all types of financial incentives. These include distortions (causing recipients to ignore other important tasks), gaming (changes in reporting rather than desired changes in practice), cream skimming or cherry-picking (selecting patients for whom good outcomes are easy to achieve and avoiding those from whom good outcomes are difficult to achieve), dependency on financial incentives (if provider behaviours are not ingrained, they may disappear when the incentives end or new incentives are introduced), and bureaucratisation (pay-for-performance schemes may have substantial administrative costs associ-



ated with monitoring performance and managing disbursement of the financial incentives).

Different methods of paying clinicians (fee-for-service, capitation, and salary) also all have perverse incentives for patient care as well as potential advantages. The impacts of different payment systems in practice are very uncertain. Similarly, different payment methods for institutions (fee-for-service, capitation, per diem payments, case fees and budgets) all have perverse incentives as well as advantages. Their impacts are also uncertain, although there are theoretical reasons for anticipating certain effects, such as increased productivity with 'prospective' systems like diagnosis-related group (DRG) payment systems.

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## **GOVERNANCE ARRANGEMENTS**

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Although there is not an empirical basis for advocating a specific governance model for an integrated healthcare system, a governance arrangement that is suitable for integrated health care is likely to require:

- Boards (which currently do not exist in Norway) at the local level that conduct detailed oversight and monitoring of the operations of the component parts of the system for both primary and secondary care;
- A single board at the regional level that coordinates the different networks in the region, oversees and evaluates their performance, and verifies that accepted standards are met across both primary and secondary care; and
- A central governance structure that sets broad standards such as funding and capitation policies, quality indicators or entitlement principles (rights to guaranteed benefits) that serve the interests of the society as a whole while preserving the autonomy of local governance structures.

The term clinical governance has been used to capture the range of activities required to improve the quality of health services. Central among these are the need for all healthcare organisations to develop processes for continuously monitoring and improving the quality of health care and to develop systems of accountability for the quality of care that they provide. There is a need for effective clinical governance within and across different levels of the healthcare system. Fragmentation of the healthcare system inhibits effective clinical governance, particularly in primary care. GPs are traditionally independent and primary care services often are fragmented across multiple providers, with no clear managerial or professional hierarchy through which to implement clinical governance. Evaluations of alternative governance arrangements to address these challenges have not been reported in the scientific literature.

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## **IMPLEMENTING CHANGE**

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There are a number of barriers to coordinating or integrating care, even in relatively conducive health systems. Because of the many barriers to organisational and profes-

sional change, no single approach or intervention is likely to bring about desired changes in the coordination of care. Even with major reforms, changes in behaviour are likely to occur incrementally and to require ongoing attention.

Most interventions used to change professional practice, such as educational meetings, audit and feedback, and outreach visits, achieve small to moderate (but important) improvements in performance. All of these interventions require resources and many require that clinicians have time and space to review their practices and to introduce new ways of delivering services that are more coordinated and effective. Although there is little evaluation of coordinated quality improvement systems, key components are likely to include strategies for effective stakeholder involvement, systematic and transparent approaches to setting priorities for improvements, evidence-based clinical guidelines, efficient methods for accessing data that can be used to assess the quality of care, methods for identifying problems with the quality of care and selecting appropriate interventions to address those problems, and efficient ways of monitoring and evaluating change.

There are many potentially useful tools for implementing organisational changes, but there is almost no evidence of their effectiveness. These include analytic models, tools for assessing why change is needed, such as SWOT analysis, tools for determining who and what can change, and tools for making changes, such as organisational development and project management. Similarly, although it is widely believed that leadership and organisational culture are important for achieving desired changes, there is a lack of empirical research or critical assessments of the role of leaders in health care and it is very uncertain whether efforts to change organisational culture can achieve improvements in performance. It has been shown that the use of clinicians who are local opinion leaders can successfully improve practice, but the feasibility of widespread use of opinion leaders is uncertain.

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## **REFORM OPTIONS**

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It may be helpful to consider three broad categories of reform: “linkage”, which would operate through existing structures; “coordination”, which would operate mainly through existing structures, but is a more structured approach that would involve additional explicit structures and processes; and “integration”, which would create a single system with responsibility for all services, resources and funding in a single managed structure. Each of these has potential advantages and disadvantages. There is little evidence to guide a choice between these different approaches. However, an open discussion of the potential advantages and disadvantages of each, informed by the available evidence, and based on a shared understanding of the goals and values that will guide the reform, could help to decide what package of delivery, financial and governance arrangements and which approach is best suited to address the problems faced by the Norwegian healthcare system and achieve agreed upon goals.

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# Hovedbudskap

- ➔ Mangelfull samhandling kan påvirke kvalitet og effektivitet i helsetjenesten, tilgjengelighet til, deltagelse i og tilfredshet med behandling og helsemessige utfall for kronisk syke pasienter. Det er imidlertid sparsomt med data i Norge som kan gi et grunnlag for å beregne hvor stort problemet er eller avklare de underliggende årsakene til mangelfull samhandling i norsk helsetjeneste.
- ➔ En rekke forandringer kan tenkes gjennomført i forhold til hvordan helsetjenester blir levert, finansiert og ledet, for å forbedre samhandling for personer med kroniske sykdommer, men effektene er usikre. Evaluering er kritisk når slike forandringer blir gjennomført.
- ➔ Bruk av en helhetlig modell for håndtering av kronisk sykdom og programmer for sykdomshåndtering kan, alene eller i kombinasjon, forbedre kvalitet av behandling, kliniske utfall og ressursbruk i helsetjenesten, men effektene er ikke konsistente og en rekke hindringer kan begrense bruken.
- ➔ Virkningene av måter å organisere leveringen av tjenester på, som er dokumentert effektive (f. eks. opplæring av pasienter og helsepersonell, motiverende rådgiving, tilbakemelding, påminnere og tverrfaglig samarbeid) er generelt beskjedne, men viktige. Virkningen av andre ordninger (som f. eks. behandlingslinjer, pasientkoordinator (case management) og delt behandlingsansvar (shared care) er usikker.
- ➔ Målrettede finansielle insentiver for å oppnå spesifikke forandringer i måten helsetjenestene blir levert på, vil sannsynligvis påvirke individuell atferd på avgrensede områder på kort sikt. Det er mindre sannsynlig at de fører til varige endringer, og de kan ha utilsiktede effekter; de kan motivere til utilsiktet atferd, fordreining, triksing, utvelgelse av de enkleste pasientene og byråkratisering. Derfor krever de omhyggelig planlegging, gjennomføring og overvåking.
- ➔ På samme måte vil forandringer i betalingsordninger for klinikere og institusjoner, for å utjevne de iboende begrensningene, kreve omhyggelig planlegging og overvåking. Et langsiktig perspektiv med kontinuerlige justeringer vil ha større sannsynlighet for å bli vellykket, enn dramatiske forandringer ”en gang for alle”.
- ➔ Det er ikke dokumentasjon for at én ledelsesmodell er bedre enn andre. Spesifikke strukturer er imidlertid sannsynligvis påkrevet på ulike nivåer for å forbedre samhandlingen:
  - Et system for klinisk styring og ledelse (clinical governance eller helseprofesjonenes eget ansvar for kvaliteten av behandlingen) for både primærhelsetjenesten og spesialisthelsetjenesten.
  - Styrer eller råd på lokalt nivå som fører detaljert oversikt og overvåker både primær- og spesialisthelsetjenesten.
  - Et regionalt råd som samordner de ulike lokale nettverkene i regionen.
  - En sentral/nasjonal struktur som fastsetter generelle standarder, som de regionale og de lokale rådene er ansvarlige for å slutte seg til og gjennomføre.

- ➔ Involvering av brukere og interessegrupper i ordningene for klinisk styring og ledelse på alle nivåer er en strategi for å oppnå bedre samordning og andre mål for helse-tjenesten, og dessuten et mål i seg selv, men det er lite dokumentasjon for hvordan dette best kan oppnås.
- ➔ Det er mange forhold som motvirker organisatoriske og faglige forandringer. Enkle måter å gjennomføre forandringer på vil derfor ha liten sjanse for å lykkes. Det er mer sannsynlig at forandringen vil skje gradvis og over tid, og kreve stadig opp-merksomhet og oppfølging.
- ➔ Det er mange verktøy som kan være nyttige ved gjennomføring av organisatoriske forandringer, inkludert analytiske modeller, verktøy for å vurdere om eller hvorfor forandring er nødvendig, som en SWOT - analyse, og verktøy for å lage forandring-er, slik som organisasjonsutvikling og prosjekthåndtering. Det er imidlertid nesten ingen dokumentasjon av deres effektivitet.

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# Sammendrag

**Som en del av utviklingen av Samhandlingsreformen har vi utarbeidet denne rapporten for å informere drøftingene blant beslutningstakerne og andre involverte parter om hvordan den norske helsetjenesten best kan reformeres for å forbedre samhandlingen om helsetjenester for mennesker med kroniske tilstander.**

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## DET POLITISKE KJERNESPØRSMÅLET

Målet for Samhandlingreformen er å forbedre helsetjenesten gjennom en bedre samhandling på tvers av nivåene og mellom ulike profesjoner på hvert nivå. I dette beslutningsunderlaget (policy brief), retter vi oppmerksomheten spesielt mot samhandling i behandlingen av pasienter med kroniske sykdommer, selv om målene for Samhandlingsreformen og problemene som den skal løse foreløpig ikke er avklart. Kroniske sykdommer er viktige i forhold til sykdomsbyrde og kostnader i helsetjenesten, og fordi samhandling om pasienter med kroniske sykdommer til en viss grad er illustrerende for utfordringene som hele helsetjenesten står overfor.

Mulige årsaker til problemene ved samhandling i Norge inkluderer at sykehus (spesialist) og kommune (primær) helsetjeneste er atskilte med ulike administrative og finansielle strukturer og forskjellige kulturer som kan hinder samarbeid; finansielle disincentiver som hemmer samarbeid; en fastlegeordning som ikke er tilstrekkelig samordnet med andre ledd i tjenestene og ikke har et tydelig koordinerende ansvar; konsekvensene av en sentraliseringsprosess som skjedde som del av sykehusreformen; utilstrekkelig implementering av Pasientrettighetsloven (som jo bl.a. gir pasienter som har behov for langvarig behandling og samordnede tjenester rett til en individuell plan), så vel som andre forskrifter og reguleringer; barrierer med hensyn på god kommunikasjon; og mangel på ledelse og en felles kultur som fremmer samarbeid.

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## ORDNINGER FOR Å LEVERE HELSETJENESTER

Integrering eller koordinering har blitt etterstrebet på mange måter i forskjellige helse-systemer, og mange overlappende begreper har blitt brukt for å beskrive dette. En systematisk oversikt om tiltak for å fremme samhandling om pasientbehandling fant mer enn 40 forskjellige definisjoner som innbefattet fem nøkkelementer:

- Integrering av behandlingsaktiviteter har som mål å fremme hensiktsmessig levering av helsetjenester.
- Tallrike deltakere er typisk involvert i samhandling.
- Samhandling er nødvendig når deltakerne er avhengige av hverandre for å utføre uensartede aktiviteter i behandlingen av en pasient.

- For å utføre disse aktivitetene på en samordnet måte, har hver deltaker behov for adekvat kunnskap om egen og andres roller, og tilgjengelige ressurser.
- For å håndtere alle de aktivitetene som kreves i behandlingen av pasienten, er deltakerne avhengige av å utveksle informasjon.

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# Preface

**Hva fungerer godt og hva er det viktigste problemet i forhold til samhandling?**

*"Det meste fungerer"*

*"To viktige forhold:  
Økende skjevforhold  
mellom 1. og 2. linje: stor  
vekst i 2. linje og  
stagnasjon i allmennlegetje-  
nesten og økende fragmente-  
ring i 2.linje skaper store  
samhandlingsproblemer  
både internt i 2. linje og  
mellom 1. og 2. linje."*

*"Vi begynner å bli meget  
gode lokalt på tverrfaglig  
samarbeid (med andre  
helsearbeidere, sosialtje-  
nesten osv) rundt pasien-  
tene med rusmiddel-  
avhengighet."*

*"Nærsynt opptatthet av  
egen innsats, ikke av brukerens  
totalsituasjon eller av hva andre kan  
bidra med. Forbispakking. På lands-  
basis er hovedproblemet de store va-  
riasjonene i tjenestetilbudet."*

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## **PREFACE - KEY MESSAGES**

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- ➔ This policy brief was prepared rapidly and is, for the most part, based on available systematic reviews of research evidence. This should not exclude consideration of policy options not addressed by this evidence or other types of evidence.
- ➔ Systematic reviews of research evidence are a more appropriate source of research evidence for decision-making than individual studies that are selected because they are the most publicized or because they support prior beliefs.
- ➔ Evidence of the likely impacts of policy options is essential for making informed decisions about choosing and implementing those options. However, evidence alone does not make decisions.
- ➔ Although integration of care has a logical appeal, the available evidence on the effectiveness of different forms of integration or coordination of care remains uncertain.
- ➔ Uncertainty about the potential impacts of policy decisions does not mean that decisions and actions can or should not be taken, but it does suggest the need for carefully planned implementation, monitoring and evaluation.
- ➔ A systematic, incremental approach with a long-term perspective that includes building capacity, monitoring and evaluation is likely to have a bigger effect than bold policy strokes.
- ➔ “Both politically, in terms of being accountable to those who fund the system, and also ethically, in terms of making sure that you make the best use possible of available resources, evaluation is absolutely critical.” (Julio Frenk 2005, former Minister of Health, Mexico)

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## **THE PURPOSE OF THIS REPORT**

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The purpose of this report is to inform deliberations among policymakers and stakeholders regarding how best to reform the Norwegian healthcare system to improve the coordination or integration of health care for people with long-term conditions. It was prepared specifically as a background document to be discussed at a meeting of those engaged in developing the “Integrated Health Care Reform” announced by Bjarne Håkon Hanssen, the Minister of Health and Care Services, in September 2008, and at a meeting of stakeholders. It is not in anyway intended to prescribe or proscribe the scope of the reform or its contents. Rather, it is intended to introduce into deliberations about the reform systematic and transparent consideration of the available evidence of the likely impacts of different policy options that might potentially be included as part of the reform.

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## **HOW THIS REPORT IS STRUCTURED**

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This policy brief uses a graded-entry format (i.e. a list of take-home messages, an executive summary, and a full report) to present policy-relevant research evidence about the impacts of different policy options that could be used to improve the coordination of care for chronic conditions. In addition, each chapter of the full report begins with key messages, followed by a summary that provides the basis for those messages.



Although this entails some replication of information, the shorter formats address the concern that not everyone for whom the report is intended will have time to read the full report. The different formats are intended to accommodate different needs. The format is also intended to facilitate rapid access to and use of the contents of the report in meetings where the report will be used as a basis for discussion.

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## **HOW THIS REPORT WAS PREPARED**

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The methods used to prepare this report are described in *Appendix 1*. Briefly, we searched for relevant systematic reviews of the effects of policy options for improving the coordination or integration of health care for chronically ill patients. We selected those reviews that we assessed as being most relevant and extracted from them the key findings and information that facilitates interpretation of those findings in the Norwegian context. We supplemented information extracted from the included systematic reviews with information from other recent overviews and policy documents.

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## **LIMITATIONS OF THIS REPORT**

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This policy brief was prepared rapidly in order to fit with the time line of the Integrated Health Care Reform, which is to be ready by April 2009. As a consequence, it has several limitations. Firstly, because it is based largely on previously completed systematic reviews, there may be important gaps in addressing policy options for which we did not find a review, for which we did not find an up-to-date review, or for which the reviews that we identified had important limitations. We have attempted to address this limitation in three ways: by relying on recent overviews and other policy documents to fill in the gaps, through focused searches and personal contact with experts, and through a rapid external review of the report. Nonetheless, there are still likely to be important gaps. These should not in anyway impede further consideration of policy options that are not adequately addressed in this policy brief.

Secondly, because of the short period of time in which the report was prepared and a lack of readily available data, this report is largely limited to one type of evidence: evidence from impact evaluations. The policy brief does not provide evidence regarding the Norwegian healthcare system, including evidence regarding needs, the availability or quality of services, costs, experiences or viewpoints. It also does not include important evidence and lessons that can be drawn from the experience of integrated health-care systems in other countries and reforms in other countries that were intended to improve integration of care.

Thirdly, summarising evidence requires judgements about what evidence to include, the quality of the evidence, how to interpret it and how to report it. While we have attempted to be transparent about these judgements, this report inevitably includes

judgements made by review authors and judgements made by ourselves. We have tried to find a balance between clearly attributing interpretations of the evidence and making the report easy to read. If there are some places where it is not clear whether a statement reflects our judgement or that of the review authors, we apologise for this. We have also tried so far as possible to provide the basis for any judgements that do not flow directly from the evidence or for which the basis does not seem obvious.

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## **WHAT IS EVIDENCE AND WHAT IS ITS ROLE IN HEALTH POLICY?**

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Evidence concerns facts (actual or asserted) intended for use in support of a conclusion (Oxman 2006). A fact, in turn, is something known by experience or observation. An important implication of this understanding of evidence is that evidence is used to support a conclusion; it is not the same as the conclusion. Evidence alone does not make decisions.

This understanding of what evidence is has several implications. Firstly, expert opinion is more than evidence. It combines facts, interpretation of those facts, and conclusions. Expert opinion should be used appropriately by identifying the facts (experience or observations) that are the basis of the opinions and appraising the extent to which the facts support the conclusions.

Secondly, not all evidence is equally convincing. How convincing evidence is regarding the impacts of interventions or policy options, which are the focus of this report, should be based on appropriate criteria for assessing the risk of bias and other factors that affect our confidence in estimated effects (Guyatt 2008).

Thirdly, all evidence is context sensitive, since observations are made in a specific context. As a consequence, although global evidence (i.e. the best evidence from around the world) is the best starting point for judgements about the likely impacts of alternative policy options, local evidence (from the specific setting in which decisions and actions will be taken) is also essential to inform the judgements that must be made about the applicability of the global evidence in the Norwegian context, and decisions about how best to reform the Norwegian healthcare system.

As noted recently by Stephen Shortell and colleagues, ensuring the delivery of high-quality care requires integration of knowledge from evidence-based medicine (which focuses on the content of care) and evidence-based management (which focuses on organisational strategies, structures, and change management practices that enable physicians and other healthcare professionals to provide evidence-based care) (Shortell 2007). ‘Evidence-based management’ “can help to expand the use of recommended chronic care processes by providing knowledge about incentives and organisational capabilities.”

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## WHY WE HAVE FOCUSED ON SYSTEMATIC REVIEWS

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Systematic reviews of research evidence constitute a more appropriate source of research evidence for decision-making than the latest or most heavily publicized research study (Mulrow 1994; Bero 1997). By systematic reviews, we mean reviews of the research literature with an explicit question, an explicit description of the search strategy, an explicit statement about what types of research evidence were included and excluded, a critical examination of the quality of the studies included in the review, and a critical and transparent process of interpretation of the findings of the studies included in the review.

Systematic reviews have several advantages. Firstly, they reduce the risk of bias in selecting and interpreting the results of studies. Secondly, they reduce the risk of being misled by the play of chance in identifying studies for inclusion or the risk of focusing on a limited subset of relevant evidence. Thirdly, systematic reviews provide a critical appraisal of the available research and place individual studies or subgroups of studies in the context of all of the relevant evidence. Finally, they allow others to appraise critically the judgements made in selecting studies and the collection, analysis and interpretation of the results.

In contrast, while practical experience and anecdotal evidence can also help to inform decisions, it is important to bear in mind the limitations of descriptions of success (or failures) in single instances. They can be useful for helping to understand a problem and experiences, but they do not provide reliable evidence of the most probable impacts of policy options. The available evidence from research provides only limited support for the intuitive belief in the potential of integration to solve many problems (Nolte 2008). This must be born in mind when considering anecdotal evidence.

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## REASONABLE EXPECTATIONS

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Although integration of care has a logical appeal, the available evidence on the effectiveness of different forms of integration or coordination of care remains uncertain, despite a surge of reviews, systematic and otherwise, of single interventions and complex programmes and models of care (Nolte 2008).

Faced with rising costs on the one hand, and shortcomings in service delivery on the other, policymakers have considered and introduced major health care reforms in the hope that they will lead to dramatic improvements in health system performance. These reforms have generally fallen short of both rhetoric and expectations, leading to the search for new policies (Ham 2003). The limited impacts of health care reforms stems in part from their limited effects on clinical practice. There are many factors that influence decisions by health professionals and patients (Fishbein 2001; Wensing 2001; Cochrane 2007). Policies introduced by health care reformers need to compete

with these many factors. Thus, no single approach or intervention is likely to be sufficient. Because health professionals have a large degree of control, bottom-up approaches that engage professionals in the reform process, are necessary to bring about change. Top-down policies alone are unlikely to succeed.

There is a growing body of evidence on how to improve health systems, including largely negative evidence of the impacts of major healthcare reforms and evidence of many effective or promising interventions that taken together, if properly implemented, can result in substantial improvements. Building capacity of people and organisations to bring about improvements is slow and incremental. It requires more systematic approaches to introducing, monitoring and evaluating changes and a long-term perspective. Although such an approach is less glamorous, it is likely to have a bigger effect than bold policy strokes (Ham 2003). It may also have less adverse effects than sequential reorganisations of the health services.

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## **UNCERTAINTY DOES NOT IMPLY INDECISIVENESS OR INACTION**

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Many of the systematic reviews included in this report conclude that there is “insufficient evidence”. Accordingly, we have reported the likely impacts of many policy options as being uncertain. Nonetheless, policymakers must make decisions.

Uncertainty about the potential impacts of policy decisions does not mean that decisions and actions can or should not be taken. However, it does suggest the need for carefully planned monitoring and evaluation when policies are implemented (EvalGap 2006).

“Good intentions and plausible theories are insufficient for selecting policies and practices for protecting, promoting and restoring health. Humility and uncertainty are preconditions for unbiased assessments of the effects of the prescriptions and proscriptions of policymakers and practitioners for other people. We will serve the public more responsibly and ethically when research designed to reduce the likelihood that we will be misled by bias and the play of chance has become an expected element of professional and policy making practice, not an optional add-on.” (Iain Chalmers 2003)

# Definitions and abbreviations

## Organisation of the Norwegian healthcare system

<b>Norwegian Ministry of Health and Care Services</b> <i>Helse- og omsorgs-departementet (HOD)</i>	The government ministry in charge of health policy, public health, healthcare services and health legislation in Norway.
<b>Regional health authorities</b> <i>Regionalt helseforetak (RHF)</i>	Hospitals are owned and run by four government owned regional health authorities. Areas covered by the authorities include hospitals, psychiatry, ambulance service, pharmacies at the hospitals, emergency telephone service, and laboratories. The authorities are subordinate to the Norwegian Ministry of Health and Care Services.
<b>Health trusts</b> <i>Helseforetak</i>	Hospitals or hospital groups within the regional health authorities
<b>Primary health care includes: Nursing homes and home-based services</b>	Run by politically governed municipalities. These are organized in the Norwegian Association of Local Authorities (called KS).
<b>General practitioners (GPs)</b>	GPs work independently under contract with the municipalities.
<b>Regular GP scheme</b> <i>(fastlegeordning)</i>	The regular GP scheme gives all Norwegian inhabitants the right to have a GP as their regular doctor. The regular GP has a duty to prioritise inhabitants on his/her own patient list. The scheme is voluntary.
<b>Directorate for Health</b> <i>Helsedirektoratet</i>	The Directorate of Health is a specialist director (in the area of public health and living conditions and in the area of health services) and an administrative body under the Ministry of Health and Care Services. The directorate has authority for applying and interpreting laws and regulations in the health sector and responsibility for ensuring that approved policies are implemented in the health and care area.
<b>Board of Health Supervision</b> <i>Statens helsetilsyn</i>	An independent supervision authority, with responsibility for general supervision of health and social services in the country.

## Political divisions in Norway

<b>Counties</b> <i>Fylke</i>	Norway is divided into 19 administrative regions, called counties. The capital Oslo is considered as both a county and a municipality. The counties form the primary first-level subdivisions of Norway
<b>Municipalities</b> <i>Kommune</i>	The counties are further divided into 431 municipalities.

## Other terms and abbreviations

<b>DRG</b>	Diagnosis-related group, a system to classify hospital cases into one of approximately 500 groups expected to have similar hospital resource use, developed for Medicare in the United States as part of a prospective payment system.
<b>FFS</b>	Fee for service
<b>GP</b>	General practitioner
<b>IHS</b>	Integrated health system
<b>NHS</b>	The United Kingdom (UK) National Health Service
<b>NOU</b>	(Norges offentlige utredninger) Norwegian Official Reports written by committees or work groups that are constituted by the government or a ministry. <a href="http://www.regjeringen.no/en/doc/Norwegian-Official-Reports.html?id=1767">http://www.regjeringen.no/en/doc/Norwegian-Official-Reports.html?id=1767</a>
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>P4P</b>	Pay for performance
<b>Quality</b>	The US Institute of Medicine has defined 'quality' as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (IOM 2001). This definition is consistent with how the term "quality" is used in this policy brief and how it has been defined in included systematic reviews.
<b>SINTEF</b>	An independent research organisation. <a href="http://www.sintef.no/Home/">http://www.sintef.no/Home/</a>
<b>SWOT analysis</b>	A strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project.

# The policy issue

## Hva er de viktigste årsakene til problemet?

*"Dårlig ledelse; en ledelse som ikke har innsikt i problemene på grasrotnivå, og som først og fremst har blikket rettet oppover til neste sjefsnivå."*

*"Jeg savner mer av innstillingen om at vi skal være tjenesteytere til hverandre og ikke bare til pasienten."*

*"Manglende arenaer for samhandling: Vi vet for lite om våre spesifikke arbeidsområder og arbeidsmetoder."*

*"At vi har to nivåer og to takstsystemer som fungerer helt uavhengig av hverandre og har finansielle systemer som understøtter en slik tenking/funksjon."*

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## THE POLICY ISSUE - KEY MESSAGES

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- ➔ The goals and underlying values of the ‘Integrated Health Care Reform’ and the problem that it will address need specification and clarification. How the problem is framed will determine the relevance of potential solutions.
  - It currently is not clear to what extent the reform will focus on coordination between primary and secondary care versus a broader range of concerns about coordination.
  - It also is not clear to what extent inadequate coordination is the key underlying problem for many of the expressed goals of the planned reform, such as containing healthcare costs, improving access to care or improving primary prevention of chronic conditions.
- ➔ In this policy brief we focus on inadequate coordination of care for chronically ill patients across and within levels of care from both the patient’s and a health system perspective.
  - Uncoordinated care can affect the quality and efficiency of health care, access to care, participation in and satisfaction with care, and health outcomes for chronically ill patients.
  - There is a paucity of data in Norway on the magnitude of the problem and the underlying reasons for the perceived inadequacy of coordination or the need for more integrated care for chronically ill patients.

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## THE ‘INTEGRATED HEALTH CARE REFORM’

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Bjarne Håkon Hanssen, the Minister of Health and Care Services since June 2008, identified inadequate coordination as the key problem with the Norwegian health services shortly after becoming the Minister: “To the degree we have a crisis, it lies in that we have inadequate coordination between state and local authorities” (Dagbladet, 26 June 2008). “Norway spends the most money in the world on health, but does not get the most health in return for each krone. It’s the system that’s at fault. A lack of contact between hospitals and local authorities is the principal obstacle to making the health service even better. This is a problem that we are now going to do something about. Coordination will take place on the basis of existing systems, not in spite of them” (Hanssen 2008). “In meeting with professionals, leaders, patients, families, mayors and others we find the same thing. They agree that inadequate coordination is the biggest barrier to making the health system better. Therefore there is a need for an Integrated Health Care Reform” (State Secretary Dagfinn Sundsbø 2008).

The reform is being developed by a project team in the Ministry, through dialogues with stakeholders, and with the advice of an expert group. The Minister, the project team and the advisory group have all identified chronically ill patients among those that suffer the consequences of inadequate coordination and, as a consequence, not getting the services they need.



In this policy brief we focus specifically on coordination of care for patients with chronic diseases.<sup>1</sup> The decision to focus on chronically ill patients in this policy brief was made based on input from the project and advisory groups. There are three reasons for focusing on this particular problem at this point in the development of the Integrated Health Care Reform:

- Chronic disease represents one of the most important challenges facing healthcare systems. Chronic disease accounts for 77% of the disease burden in Europe and 86% of deaths; and 50 to 80% of global health spending is related to chronic diseases (WHO 2005). We do not know how many Norwegians have chronic conditions, but the number has been estimated at about 1 million (Sanne 2008). Such figures cover a wide range of degrees of severity, however. Statistics from Norway show that 88% of deaths are a consequence of chronic disease (Statistics Norway 2008). Fragmented care for people with chronic diseases represents an important element of problems with coordination that the Integrated Health Care Reform is intended to address.
- Although the focus of this policy brief is likely narrower than the focus that the Integrated Health Care Reform will have, consideration of strategies to address this specific problem can illustrate and provide a model for consideration of strategies to address a wider range of coordination problems. Lack of coordination of care for patients with chronic disease is a good illustration of challenges facing the whole system. Moreover, many of the strategies that are relevant for coordination of care for patients with chronic diseases are also relevant for addressing other coordination problems.
- Consideration of this specific problem and potential solutions can help to clarify the range of problems that the reform might address and the range of potential solutions that might be considered for those problems.

However, this brief is not intended to define the focus of the Integrated Health Care Reform or to describe the full range of potential solutions that could be relevant to that focus. The goals and the underlying values of the Integrated Health Care Reform and the problem that it will address are still being clarified. How the problem is framed will determine the relevance of potential solutions. The proposed solutions also have to be in line with the underlying values of Norwegian healthcare policy. Currently, a wide range of problems and potential goals have been articulated by the Minister, the project group and the Minister's advisory group. These include a lack of coordination between six previous health reforms during the past 20 years; large and growing health expenditures in Norway compared to other countries; patients not getting the services they need; social inequities in health; a failure to discharge hospitalised patients who no

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<sup>1</sup> The term coordination and integration are sometimes used synonymously and sometimes to indicate different levels of integration. Both terms are used inconsistently (Leutz 1999; McDonald 2007; Nolte 2008). We have used the two terms as synonyms, other than in the section on reform options, where we use them to indicate different levels of integration. In the chapter on delivery arrangements we provide some background on the use of these terms in relationship to different approaches to improving the coordination or integration of care.

longer need to be hospitalised; long waiting times and queues; corridor patients; a failure to follow-up patients; patients being bounced around in the system, not receiving rehabilitation, not returning to work, becoming sicker and needing more help (Hanssen 2008).

In background notes the problem has been described both from the patient's perspective and from a health system perspective. Groups of patients that have been identified as having the most need for coordinated care or a more integrated health system include the elderly (over 80), drug addicts, and patients with mental health problems, cancer and chronic diseases. It has been suggested that there is a need to better describe both current and desired care pathways, to clarify the division of responsibilities and tasks between primary and secondary care, to improve communication, to improve the transfer of expertise between primary and secondary services, to address differences in the structure and goals of primary and secondary services, and to develop a common understanding of the problem.

Other problems that have been identified include an imbalance between secondary and primary care (with too much input into secondary care), professional interests and inappropriate priorities, inadequate access to health professionals with appropriate expertise, asymmetries in how primary and secondary services are financed, the role of regular general practitioners ('fastleger') in coordinating care, financial arrangements, inadequately implemented laws (such as the Patients' Rights Law), inadequate consumer involvement, suitable arrangements for patients that fall between primary and secondary care ("gråsoner-pasientene"), inadequate professional education, and inadequate focus on public health, health promotion and primary prevention.

Although the main focus of the planned reform has, up to now, been on coordination between state (hospitals) and local authorities (primary care), problems have also been identified in coordination between professions, between agencies, between local authorities, within the hospital trusts, within local authorities, and between people. It currently is not clear to what extent the reform will focus on coordination between primary and secondary care versus a broader range of concerns about coordination. It also is not clear to what extent inadequate coordination is the key underlying problem for the many problems that have been identified and potential goals of the Integrated Health Care Reform.

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## **CHRONICALLY ILL PATIENTS NEED COORDINATED CARE**

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A lack of coordination between hospitals and primary care is an important problem that limits improvements in the Norwegian healthcare system. In Norway the hospitals are owned by the national government and managed by four regional health authorities, whereas primary care, including care for the elderly, is the responsibility of local authorities. The aim of the Integrated Health Care Reform is to improve the health ser-

vices through better coordination across these different levels of care and from different providers within each level.

A possibly suicidal young patient with a first episode of serious mental illness seen by a primary care physician should not end up with the task of finding a psychiatrist. An elderly patient admitted to hospital with several health problems should experience a fairly seamless integration of diagnostic and therapeutic services within the hospital, and the discharge should be planned together with outside services and the family.

Patients with chronic diseases are especially important “customers” since they repeatedly need various forms of services over a long period of time. The patient with a chronic health problem and the services share a common goal of minimising illness and maximising function in a life-long perspective. In principle, coordination of care takes place as an integrated part of offering services. In practice, responsibility might end up with the patient and the family. A necessarily complex set of services can easily become fragmented, and result in disconcerted and dissatisfied patients and suboptimal care. A range of possible policies and interventions are relevant to address this challenge and might include case management, shared care, chronic disease management strategies, and governance and financial arrangements that improve the responsibility and ability of primary care teams to coordinate patient care.

Uncoordinated care can be a problem for all patients. This is particularly challenging for patients requiring care from different providers across different levels of care, including patients with chronic diseases. Uncoordinated care can result in patients:

- not getting services that they need or experiencing delays in receiving appropriate care;
- receiving inappropriate care;
- being referred unnecessarily or not being referred as needed;
- being hospitalised more often and having longer hospital stays;
- not being adequately informed or receiving conflicting information;
- not having a clear understanding of their management plan and which healthcare provider/s are primarily responsible for their care.

Consequences of uncoordinated care include worse health outcomes, increased health-care costs, additional burdens placed on patients and their families, confusion and dismay.

An underlying problem may be that the healthcare system was developed largely in response to treating acute problems and it is not well suited to managing chronic conditions.

Coordination of care is at the heart of the problem (Nolte 2008). Patients value coordination of their care, seeing it as an important component of overall quality (Hjortdahl 1992; Calnan 2006) especially when they have chronic health problems and complex

needs (Alazri 2006). A recent survey of the experiences of patients with complex problems in eight countries demonstrated that deficits in care management during hospital discharge or when seeing multiple doctors occurred in all countries, although patients from countries with a strong primary care infrastructure reported notably positive access and coordination experiences (Schoen 2008).

A wide range of conditions is typically included in definitions of 'chronic disease' and patients with different diseases may have very different needs. Chronic diseases are diseases of long duration and generally slow progression. Chronic diseases, such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, are by far the leading cause of mortality in the world. Cancer, mental health problems and addiction are also commonly considered chronic diseases. However these diseases have different disease pathways and some policy options may therefore be more or less relevant.

Increased longevity, coupled with advances in healthcare, has meant that there are growing numbers of people with multiple disease processes, creating a range of diverse and sometimes contradictory needs that pose considerable challenges to those affected and to the delivery of health services (Piette 2004). For example, depression and arthritis in people with diabetes impair functioning and cause substantial barriers to implementing lifestyle changes and adhering to therapeutic regimens (Piette 2006).

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## **THE 'INTEGRATED HEALTH CARE REFORM' – A BRIDGE BETWEEN REFORMS?**

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The health status of the Norwegian population is one of the best in the world. The key strengths of the Norwegian healthcare system include provision of health care services for all based on need, local and regional accountability, public commitment and political interest in improving the healthcare system (Johnsen 2006). Equal access to physicians' services regardless of income and settlement was guaranteed by the Practitioners' Act of 1912.

### **Important health care reforms**

The Norwegian health care sector has undergone several important reforms during recent decades. During the 1970s the focus was on equality and increasing access to healthcare services; during the 1980s health reforms aimed at achieving cost containment and decentralising health care services; during the 1990s the focus was on efficiency and leadership (Johnsen 2006). Since the beginning of the millennium the emphasis has been given to structural changes in the delivery and organisation of health care. Generally, national reforms that have had an impact on the healthcare system have focused on three broad areas: the responsibility for providing healthcare services, priorities and patients' rights, and cost containment. Future challenges that have been identified include further cost containment, integration of care and health inequalities (Johnsen 2006).

The main purpose of the *Municipalities Health Services Act (1982)* was to improve the coordination of the health and social services at local level and to strengthen those services in relation to institutional care and preventive care. According to this act, municipalities have responsibility for primary healthcare services. They are responsible for planning and developing primary healthcare services to meet the needs of residents. Planning responsibility also includes health services provided by other providers, such as making agreements with the regular GPs or private nursing homes. The municipalities are self-governed by local politicians in cooperation with local civil servants and are free to set up their own local management models.

In 1988 the Municipalities Health Services Act was further expanded and county nursing homes were transferred to the municipalities.

The purpose of the *Responsibility Reform (HVPU Reform) (1991)* was to downsize institutions for people with developmental disabilities. The goal of this reform was to allow people with developmental disabilities to live like their fellow citizens, as far as is possible.

The 4-year (1998–2001) *Action Plan for Care for the Elderly* set out objectives for the development of local nursing and care services. The plan entailed the use of central government funds to achieve these objectives.

The *Escalation Plan for Mental Health (1999–2008)* was adopted in 1999 and is the overall strategy for mental health.

The *Regular General Practitioners Scheme* implemented in 2001 is based on a registration system whereby patients can sign onto the list of the GP of their choice. The aim of the reform was to improve the quality of local medical services, to improve continuity of care and ensure a more personal patient–physician relationship.

The *Health Enterprise Act* of 2001 (which came into force as the hospital reform in 2002) aimed to increase efficiency and consisted of three main strategies: the ownership of the hospitals was transferred from the counties to the central government sector; hospitals were organised as enterprises into five (now four) ‘regional health authorities’ with ‘health trusts’ within the regional health authorities; and the day-to-day running of the regional health authorities became the responsibility of a general manager and an executive board in each region.

Patients’ rights were strengthened with the passing of the Patients’ Rights Act in 1999. Its main purpose was to ensure equality of access to good quality health care.

## **Prioritisation**

There are no detailed regulations as to what the public healthcare system should or should not cover, although the Norwegian Directorate of Health is currently finalising national guidelines for prioritising patients' access to specialist health care, in a collaborative project between the Directorate of Health and the Regional Health Authorities (Hdir 2008). The aim is a more appropriate prioritisation for patients admitted to specialist health care. Thirty different patient groups, including about 75% of all conditions that are admitted to specialist health services, will be covered by the guidelines for prioritising. The effects of the implementation of the prioritisation guidelines will be evaluated after one year.

A priority commission was established in the 1980s to develop instructions for priorities and benefits in the healthcare system. A Royal Commission (NOU 1987) presented proposals for criteria and priority levels. However, in practice little was done beyond establishing a waiting list guarantee and a treatment guarantee. In 1997, another Royal Commission (NOU 1997) presented criteria for priorities in the health care system. Based on the work of the second commission (NOU 1997) parliament passed the Patients' Rights' Act, and priority regulation was established whereby three principles are taken into consideration when deciding if a patient is entitled to health care. These are the degree of severity, expected effectiveness and the costs in relation to the expected benefits of the treatment.

The new mandate was given to the former Public Hospital Board, which was renamed the National Board for Priorities in the Health Care System, now replaced by the National Council for Quality and Prioritisation in Health Care. These efforts have so far produced few practical results. Prioritisation is difficult in practice, as the population gains more rights and makes more demands (Schjøtz 2003).

The Norwegian Patient Registry monitors hospital waiting lists. There is large variation in the rate of patients that are admitted as legally entitled to health care between the regional health authorities and the different health trusts (NPR 2008). The reasons for this variation are unknown. There have been no robust evaluations regarding how patients are prioritised to specialist health services in general. Neither do we know the degree to which incentives given to promote production and reduce waiting lists (for instance increasing the DRG proportion of payments to hospitals from 40 to 60%) benefit patients with chronic diseases, or if increased production benefits patients with less serious conditions.

## **No programmes for integrated care**

Currently there are no specific programmes for integrated care in Norway, but there have been some trends in this direction. For instance, the regular GP scheme goes some way towards establishing a permanent relationship with one physician over a long period. One further initiative towards integrated care is incorporated into the 'individual

plan', which outlines and specifies health and social services for patients with long-term care needs.

A Royal Commission (NOU 2005) addressed the need to strengthen the integration and cooperation process within the constraints of the current healthcare system with separate arrangements for primary and secondary care. This report discusses the appropriate balance between primary health care and specialist health care. It suggests that the perception of healthcare specialists about the readiness of patients to be discharged may conflict with the municipalities' readiness to receive and follow up patients at, for instance, a nursing home or with the provision of home based services. One of the suggestions in this report was to direct the municipalities and the health enterprises to establish formal cooperation agreements in order to achieve more seamless delivery of care.

There are several projects, initiatives and good examples of coordination and integration of care in practice (Helsedialog 2005; AGENDA 2007). We are not aware of any formal evaluation or follow up of the Royal Commission on integrated health care (NOU 2005).

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## **WHY THE PROBLEM EXISTS**

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Key factors that have been identified that contribute to the problem of inadequate coordination include:

### **Independent services**

Hospital and specialist services are the responsibility of the state and managed through four regional health authorities. Hospitals are financed through a mixture of block grants and fee-for-service (a diagnosis-related group (DRG) system), the private specialists are financed through a mixture of block grant, fees from the National Insurance Scheme and user fees for outpatient services. Community health services, including home services and nursing homes, are the responsibility of local authorities. They are financed through block grants from the state to the local authorities, with addition of income adjusted user fees. General practitioners (GPs) for the most part have private practices. They are paid on average 30% from the local authorities (capitation for patients on their list) and 70% fee-for-service from the National Insurance Scheme and user fees (NOU 2005). Financing, leadership and reporting is organised within each of these services, with monitoring and rewards for activities within each service and not across them. There is no central responsibility for coordination across services. The private sector, where patients are charged in full, is very small. Some private services operate on contract with the regional health authorities.

## **Financial incentives**

There are limited financial incentives for coordination of care across services and there are some financial disincentives. DRGs motivate hospitals to discharge patients early. At the same time block grants to the local authorities motivate them to ration services, including nursing homes, to take advantage of acute hospitalisations (for which they do not pay), and to delay taking patients home from hospital. There is no co-payment from patients for hospital stays. There are user fees for community health services and outpatient specialist clinics, but there is a cap on such fees for services covered by the National Insurance Scheme. The local authorities have the freedom to set up their own financing arrangements (except for user charges, which are set by the central government), but in practice the same financing arrangements exist throughout the country.

Because of lack of resources, municipalities are frequently unable to provide enough assistance to the elderly so that hospitals have to provide assistance for dependent persons not having an acute medical need. Such hospital assistance is more costly than nursing home or community-based care. As a response, a national objective has been set to reach enough nursing home capacity so as to accommodate at least 25% of people aged 80 years and older. A number of municipalities are currently carrying out a major restructuring of nursing homes in order to attain national standards and to contain costs (Bibbee 2006).

Intermediate care at a community hospital might be an alternative to prolonged general hospital care for elderly patients. This concept has been tested in a randomised controlled trial at Søbstad Teaching Nursing Home in Trondheim. The authors concluded that intermediate care at a community hospital compared to ordinary prolonged care at a general hospital, significantly reduced the number of readmissions for the same disease to the general hospital and significantly increased the number of patients being independent of community care after 26 weeks of follow-up, with an insignificant increase in the number of days in institutions and without any increase in mortality (Garåsen 2008).

In theory, patients' free choice of hospital should increase competition and potentially the quality of hospital care, but so far this seems to have had a very limited effect. Few patients choose other hospitals than the closest one. One reason for this may be that the typical patient is an old person with several symptoms or diagnoses, who is in a bad position to choose an alternative hospital. Another reason may be that GPs have limited or no incentives to direct patients to alternative hospitals.

## **Regular GPs**

One of the intentions of the Regular GP Reform (2001) was to improve general practice for those with the most need, particularly chronically ill patients who have a greater need for stability and continuity in the doctor-patient relationship (NOU 2005). Nearly the entire population now has a regular GP. Evaluations only provide a limited picture



of the extent to which regular GPs have taken responsibility for coordinating the care of their chronically ill patients (Sandvik 2006). It has been argued that GPs have not adequately fulfilled their expected role in helping to coordinate care for their patients, in part because their remuneration is still largely fee-for-service (NOU 2005). It was anticipated that referrals generally would go down with regular GPs. In fact there has been a moderate increase, especially among patients with higher education, in urban areas and among female GPs (Finnvold 2008). There appears to be a trend moving from gate-keeping towards advocacy (Norheim 2003). It is difficult to say whether this is a result of the reform or a general time-trend.

### **Individual plans**

The Patients' Rights Law (1998-99) gives patients who need long-term care and coordinated services the right to an individual plan. The individual plan has several purposes, including contributing to coordinated provision of services adapted to the individual, consumer participation, and strengthening coordination between service providers and the patient, and between service providers. Both the local authorities and the health trusts are obligated to ensure that an individual plan is developed in collaboration with the patient. Both this and other laws that should promote and ensure coordination of care have functioned inadequately, including laws requiring that patients are assigned a patient-responsible doctor; that health professionals in the specialist (hospital) service provide advice, guidance and information to the community health services; and that local authorities pay a per-day fee for patients that are kept in hospital after they are ready to be discharged.

### **Communication**

Coordination depends on good communication and exchange of information. There are several barriers to good communication that limit better coordination. A national strategy for electronic communication, including a Norwegian Health Network, is not yet fully realised. Electronic medical records have been acquired, but paper still is used for communication between service providers. Although about 90% of the GPs were connected to the Norwegian Health Network by December 2007, only 42% of discharge summaries and only 8% of referrals are sent electronically (NHN 2008, Eyr 2008a). The expected benefits of being connected to the Norwegian Health Network have not been realized (HOD 2008a) and GPs are frustrated (Eyr 2008b). There are many interest groups, limited ability to direct the development of better electronic communication, and complexities in relationship to protection of personal data, costs and technology. Therefore strong leadership and coordination of public and private actors is needed to carry out projects to improve electronic communication.

In addition there is a need to improve referral letters, consultants' reports, discharge summaries, and communication between nursing homes and hospitals. There are no formal guidelines regarding what information is necessary in referral letters to make it

possible for hospital trusts to prioritise among the patients that are referred. Discharge summaries may arrive too late and be inadequate for proper follow up in primary care.

There is large variation in how healthcare professionals in the municipalities are informed when old patients in need of care are ready to be discharged from hospitals (SINTEF 2008). Based on interviews and surveys, SINTEF has described the communication between hospitals and care services in the municipalities and made recommendations regarding requirements for electronic communication and organisational solutions (SINTEF 2008).

There may also be a need to improve professional training or to use other strategies to promote interprofessional collaboration both within and between levels of care and between clinical specialist groups. Also important is ensuring that patients are better informed about their health conditions and management of these, including which parts of the health service are responsible for different aspects of their care. For example, a survey among families with children receiving financial support for chronic diseases showed that most complained of inadequate information coming too late (Finnvold 2003).

### **Leadership and culture**

Arguably, there is not one health service in Norway, but many. Among health professionals there is not a consistent sense of belonging to one national health service. There are many battles over strategic and clinical authority within the hospital system and no clear leadership structure for services for the elderly, primary care physicians, or other community health services. GPs are professionally autonomous and expected to ensure the quality of care that they provide independently. The chief district medical officer does not have authority over primary care services in the community and, at the same time, the local authorities do not have authority over GPs.

Human services integration is hard to achieve in other sectors, not just in health care, and there are likely common reasons for this, such as historical attitudes of 'us versus them' among frontline workers (Sandfort 2004).

### **Research**

There is limited research available in Norway that documents the extent of problems with coordination, its causes or its consequences. There have only been sporadic evaluations of attempts to address the problem.

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## **GOALS OF THE INTEGRATED HEALTH CARE REFORM**

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The Integrated Health Care Reform, through addressing underlying problems with coordination of care, is intended to improve the coordination of care and thereby:

- improve the quality of care, particularly for chronically ill patients and others that are most affected by a lack of coordination;
- improve access to care, both improved coverage and more equitable and timely access;
- reduce inefficiencies;
- improve consumer participation;
- improve consumer and provider satisfaction;
- improve health outcomes.

Lessons learned from considering how to improve chronic care coordination may reflect coordination of health care services generally in Norway, and as such provide a good starting point for thinking about problems in the Norwegian system. However, the types of care required by chronic patients, the problems of coordinating their care and the requirement of a complex pathway of care is quite different from the requirements of most patients using the healthcare system. Therefore, it is important not to make the general system overly complex in order to serve the needs of a specific group of patients with special needs. In addition, a number of mechanisms and laws have been put in place to improve the way services are coordinated for chronic care patients, apparently with limited success. It is important to understand why these previous reforms have not produced expected results.

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## **WHAT INDICATORS ARE AVAILABLE THAT ESTABLISH THE MAGNITUDE OF THE PROBLEM?**

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There is anecdotal evidence of problems with coordination of care in Norway, but sparse routinely collected data that indicate the magnitude of the problem or could be used to monitor progress, and few studies that document the extent of the problem or its underlying causes. Moreover, it is not clear to what extent problems with, for example, the quality of care or access to care, are due to a lack of coordination versus other causes. For example, although Norway's admission rate for asthma (4.54 per 10,000), an indicator of quality of care for chronic conditions, is lower than the OECD average (5.82), it could still be improved, for example, relative to Sweden (3.30) (OECD 2007). Although improved coordination of care might help to reduce the need for hospital admissions for asthma, there are other important factors not related to coordination that could be important, such as improving the implementation of evidence-based guidelines by GPs and improving medication adherence.

Indicators that could be used to assess the magnitude of the problem include, for example, data regarding inappropriate referrals, prolonged hospitalisations of patients that are ready to be discharged, poor communication between primary and secondary level providers, inadequately informed patients or patient experiences of a lack of coordination of their care. None of these or other indicators are readily available, apart from estimates of prolonged hospitalisation of patients that are ready to be discharged - 400,000 hospital days per year, which is approximately 10% of all hospital days and is estimated to cost approximately 800 million kroner more than what it would cost to

care for these patients in the community (HOD 2008b). There is some information gathered directly from patients by the Norwegian Knowledge Centre's Patient Survey. Overall, patients report a high level of satisfaction with services. More specific probing, however, clearly shows dissatisfaction with information and planning, especially among users of psychiatric services. Forty percent of inpatients reported that their discharge was not well planned (Kunnskapssenteret 2007). Nearly half of parents of children referred to outpatient psychiatric care felt that they had waited too long before being offered a consultation and a quarter claimed that outpatient services did not cooperate at all with other public services (Kunnskapssenteret 2008).

Similarly, there are few comparisons available that provide an indication of how big the problem is or suggest potential goals, such as:

- changes in indicators over time;
- comparisons with other countries;
- comparisons between hospitals or local authorities in Norway;
- comparisons between different populations in Norway; or
- targets suggested by policymakers or stakeholders.

There are, however, several evaluations that suggest that improvements in coordination are possible and that they can improve the quality of care, reduce costs and improve satisfaction (e.g. Garåsen 2007).

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## **HOW HAS THE PROBLEM BEEN FRAMED?**

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We have framed the problem that this policy brief addresses as inadequate coordination of care for chronically ill patients. Framing the problem in this way excludes a number of strategies that could improve outcomes or satisfaction, or reduce costs for chronically ill patients. At the same time, framed in this way the problem can still be seen from the patient's perspective in relationship to the care process or from a health system perspective in relationship to efficient use of resources. While these two perspectives are not necessarily in conflict, they suggest somewhat different solutions to problems with coordination. For example, from a health system perspective the "LEON principle" (provision of care at the lowest effective level of care) is central, whereas it is not an important consideration from the patient's perspective.

# Delivery arrangements

*"Kanskje bør ulike kommunale helsetjenester i større grad samlokaliseres."*

*"Vanskelig å svare på når man sitter midt oppe i det, og er vant til systemet. Men når vi får til et effektivt og fleksibelt tverrfaglig samarbeid uten for mye tidsspille rundt enkeltpasienter med komplekse behov, er det artig og lett å være fastlege for pasienten."*

*"Ellers stopp i omorganiseringshysteriet. For å kunne samarbeide godt er det viktig med kunnskap om og en viss stabilitet i organisasjonene og mulighet over tid til å bli kjent med 'de andre'."*

*"Alltid vanskeligere å være konkret på det som er bra. Synes at tjenestene har fungert bra - med unntak av NAV. Jeg er kanskje heldig som har en patent lege og behandles på et kompetansesenter. De kan alle regler. Og det som har vært B trygdekontor kunne også alle regler - savner dem."*

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## DELIVERY ARRANGEMENTS - KEY MESSAGES

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### **Broad frameworks for delivering chronic care**

- Components of the Chronic Care Model and various disease management programs, alone or in combination, can improve quality of care, clinical outcomes and health care resource use, but the effects are not consistent and numerous obstacles hinder their use.
- It is very uncertain whether all components of the Chronic Care Model, or any other model for chronic care, are essential for improving chronic care.
- Because it is very uncertain whether any one model is more effective than another, the choice of a model must be made based on other criteria, particularly the match between the package of interventions and the core coordination problems.

### **Service delivery models**

- Disease management programmes include a variety of components that improve adherence to care guidelines and patient disease control, including patient education and motivational counselling, provider education, feedback, reminders, and multidisciplinary team work.
- Overall they may improve processes of care and disease control, but their impact on health outcomes and healthcare costs is uncertain.
- The effectiveness of evidence-based care pathways is inconsistent.
- Case management (or care management) is a way of coordinating services for people with long-term conditions or complex medical and social needs. There are many different models, but the core principle is to assign each person a case manager. Intensive case management for patients with severe mental illness may reduce rehospitalisations. The evidence of the effectiveness of case management for other conditions is inconsistent.
- There is moderate quality evidence that interventions to improve interprofessional collaboration can improve client or health care process outcomes, such as patient length of stay and appropriate prescribing.
- The effectiveness of shared care (the joint participation of primary care and specialty care physicians in the planned delivery of care, informed by an enhanced information exchange over and above routine discharge and referral notices) is uncertain.
- There is some evidence that some interventions targeted at patients discharged from hospital to home may have a positive impact, particularly those with educational components and those that combine pre-discharge and post-discharge interventions. However, on the whole there is only limited evidence that discharge planning and discharge support interventions have a positive impact on patient functioning, health care use after discharge, or costs.
- Early supported discharge for acute stroke patients reduces the length of hospitalisation, reduce costs and improves patient outcomes, although there may be important differences in effects in different healthcare systems.
- Interventions such as geriatric nurse assessment and home-based services for elderly patients discharged from emergency departments can prevent functional decline. Their effects on health service utilisation are uncertain and may depend on what is already on offer.

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## TERMINOLOGY

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Integration or coordination have been pursued in many ways in different health systems and there is a tangled mess of overlapping terms used to describe these, including integrated care, coordinated care, collaborative care, managed care, disease management, case management, patient-centred care, chronic (illness) care, continuity of care, transmural care, seamless care and others (Nolte 2008). These terms are used differently by different people, often with a lack of clarity about concepts and components. This has resulted in confusion in systematic reviews of the evidence related to these terms, which often include overlapping, but not identical sets of studies. The terms coordination and integration are sometimes used synonymously and sometimes not. In this report, we have used the terms synonymously (other than in the chapter on reform options). A systematic review of care coordination found more than 40 distinct definitions (McDonald 2007) comprised of five key elements:

- Numerous participants are typically involved in care coordination.
- Coordination is necessary when participants are dependent upon each other to carry out disparate activities in a patient's care.
- In order to carry out these activities in a coordinated way, each participant needs adequate knowledge about their own and others' roles, and available resources.
- In order to manage all required patient care activities, participants rely on exchange of information.
- Integration of care activities has the goal of facilitating appropriate delivery of healthcare services.

It may be useful, although difficult, to distinguish between four key approaches, recognising that there is overlap among these and other terms are used to describe these:

- Broad managed care programs or frameworks, such as the Chronic Care Model
- Disease management, which targets specific diseases or conditions
- Case management, which uses individuals, often specially trained nurses, coordinate care for vulnerable patients with multiple or complex needs
- Multidisciplinary care, which involves the development of treatment plans tailored to the medical, psychosocial and financial needs of patients, but in contrast to case management utilizes a broader range of medical and social support personnel

We will consider here the evidence for the following types of delivery arrangements that could potentially be used to improve the management of chronic disease, focusing on reviews that specifically address approaches to improving the coordination of chronic care or components of these approaches:

- Broad frameworks for delivering chronic care
- Service delivery models
  - Disease management
  - Care pathways
  - Case management

- Multidisciplinary care
- Shared care
- Discharge planning

We have summarised evidence regarding the impacts of other delivery arrangements, many of which are considered as components of broad chronic care frameworks and service delivery models, in *Appendix 2*. These include:

- Changes in who delivers care
  - Substitution and enhancement
  - Shared decision-making
  - Self-management
- Changes in where care is provided
  - Day care and intermediate care
  - Specialist outreach
  - Home care
- Changes in information and communication technology (ICT)
  - Health record systems and ICT that support providers
  - ICT that supports patients

In addition we summarise separately evidence from systematic reviews of the impacts of delivery arrangements for mental health in *Appendix 2*.

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## **BROAD FRAMEWORKS FOR DELIVERING CHRONIC CARE**

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There are a plethora of frameworks that are used to conceptualise the delivery of care to people with chronic conditions and to delineate the different elements of initiatives to improve chronic care or principles for doing so (Singh 2006). The best known and most widely used and adapted model is the Chronic Care Model developed by Ed Wagner and colleagues in the United States (Wagner 2001), and we have therefore focused on this model here.

The Chronic Care Model was developed as a framework to guide system changes and quality improvement. The components of the model include:

- Healthcare organisation (e.g. leadership support, provider participation);
- Community resources (e.g. peer-support groups, self-management classes);
- Self-management support (e.g. self-management resources and tools, decision aids);
- Delivery system design (e.g. multidisciplinary teams, pro-active follow-up);
- Decision support (i.e. guideline implementation strategies such as reminders, training);
- Clinical information systems (e.g. patient registries and use of these for care management).



The key principles of the model include (Wagner 1998):

- mobilising community resources to meet the needs of people with long-term conditions;
- creating a culture, organisation, and mechanisms that promote safe, high quality care;
- empowering and preparing people to manage their health and health care;
- delivering effective, efficient care and self-management support;
- promoting care that is consistent with research evidence and patient preferences; and
- organising patient and population data to facilitate efficient and effective care.

In 2003 the model was revised to include cultural competency, patient safety, care co-ordination, community policies and case management. The revised model is also referred to as the 'Care Model' (ICIC 2008).

- ⇒ *Components of the Chronic Care Model and various disease management programs, alone or in combination, can improve quality of care, clinical outcomes and health care resource use, but the effects are not consistent and numerous obstacles hinder their use.*
- ⇒ *It is very uncertain whether all components of the Chronic Care Model, or any other model for chronic care, are essential for improving chronic care.*
- ⇒ *Because it is very uncertain whether any one model is more effective than another, the choice of a model must be made based on other criteria, particularly the match between the package of interventions and the core coordination problems.*

The Chronic Care Model was developed based on reviews of evidence of promising strategies and pilot testing. It subsequently has been widely used and there are a number of systematic reviews of components of the model, programmes based on the model and broad disease management programmes that incorporate the Chronic Care Model (McDonald 2007; Bodenheimer 2002; McAlister 2001; Weingarten 2002; Bodenheimer 2003; Gonseth 2004; Neumeyer-Gromen 2004; Ofman 2004; Tsai 2005; Matthe 2007). There are also several overviews (including both systematic reviews and other evidence) of the Chronic Care Model and other models (HEN 2003; Ouwens 2005; Singh 2005b; Singh 2006; Wensing 2006; Zwar 2006; Chen 2008; Singh 2008; Nolte 2008). A systematic review of 112 studies found that interventions that contained at least one Chronic Care Model element improved clinical outcomes and processes of care - and to a lesser extent, quality of life - for patients with chronic illnesses (asthma, heart failure, diabetes or depression) (Tsai 2005).

Observational studies have reported improvements in processes or outcomes, or lower costs in individual organisations adopting the chronic Care Model (Singh 2006), but there have not been direct comparisons with other approaches and it is only recently that formal evaluations of the Chronic Care Model have been undertaken. Thus, while there is extensive evidence about components of the Chronic Care Model, less is known about how this model compares with other models and it is unclear whether all components of the model, or the conceptualisation of the model itself, is essential for improving chronic care (Bodenheimer 2002; Bodenheimer 2003; Tsai 2005; Singh 2006).

The Innovative Care for Chronic Conditions Framework is an adaptation of the Chronic Care Model with more focus on community and policy aspects of improving chronic care (Epping-Jordan 2004). It focuses on three levels: individuals and their families, healthcare organisations and communities, and policy. Other models include the Public Health Model and the Continuity of Care Model. Evaluations do not appear to be available for any of these models (Singh 2006).

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## SERVICE DELIVERY MODELS

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These involve changes in the ways in which care is delivered and the location of care with the aim of providing better co-ordinated and higher quality care to consumers.

### Disease management

- ⇒ *Disease management programmes include a variety of components that improve adherence to care guidelines and patient disease control, including patient education and motivational counselling, provider education, feedback, reminders, and multidisciplinary team work.*
- ⇒ *Overall they may improve processes of care and disease control, but their impact on health outcomes and healthcare costs is uncertain.*

Disease management programmes have gained popularity in recent years as a means of improving the quality and efficiency of care of patients with chronic disease (Mattke 2007; Weingarten 2002). Such programmes are designed to manage or prevent a chronic condition using a systematic approach to care and potentially employing multiple ways of influencing patients, providers or the process of care. There are a variety of different approaches that are used. The Kaiser Permanente approach, which is one of the best known, is based on the Chronic Care Model and focuses on integrating organisations and disciplines. Disease management forms part of this.

The Kaiser Permanente care triangle has commonly been used to conceptualise chronic care at three main levels (underpinned by population-wide disease prevention and health promotion):

- Supporting self-care for people with a chronic disease who are at low risk of complications and hospitalization
- Disease management for people who need regular routine follow-up and are at high risk.
- Case management for people with complex needs who are high-intensity users of unplanned secondary care

Another strategy, the EverCare approach, uses specially trained nurses to individually support those people at highest risk of hospital admission, while a third, the Pfizer approach, uses a telephone system to monitor and refer people at highest risk. Other models include the Strengths Model (originally referred to as a type of case management), Guided Care, the PACE model, the NHS and Social Care Model and various models that have been developed in different countries, either nationally (e.g. in Denmark and the Transmural Care Programme in the Netherlands) or by various organisations (e.g. the United States Veteran's Affairs system). Different models tend to focus on selected components of broad chronic care frameworks. Evidence regarding the impacts of these approaches is limited and there is not good evidence that any particular model is more effective than another. Several of the approaches are currently being evaluated in trials in England (Singh 2006).

Decisions about which service delivery model to use have been made based on a variety of reasons, and might sometimes seem arbitrary. Because there is not good evidence that one model is more effective than another, other criteria must be used to select a model. Factors that can be taken into consideration in selecting a model include the evidence base for the model, international experience, the extent to which the aims of the model are consistent with local aims (e.g. bed day reductions), and the perceived suitability of the model in relationship to local circumstances (Singh 2006). More importantly, their effectiveness is most likely dependent upon appropriate matching between the package of interventions and the care coordination problems (McDonald 2007).

A systematic review (Weingarten 2002) of disease management programmes that extracted information on various components in the programmes found that patient education was the most commonly used intervention followed by education of healthcare providers and provider feedback. Most programmes used more than one intervention. Provider education, feedback, and reminders were associated with improvements in provider adherence to guidelines and patient disease control. Patient education, reminders, and financial incentives were also all associated with improvements in patient disease control. The relative effectiveness of different strategies is uncertain.

Another review, which included 102 studies representing 11 chronic conditions (depression, diabetes, rheumatoid arthritis, chronic pain, coronary artery disease, asthma, heart failure, back pain, chronic obstructive pulmonary disease, hypertension, and hyperlipidemia) found that disease management appeared to improve patient satisfac-

tion, patient adherence, and disease control most commonly, and cost-related outcomes least frequently (Ofman 2004).

A more recent systematic review that used the Chronic Care Model as the conceptual framework (Zwar 2006) included 145 studies, where the majority was randomized trials. It found:

- Patient self-management support was the most effective intervention and it was effective across the majority of recorded outcome measures. The most effective forms of support appeared to be patient education sessions and motivational counseling.
- Delivery system design in the form of multidisciplinary teamwork improved patients' service use.
- Decision support and clinical information systems improved professional adherence to disease management guidelines. Decision support interventions that were found to be effective included implementation of evidence-based guidelines, educational meetings with health professionals and distribution of educational materials among health professionals. Audit and feedback also improved healthcare professionals' adherence to guidelines.

Although disease management appears to improve quality of care, its impact on costs is uncertain. An overview of three evaluations of large-scale population-based programs, 10 meta-analyses and 16 systematic reviews, covering 317 unique studies concluded that the evidence on the role of disease management in reducing utilization of health services was inconclusive, with two exceptions: disease management was found to reduce hospitalization rates among patients with congestive heart failure and to result in higher utilization of outpatient care and prescription drugs among patients with depression (Mattke 2007). The authors concluded that payers and policy makers should remain skeptical about vendor claims about disease management interventions, and should demand supporting evidence based on transparent and scientifically sound methods. If implemented, these programmes should be undertaken in the context of robust economic evaluation.

### Care pathways

⇒ *The effectiveness of evidence-based care pathways is inconsistent.*

Care pathways aim to link evidence to practice for specific health conditions and thereby optimise patient outcomes and maximise clinical efficiency. Whilst clinical guidelines provide generic recommendations, clinical pathways detail the local structure, systems and time-frames to address these recommendations. Some clinical pathways are relevant for in hospital care only, while others aim to give guidance for both primary and secondary care (Rotter 2007).

Substantial resources have been expended on pathway development, implementation, and maintenance. Clinical pathways have been utilized to varying degrees in Norwegian hospitals and are now prioritised in one health trust's (Helse Sør-Øst) strategy (Eiring 2007).

Evaluations of the impact of care pathways have found inconsistent impacts on patient outcomes, professional practice, length of stay and resource utilisation (Moloney 1999; Sulch 2000; Smith 2001; Renholm 2002; Kim 2003; van Herck 2004; Shepperd 2004; Kwan 2004; Dy 2005).

### **Case management**

⇒ *Case management (or care management) is a way of coordinating services for people with long-term conditions or complex medical and social needs. There are many different models, but the core principle is to assign each person a case manager. Intensive case management for patients with severe mental illness may reduce rehospitalisations. The evidence of the effectiveness of case management for other conditions is inconsistent.*

Case management (or care management) is a way of coordinating services for people with long-term conditions or complex medical and social needs. There are many different models, but the core principle is to assign each person a case manager or small team to assess the patient's needs, develop a care plan, arrange suitable care, monitor the quality of care, and maintain contact with the patient and the family. Most studies have included patients with severe mental illness (see below). There is conflicting evidence about the effects of case management on patients with other diseases (Singh 2005b). Many studies evaluated complex interventions that clearly overlap with other management interventions (Norris 2002; Kim 2003; Ferguson 1998).

### **Multidisciplinary care**

⇒ *There is moderate quality evidence that interventions to improve interprofessional collaboration can improve client or health care process outcomes, such as patient length of stay and appropriate prescribing.*

Health and social care professionals, such as doctors, nurses, physiotherapists and social workers, need to work together effectively to take care of patients effectively. Unfortunately, professionals may not always work well together. Training and educational programmes have been developed as a possible way to improve how professionals work together to take care of patients. Interprofessional education is any type of educational, training, teaching or learning session in which two or more health and social care professions are learning interactively.

A Cochrane review found six studies that evaluated the effects of interprofessional education (Reeves 2008). Four of these studies found that interprofessional education improved some ways in how professionals worked together and the care they provided, although the outcomes measured were quite varied. The approach improved the working culture in an emergency department and there is low quality evidence that it might improve patient satisfaction; decrease errors in an emergency department; improve the management of the care delivered to domestic violence victims; and improve the knowledge and skills of professionals providing care to mental health patients. But two of those four studies also found that interprofessional education had little to no effect on other areas. Two other studies found that interprofessional education had little to no effect at all.

The studies evaluating different types of interprofessional education were not of high quality. It is, therefore, difficult to be certain about the effects of interprofessional education, whether it leads to better outcomes than the same professionals training separately; and what are the key features of interventions to train health and social care professionals to work together effectively.

Another systematic review identified education needs of the workforce within primary care to promote the effective delivery of integrated health and social care services, but did not provide information on effectiveness of interventions (Howarth 2006). This review concluded that reinforcement of partnerships between higher education institutions and health and social care organizations should ensure that the workforce is educated to manage continuous change in service delivery. Innovative ways of teaching and learning which promote inter-professional working need to be explored.

### **Shared care**

⇒ *The effectiveness of shared care (the joint participation of primary care and specialty care physicians in the planned delivery of care, informed by an enhanced information exchange over and above routine discharge and referral notices) is uncertain.*

Shared care involves primary care and specialist physicians working closer together. It has been defined as the joint participation of primary care and specialty care physicians in the planned delivery of care, informed by an enhanced information exchange over and above routine discharge and referral notices. A systematic review (Smith 2007) identified 20 studies (of relatively short duration and with other shortcomings). The results were mixed. Overall there were no consistent improvements in health outcomes, psychosocial outcomes, hospital admissions or other outcomes. Possible improvements were seen for patients with depression (better recovery rate) and for prescribing.

## Discharge planning

- ⇒ *There is some evidence that some interventions targeted at patients discharged from hospital to home may have a positive impact, particularly those with educational components and those that combine pre-discharge and post-discharge interventions. However, on the whole there is only limited evidence that discharge planning and discharge support interventions have a positive impact on patient functioning, health care use after discharge, or costs*
- ⇒ *Early supported discharge for acute stroke patients reduces the length of hospitalisation, reduce costs and improves patient outcomes, although there may be important differences in effects in different healthcare systems.*
- ⇒ *Interventions such as geriatric nurse assessment and home-based services for elderly patients discharged from emergency departments can prevent functional decline. Their effects on health service utilisation are uncertain and may depend on what is already on offer.*

Because systematic reviews of discharge planning and support have reached conflicting conclusions, Mistiaen (2007) reviewed 15 systematic reviews of these interventions. There were many differences among the trials included in each of the reviews. Although a statistically significant effect was occasionally found, most review authors reached no firm conclusions that the discharge interventions they studied were effective. There was limited evidence that some interventions may improve the knowledge of patients, may help in keeping patients at home or may reduce readmissions to hospital. Interventions that combine discharge planning and discharge support tend to lead to the greatest effects. There is little evidence that discharge interventions have an impact on length of stay, discharge destination or dependency at discharge. We found no evidence that discharge interventions have a positive impact on the physical status of patients after discharge, on health care use after discharge, or on costs.

Discharge planning has received particular attention within stroke care. Early supported discharge for acute stroke patients can significantly ( $P < 0.0001$ ) reduce the length of hospital stay by approximately eight days and reduce institutionalisation and dependency (ESD 2005). The greatest benefits in these trials (which included one small trial in Norway) were with co-ordinated teams and stroke patients with mild to moderate disability. Improvements were also seen in patients' extended activities of daily living scores and satisfaction with services. No significant differences were found in carers' subjective health status, mood or satisfaction with services. Although some of the interventions included in this review included discharge planning, the included interventions may be more similar to what has been called 'discharge hospital at home' by others (Shepperd 2008b). The evidence for the effects of discharge hospital at home (not only for stroke patients) is less clear cut due to heterogeneity of the results for

length of stay, which could be explained by differences in the health systems where the different schemes were evaluated (see 'Changes in where care is provided' in *Appendix 2*).

Another review (Phillips 2004) that focused on heart failure found that those allocated to comprehensive discharge planning plus some form of post discharge support experienced a 25% reduction in readmissions (RR 0.75; 95% CI 0.64 to 0.88). Most of the observed heterogeneity in the findings of these studies could be explained by the intensity of post discharge support.

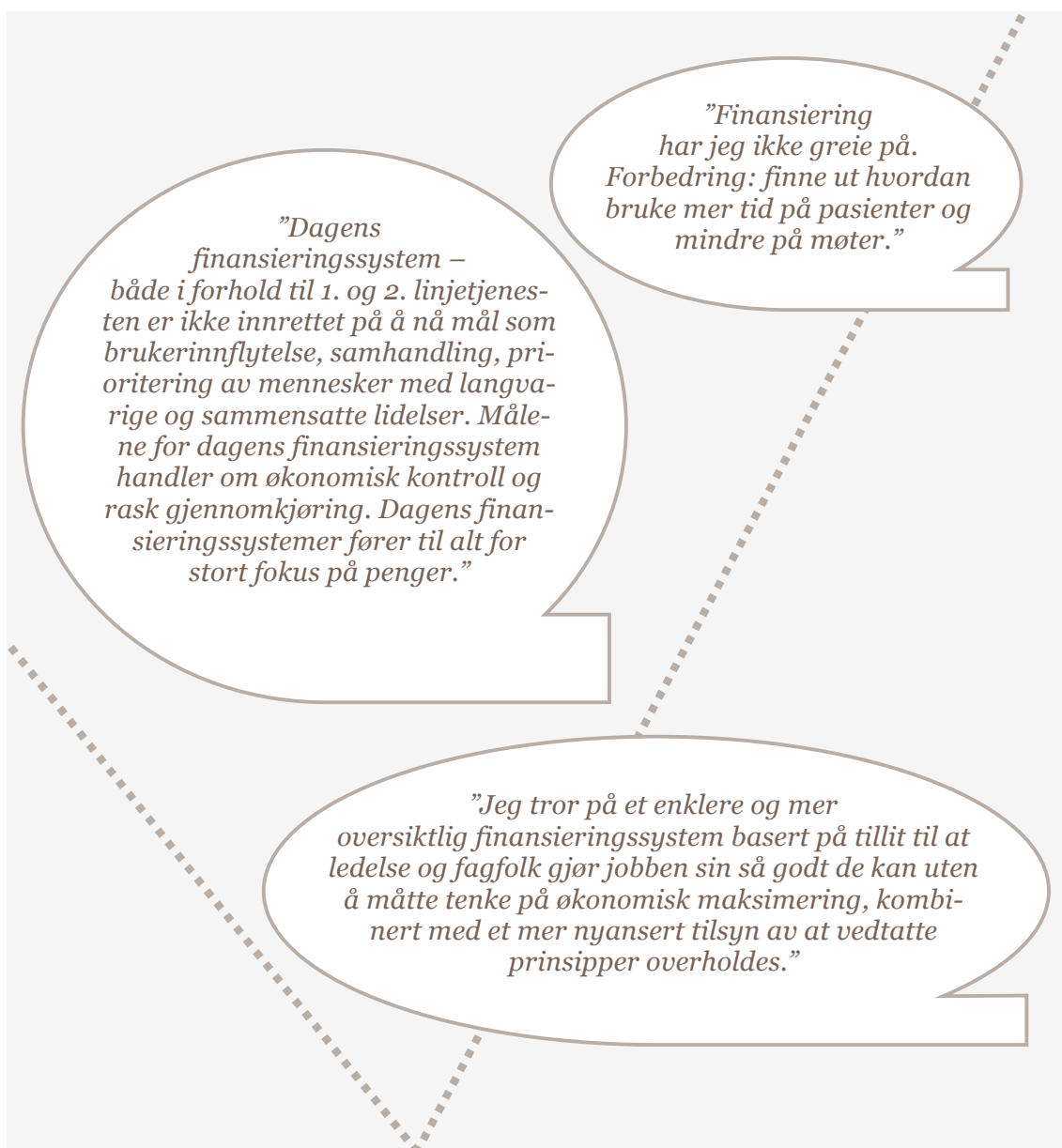
Previous studies have shown that 24% of older patients discharged from the emergency departments to home, return for an unplanned revisit within three months, 44% within six months and 25% are admitted to hospital within three months. The discharge of elderly patients from the emergency department to home represents an important transition of care for older adults, and a key opportunity for interventions to prevent further health decline. Randomised trials have shown that further health decline in high risk patients discharged from the emergency department can be prevented using various interventions such as geriatric nurse assessment and home based services. Targeting a high risk population was more effective, high risk patients identified by age alone, or by a risk assessment tool. The results for health service utilisation varies and are not conclusive, some interventions actually increased emergency department utilisation, while a reduction was seen for other interventions. A large unmet need for home care was identified in the 19 observational studies, which showed the feasibility of interventions for elderly discharged to their home from the emergency department.

Both discharge planning or discharge hospital at home and the effectiveness of geriatric nurse assessment or 'admission avoidance hospital at home' (see *Appendix 2*) may depend on what is already on offer. For example, in the admission avoidance review summarised in *Appendix 2* (Shepperd 2008a) one three arm trial (Kalra 2000) compared ward team management versus stroke unit care versus admission avoidance hospital at home for people recovering from a stroke. While there were better outcomes for hospital at home versus ward team management, those allocated to stroke unit care had better outcomes than the other two forms of care. This highlights the importance of coordinated care within hospitals as well as between hospitals and primary care.

A review (Mitchell 2002) of any formalised cooperation between general practitioners (GPs) and specialist teams found only seven studies from which it is difficult to draw any firm conclusions. Formal arrangements included case conferences between the specialist and GP, shared consultations, organised consultations by GPs of patients in specialist inpatient units, visits by specialist staff to a GP clinic, as well as formal shared care arrangements between the patient's GP and a specialist clinic. Specialists included medical and nursing specialists.



# Financial arrangements



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## FINANCIAL ARRANGEMENTS - KEY MESSAGES

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### Targeted financial incentives for providers

- Targeted financial incentives probably influence discrete individual behaviours in the short run, but are less likely to influence sustained changes.
- Targeted financial incentives can have unintended effects, including motivating unintended behaviours, distortions, gaming, cream skimming or cherry-picking, and bureaucratisation.
- If pay-for-performance schemes are used, they require very careful design with respect to when they are used, the level at which they are targeted, the choice of targets and indicators, the type and magnitude of incentives, the proportion of financing that is paid based on results, and the ancillary components of the scheme.

### Fund holding

- The effects of fund holding by general practitioners to purchase healthcare services are uncertain.

### Health insurance

- A tax-funded system, such as Norway's, is more conducive to long-term chronic disease care than a system with competing private insurers. However, devolution of responsibility to planning or purchasing authorities may induce a short-term view and focus on providing more acute care to deal with current demand rather than investing in chronic disease management.

### Direct payments by patients

- Direct payments by patients have consistently been found to decrease both appropriate and inappropriate use of health services, whereas health insurance or lower copayments increase health service utilization and the receipt of preventive care.

### Payment methods for providers and organisations

- Different methods of paying clinicians (fee-for-service, capitation, and salary) all have potential perverse incentives for patient care as well as potential advantages. The impacts of different payment systems in practice are uncertain.
- Different payment methods for institutions (fee-for-service, per diem payments, case fees and budgets) also all have potential perverse incentives as well as advantages.
- Variants of the basic payment methods are often combined into more complex payment systems for both clinicians and institutions in order to offset the inherent limitations of each.

### Alignment of payment methods across providers

- Policymakers in a number of countries have tried to bring together different budgets and sources of funding to produce more patient-centred methods of payment. We did not find a systematic review of evaluations of such efforts to realign payment methods across providers.

## **Paying for chronic disease care**

Although there is not one best way to pay for services for people with chronic conditions, financial arrangements have important implications for the coordination, quality and costs of care. Specific financial incentives have been used in many countries to stimulate improved care for chronically ill patients. These have primarily been targeted at providers e.g. the Australian Enhanced Primary Care Practice Incentive Programme and Service Improvement Payments and the UK NHS general practitioner contract, the “year of care” approach (payment for a complete package of chronic disease management based on care pathways), and the United States Medicare pay-for-performance demonstration. There are, however, few well-designed studies of the impacts of different incentive systems on chronic disease management (Busse 2008). In these circumstances, policy development should be cautious.

We will consider here the evidence for the following types of financial arrangements that could potentially be used to improve chronic disease management, without restricting this summary to reviews that focused specifically on chronic diseases.

- Targeted financial incentives
  - For providers and organisations
  - For patients
- Financing
  - Health insurance
  - Direct payment by patients
- Funding arrangements
  - Payment methods for providers
  - Alignment of payment methods across providers

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## **TARGETED FINANCIAL INCENTIVES**

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Pay for performance (P4P) or results-based financing refers to the transfer of money (or material goods) conditional on taking a measurable action or achieving a predetermined performance target. P4P or targeted financial incentives have been used with the aim of achieving changes in how care is provided for a range of conditions, including the management of chronic conditions. The effects of different payment systems, which have financial incentives imbedded in them, are addressed below.

### **Targeted financial incentives for providers**

⇒ *Targeted financial incentives probably influence discrete individual behaviours in the short run, but are less likely to influence sustained changes.*

- ⇒ *Targeted financial incentives can have unintended effects, including motivating unintended behaviours, distortions, gaming, cream skinning or cherry-picking, and bureaucratisation.*
- ⇒ *If pay-for-performance schemes are used, they require very careful design with respect to when they are used, the level at which they are targeted, the choice of targets and indicators, the type and magnitude of incentives, the proportion of financing that is paid based on results, and the ancillary components of the scheme.*

Three systematic reviews with similar inclusion criteria have addressed the effects of paying for performance (targeted incentives) on quality and reached similar conclusions (Petersen 2006; Dudley 2004; Rosenthal 2006). The most recent of these reviews found nine randomised trials, four controlled before-after studies and four cross-sectional studies (Petersen 2006). Five of six studies found partial or positive effects of incentives directed at individual physicians. Nine studies evaluated the use of financial incentives directed at provider groups. Of these, seven found partial or positive effects of financial incentives on measures of quality. Most of the effects were small. In two studies, the improvement in the measure of quality of care was statistically significant. In the five other studies there was a partial effect.

Two studies evaluated financial incentives provided at the payment system level. One evaluated the effectiveness of an incentive to improve access to health care for nursing home patients with debilitating acute and chronic conditions. The program included incentives to admit severely dependent patients, incentives for attainment of health status goals, and an incentive to discharge clinically appropriate patients. The intervention sites admitted statistically significantly more severely ill patients than nursing homes in the control group. The other study of incentives at the payment system level was on performance-based contracting for substance abuse and did not find a significant benefit. One potentially important finding was an unintended effect of “adverse selection”. There was a significant decrease in the likelihood of the most severely ill group receiving treatment from providers that received financial incentives for achieving predetermined quality measures.

Several other studies identified the potential to “game the system” (manipulate the system to maximise payments). For example, there was an incentive for nursing homes to claim that they were admitting extremely disabled patients who then ‘miraculously’ recovered over a short period. Another study examined the effect of bonus payments for both identifying smokers and for providing tobacco cessation advice. The incentive was associated with an increased documentation of tobacco use status, but not in the provision of advice to quit smoking.

A systematic review of economic incentives to improve the delivery of preventive services found six randomised trials of incentives targeted at primary care physicians pro-

viding care to vulnerable populations in the United States (Medicaid enrollees) (Dudley 2004). The trial reports were not clear on whether the financial incentives were paid to the physician or the practice, and if the payment was made to the practice, how the practice financial incentives were transmitted to individual physicians. Only one of the eight studies found that increasing financial incentives translated into a statistically significant increase in the provision of preventive care. This study used fee for service (FFS) payments to physicians for providing immunisations. The remaining studies were roughly evenly split between using bonuses and increased FFS payments. One study found that most of the increase in measured immunisation rates due to the financial incentives was a consequence of better documentation and not the result of physicians providing more immunisations.

Several studies examined the impact of formal physician performance feedback without economic incentives. For example, in one study the “feedback only” cohort increased their mammography screening referrals, but their mean behaviour was not significantly different from the “feedback with a token bonus” (\$50). In another study, the “feedback only” group was also not significantly different from the “feedback plus financial incentive” group or the control group.

Since most interventions were assessed as not being effective, costs-effectiveness analyses were not undertaken. In the one study with a positive finding, revenue increased by an average of \$82 for physicians in the incentive group. That amount of incentive translated into an increase in immunisation rates of 7%, which corresponds to a cost of \$3 per additional influenza immunisation. Influenza vaccines have been shown to save \$117 in direct medical expenditures in the elderly. Thus, in the one case where economic incentives were shown to be effective, they were also cost saving.

A systematic review of the effects of target payments, in which a lump sum payment is made if, and only if, a predetermined quantity or target level of care is reached, found only one randomised trial and one interrupted time series analysis (Giuffrida 1999; Gosden 2001). The use of target payments in the remuneration of primary care physicians was associated with improvements in immunisation rates. However, the increase was small for the overall influenza vaccination rate (risk difference 7%,  $p=0.03$ ) in the randomised trial, and the authors found no evidence that the overall linear trend for childhood immunisation rates changed as a result of the introduction of target payments in the second study.

In summary, although there is evidence that health professionals, like others, respond to financial incentives, it cannot be assumed that the financial elements in pay-for-performance schemes are the major motive for professionals to change their practice (Marshall 2005). Professionals are motivated by more than financial rewards.

## Fund holding

⇒ *The effects of fund holding by general practitioners to purchase healthcare services are uncertain.*

In 1990 the UK Government announced the introduction of general practitioner (GP) fundholding whereby GPs were given a budget from which to purchase some healthcare services. In 1997 a systematic review (Gosden 1997) of the available quantitative evaluative evidence of the effect of (partial) fundholding on general practice found 13 studies. The results of these studies indicate that fundholders appeared to constrain their prescribing and referral costs, increase their generic prescribing rate, and not inflate their costs prior to joining the scheme. There was a dearth of high quality research evidence evaluating fundholding referral behaviour. The studies reviewed did not evaluate the effect of fundholding on patient health status, quality, patient choice or equity criteria. A more recent systematic review of the effects of financial incentives on prescribing found only very low quality evidence of the effects of fund holding or drug budgets in the UK, Germany and Ireland (Sturm 2007).

## Financial incentives for patients

A systematic review of economic incentives (including reduced price goods and services, lotteries, cash incentives and gifts) found 39 randomised and eight quasi-randomised trials (Kane 2004). Overall, preventive behaviours were increased 73% of the time. All of the simple preventive care studies used a discrete, readily measurable outcome. Complex preventive care studies used physical measures as well as self-report in some instances. For simple behaviours, the proportion of studies with positive findings ranged from 40% (for lotteries and gifts) to 100% (for cash and punishment); and for complex behaviours, it ranged from 50% (for cash and free medical services) to 100% (for gifts). Incentives in the form of rewards for participating in and adhering to goals, whether for simple or complex prevention, were generally effective inducements for behaviour change.

Most studies matched a short-term incentive with a short-term behavioural change or outcome. The technique of rewarding the achievement of specific outcomes was reserved for more complex preventive behaviours, like weight loss. These behaviours were generally not sustained. While many of the studies that rewarded specific outcomes showed positive effects in the short run, of the four studies that checked for long-term results, all of the significantly improved measures had returned to their original levels.

In five of seven cost-effectiveness analyses that were reported, an intervention that consisted of a similar intervention without the economic incentive itself was reported to be a more cost-effective approach. No study attempted to estimate the cost-

effectiveness ratio for impacts of the economic incentive over time on population morbidity or mortality.

An earlier systematic review of financial incentives (money, cash, or vouchers) to improve patient compliance versus “free” treatment (no financial charge to the patient) found 11 randomised trials (Giuffrida 1997). Improvements in compliance ranged from -1% (for compliance with clinic appointments by parents of children with behavioural difficulties offered a lottery for \$10 vouchers for toys, meals, or bus tokens) to 37% (for compliance with appointments for prevention by mainly immigrants with tuberculosis offered a mixture of cash, tokens and vouchers worth \$5 to \$10 per appointment). The median improvement in compliance was 17 % (risk difference). For five of 13 main comparisons there was an improvement of less than 10 % and the results for 11 of the 13 main comparisons were not statistically significant ( $p > 0.05$ ). No evidence of cost-effectiveness ratios was provided.

In summary, there is moderate quality evidence that short term financial incentives can improve short term outcomes. The applicability of this evidence to patients with chronic conditions in Norway is questionable. Financial incentives for patients with chronic conditions may not be effective or cost effective.

### **Unintended effects of financial incentives**

There is a danger that unanticipated perverse effects may occur with all types of financial incentives. Undesirable effects that have been identified include:

- Distortions (causing recipients to ignore other important tasks);
- Gaming (changes in reporting rather than desired changes in practice);
- Cream skimming or cherry-picking (selecting patients for whom good outcomes are easy to achieve and avoiding those from whom good outcomes are difficult to achieve);
- Dependency on financial incentives (if provider behaviours are not ingrained, they may disappear when the incentives end or new incentives are introduced);
- Bureaucratisation (pay-for-performance schemes may have substantial administrative costs associated with monitoring performance and managing disbursement of the financial incentives).

### **Practical considerations**

For P4P schemes to achieve intended goals they require very careful design with respect to when they are used, the level at which they are targeted, the choice of targets and indicators, the type and magnitude of incentives, the proportion of financing that is paid based on results, and the ancillary components of the scheme (e.g. information systems, guidelines and training).

It is important to ensure that incentives go to those who need motivation to change their behaviour. With government, organisation or group level incentives, individual

health professionals may not be motivated by incentives. Alternatively, the problem with rewarding professionals and not organisations or groups is that needed organisational changes may not be motivated. Provider group level or organisation level incentives (if substantial enough) may provide the impetus to create infrastructure changes that are needed (Petersen 2006).

The size of incentives requires careful attention, due to two sources of inefficiency. On the one hand, P4P can yield very high costs per marginal change in behaviour that is induced, if the incentive is given to all targeted individuals, regardless of their possible previous compliance with the desired behaviour. Consequently, potential benefits of P4P must be weighted against their cost-effectiveness (and any potential undesirable effects), in particular when incentives and initial compliance in the target population are high. On the other hand, the existence of possible threshold effects of incentives levels may lead to inefficiency because the incentive will either be too high (reducing efficiency) or too low to induce the desired behaviour.

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## FINANCING

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### Health insurance

⇒ *A tax-funded system, such as Norway's, is more conducive to long-term chronic disease care than a system with competing private insurers. However, devolution of responsibility to planning or purchasing authorities may induce a short-term view and focus on providing more acute care to deal with current demand rather than investing in chronic disease management.*

Financially, insurers will always be better off to try to avoid bad risks. Private insurers thus have incentives for avoiding chronically ill patients and are also discouraged from providing high-quality chronic disease management as they risk disproportionately attracting chronically ill people. In a tax-funded system, such as Norway's, with no choice of payer, deliberate selection of patients with low risks, or "cream-skimming" by insurers is not a concern. Although tax-funded social insurance systems are better suited to facilitate long-term chronic disease care than a system with competing private insurers, devolution of responsibility to planning or purchasing authorities may induce a short-term view and focus on providing more acute care to deal with current demand rather than investing in chronic disease management (Busse 2008).

### Direct payments by patients

⇒ *Direct payments by patients have consistently been found to decrease both appropriate and inappropriate use of health services, whereas health insurance*



*or lower copayments increase health service utilization and the receipt of preventive care.*

Out-of-pocket payments are generally a barrier to effective chronic disease care, especially for poorer people. Direct payments by patients have consistently been found to decrease both appropriate and inappropriate use of health services, whereas health insurance or lower copayments increase health service utilization and the receipt of preventive care (Freeman 2008; Austvoll-Dahlgren 2008; Goldman 2007; Jeffrey 2006; Buchmueller 2005). In most healthcare systems patient copayments or user charges are the product of historical accident and are rarely designed with chronic care in mind. In some countries, such as the Netherlands, there is interest in reducing copayments to encourage participation in disease management programs (Busse 2008).

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## FUNDING

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### Payment methods for providers and organisations

- ⇒ *Different methods of paying clinicians (fee-for-service, capitation, and salary) all have potential perverse incentives for patient care as well as potential advantages. The impacts of different payment systems in practice are uncertain.*
- ⇒ *Different payment methods for institutions (fee-for-service, per diem payments, case fees and budgets) also all have potential perverse incentives as well as advantages.*
- ⇒ *Variants of the basic payment methods are often combined into more complex payment systems for both clinicians and institutions in order to offset the inherent limitations of each.*

There are three main ways in which physicians are paid. Fee-for-service (FFS) pays physicians a fee for each item or unit of care they provide. Under capitation, physicians receive income in the form of a payment for each registered patient. Salaried physicians receive a lump sum salary for a specified number of hours per week. All of these payment methods have perverse incentives for patient care.

Because FFS and target payments link payment to outputs, they provide an incentive to maximise output (the quantity of care), as long as the fees exceed the personal (own time) and financial costs. With FFS physicians may provide more services than patients would buy if they were fully informed (“supplier induced demand”). The incentive under fee-for-service reimbursement is to provide as many reimbursable services as possible, creating the potential for overuse of such services while failing to provide uncovered services that may be equally or more cost-effective, such as active patient

monitoring by phone or computer. On the other hand, they face no incentives to withhold valuable services. Fee-for-service also minimizes incentives for avoiding patients who are difficult to treat, such as patients with multiple chronic conditions.

Capitation and salaried payment differ in the unit of payment; so the incentives that they provide are different. Salaried payment may not encourage any particular level of care to be provided. Capitation payment may encourage physicians to hold larger patient list sizes to increase income, which may result in a higher workload and shorter consultations and risk selection practices. Under capitation, physicians have the incentive to sign up more patients and do less for each, as well as to avoid high users of care such as patients with multiple chronic conditions. If the capitation payment is not risk-adjusted (i.e. if providers do not receive higher capitation payments for patients with higher needs), providers will not be interested in caring for the chronically ill as such patients will cost more to provide services to than the capitation sum based on average patients.

Generally, if physicians respond to these incentives, salaried and capitation payments may encourage cost containment behaviour and result in under treatment whereas FFS may encourage over-treatment. The impact of these payment systems on patient health status is not clear since both under treatment and over treatment may be detrimental. Salary may be the most neutral form of reimbursement, but may rely more on other incentives, such as intrinsic motivation, occupational norms and peer pressure to motivate performance.

Payment systems may also influence job choice and therefore the recruitment and retention of physicians. For example, physicians may be more likely to accept employment in salaried posts in underserved areas, since salary payment offers a fixed income and hence more financial security.

Payment methods for institutions, such as hospitals, include fee-for-service, per diem payments, case fees and budgets. Per diem payments (i.e. a fee per day of inpatient stay) used to be a common way of paying hospitals particularly in social health insurance systems. If per diem prices are uniform across all patients, providers will have incentives to prefer less costly patients or to keep costly patients longer than necessary to recoup their costs through higher total reimbursement. As patients with chronic diseases are managed primarily as outpatients, they are hospitalized only for acute complications, which often make them high-cost patients who are disadvantaged through this payment mechanism.

Case fees, especially those known as “diagnosis related groups” have different incentives. The original system developed in the United States was based on diagnosis only and assumed that all patients in each diagnosis related group generated similar costs for the hospital, thus effectively sharing financial risk with providers, and perhaps perversely encouraging early discharge. Some European adaptations include “outliers”,

which justify a higher level of reimbursement for difficult cases, and procedures, effectively turning them into a hybrid with fee-for-service. Chronically ill people admitted to hospital should benefit from such developments, but they are at risk of inappropriate overprovision, as under fee-for-service.

Institutional budgets have similar incentives to salaries paid to professionals.

In practice, variants of the basic payment methods are often combined into more complex payment systems for both clinicians and institutions in order to offset the inherent limitations of each.

A systematic review (Gosden 2000; Gosden 2001) of the effects of different ways of paying primary care physicians found very low quality evidence suggesting that FFS can achieve higher compliance with recommended frequencies of visits. The impact of FFS on the quantity of primary care services is not well documented and is likely to depend on FFS rates. One small trial with paediatric residents suggested that salaried physicians may have a lower percentage of visits in excess of a recommended number, fewer scheduled and well child visits, and more emergency visits compared with FFS physicians. We did not find a systematic review of different payment methods for institutions.

### **Alignment of payment methods across providers**

⇒ *Policymakers in a number of countries have tried to bring together different budgets and sources of funding to produce more patient-centred methods of payment. We did not find a systematic review of evaluations of such efforts to realign payment methods across providers.*

A commonly encountered barrier to appropriate management of people with chronic conditions, related to system fragmentation, is a tendency in many systems to pay different healthcare professionals separately, thereby perpetuating traditions of independent, solo practice. Much effective care of people with chronic conditions appears to depend on multidisciplinary team work, yet this is frequently frustrated by these payment systems. For example, payment for involvement in care planning and case conferences for patients with chronic disease may be available to some professionals and not to others whose input is important for effective case management.

In response to such obstacles, policymakers have been increasingly looking for ways of bringing together different budgets and sources of funding for different activities and different types of professional to produce more patient-centred methods of payment, rather than paying different professionals separately for individual activities, such as the coordinated care trials in Australia (Esterman 2002; Battersby 2005) and the development of capitated primary health organisations in New Zealand (Crampton 2002;

Gauld 2006). We did not find a systematic review of evaluations of these and other ways of realigning payment methods across providers. Although there has been no systematic review of this evidence, there are still lessons to be learned from other systems and it would likely be helpful in developing the Integrated Health Care Reform to explore this literature in more detail, as well as examining some of the studies included in the relevant reviews of financial arrangements that are summarised above.

# Governance arrangements

*”De prinsipielle retningslinjene for fordeling av oppgaver, ansvar, brukermedvirkning og samhandling (for eksempel individuell plan) er bra. Oppfølgingen av i hvilken grad disse prinsippene blir fulgt i praksis er alt for dårlig. Man ’måles’ på helt andre forhold.”*

*”Man må utvide perspektivet til å gjelde samhandling utover helsevesenet. I pasienters liv er det mange faktorer som påvirker helse og livskvalitet. Når det gjelder for eksempel kroniske rus- og psykiske problemer er det relativt sjelden (omtrent aldri) at samhandling er avgrenset til helsetjenesten. NAV (sosialkontor, arbeidskontor, trygdeetat, barnevern), arbeidsgiver, skolevesenet vil ha viktige funksjoner.”*

*”Jeg vil også peke på en helt konkret type samhandling som mange helsearbeidere forsøker å unngå: ’Samarbeidsmøter’, med flere deltakere enn pasienten, en annen fagperson og meg selv. Slike overbefolkede møter er ofte prosessorienterte (’det er en god ting å samarbeide’), har ofte uklare mål, blir dårlig ledet, og har diffuse regler for beslutningstaking.”*

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## GOVERNANCE ARRANGEMENTS - KEY MESSAGES

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### Governance of integrated health systems

- ➔ There is not an empirical basis for advocating a specific governance model. However specific governance structures are likely needed at different levels:
  - Boards at the local level that conduct detailed oversight and monitoring for both primary and secondary care
  - A regional board that coordinates different local networks in the region
  - A central governance structure that sets broad standards, which the regional and local boards would be responsible to adhere to and implement

### Policy authority

- ➔ Giving healthcare professionals, particularly nurses, more control over their practice may improve communication, increase satisfaction with the work environment, improve quality of care, increase focus on the patient, improve efficiency, improve retention of nurses, and reduce costs; but these effects are very uncertain.
- ➔ Decentralisation appears to strengthen sub-national governments or entities relative to central government and may adversely increase variation in access to care if it is not accompanied by central coordination. However, the impacts of reforms that decentralise or recentralise policy authority are very uncertain.

### Organisational authority

- ➔ Private for-profit ownership of healthcare facilities, in comparison with private not-for-profit ownership, probably adversely affects health outcomes and increases costs.
- ➔ It is plausible that mixed private and public ownership of health services presents barriers to integration and potential problems with the coordination of care across organisations, but we did not find any systematic reviews that address this.
- ➔ Strategies that governments can use to improve the quality and coverage of private sector health services include regulating, contracting, providing financial incentives, training private service providers, coordinating alliances among private and public providers, and informing consumers. The impacts of these strategies are very uncertain.
- ➔ Accreditation programs may promote change in healthcare organisations, but this and other potential effects of accreditation programs are very uncertain
- ➔ Changes in clinical governance have extended primary healthcare professionals' accountability for quality of care to local communities, to local or state authorities, and to their peers. While there is evidence that the quality of primary care could be improved, little or no evaluation of the impacts of changes in clinical governance arrangements have been reported and effective clinical governance requires resources.

### Consumer and stakeholder involvement

- ➔ Consumer involvement is a strategy for achieving better coordination of care and other health goals and a goal in itself. There is little evidence of its impacts or of the effects of alternative approaches for achieving consumer involvement.
- ➔ Community coalitions may contribute to the effectiveness of interventions targeted at changing a range of health behaviours.
- ➔ There is inconsistent evidence of the effectiveness of neighbourhood or community committees in changing smoking and dietary behaviours, sparse evidence for other approaches to community engagement, and no studies regarding the impacts of community engagement in health promotion on priority setting, resource allocation or governance.

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## WHAT GOVERNANCE OPTIONS ARE RELEVANT TO COORDINATION OF CARE FOR CHRONICALLY ILL PATIENTS?

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The term 'governance' can be defined in several, sometimes overlapping, ways. Its use differs within the social sciences, especially between economics and political science. We have defined governance here as: rules, processes and behaviour that affect the way in which powers are exercised, particularly with regard to authority, accountability, openness, participation, effectiveness and coherence.

In this chapter, we will first summarise issues in how decisions are taken and implemented in integrated health systems and then focus on alternative governance arrangements that might be considered in relationship to improving the coordination of care for chronically ill patients, including changes in:

- Policy authority
  - The extent to which decision-making is centralised or decentralised
  - Stewardship of the private (or non-state) sector's role in financing and delivering health care
- Organisational authority
  - Ownership of health services
  - Accreditation
  - Clinical governance
- Consumer and stakeholder involvement
  - Participation in policy, organisational and delivery decisions

### **Governance of integrated health systems**

In a synthesis of experiences to date with governance of integrated health systems (IHS) (Forest 1999) the salient features of 11 actual and proposed models of governance were reviewed and assessed relative to the autonomy granted to each IHS, balance in the range of concerned interests and values, and the degree to which governance models fit within a list of criteria formulated to evaluate their effect on performance.

Principles that could be taken into consideration in developing governance structures for a more integrated health system include clarity of purpose, autonomy and accountability (Forest 1999).

- Clarity of purpose is difficult to achieve in complex organisations, such as health systems. Boards or committees could help to address this by providing a forum where problems can be identified and solved, rather than a place where resources are allocated.
- Decisions should be taken where the work is performed. Several layers of management are more a nuisance than a necessity.
- The nature and scope of an IHS should be in the hands of the people it serves.

- Some degree of political control by elected authorities must be maintained, for example in the process used to establish IHSs or in the process used to review and sanction performance.
- Managers of IHSs should have a free hand in determining how they will run them, especially in matters of budgetary and personnel policies.

Concerns about accountability include accountability downward to consumers, upward to government, and horizontally to peer and reference groups. Appointed or elected boards can potentially help to balance the values and interests of stakeholders and help to achieve maximum interaction among participants, flexibility, impartiality and representativeness. Direct involvement and control of internal stakeholders is likely essential for clinical governance (i.e. quality improvement). Support of the broader community that is served by an IHS (external stakeholders) is also likely to be essential for effective IHSs. Participation in governance processes should give those affected a real impact on the decisions, enhancing not only their influence but also their understanding of the complexity of decision making processes and the potential and limitations of achieving better coordination of care and other health goals.

⇒ *There is not an empirical basis for advocating a specific governance model. However, specific governance structures are likely needed at different levels:*

- *Boards at the local level that conduct detailed oversight and monitoring for both primary and secondary care*
- *A regional board that coordinates different local networks in the region*
- *A central governance structure that sets broad standards, which the regional and local boards would be responsible to adhere to and implement*

The empirical data do not point to the implementation of a particular governance model in a specific social or geographical setting. However, some models may be more appropriate in some contexts than others. Health cooperatives, for example, may have greater potential in rural communities where cooperation has been used traditionally as a tool for collective action. In suburban areas, provider driven models might be more in harmony with prevailing social and cultural conditions.

Although there is not an empirical basis for advocating a specific model, a pluralistic approach to governance is likely needed (Forest 1999), including:

- Boards at the local level that conduct detailed oversight and monitoring of the operations of the component parts of an IHS;
- A single board at the regional level that coordinates the different networks (or IHSs) in the region, oversees and evaluates their performance, and verifies that accepted standards are met;
- A central governance structure that sets broad standards such as funding and capitation policies, quality indicators or entitlement principles that serve the interests of the society as a whole while preserving the autonomy of local governance structures.



There is limited evidence suggesting potential principles that might be applied to the formation of boards, particularly at the regional level, including:

- Preference for appointed members over elected members (appointed by central authorities, by the board itself, or both ways).
- Inclusion of public representatives on the board, selected from persons already active in the community, but not necessarily from the health sector.
- The autonomy of health organizations is better respected if the board comprises some people designated by these organizations. Each individual network or IHS could, for example, designate a “lead organization” inside its own network, with the purpose of representing its interests at the regional level.
- Preference for medium-sized boards. A board of fifteen to twenty members is considered reasonable, at least for the regional governance structure. Committees could be put in place to meet the necessity of consulting with particular stakeholders, like physicians or local authorities, or to create special arenas to explore policy options.

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## **POLICY AUTHORITY**

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### **Shared governance**

Shared Governance is a decentralised approach that gives healthcare professionals control over their practice and extends their influence into administrative areas previously controlled only by managers. It has its origin in business and management literature, such as the philosophy of Deming. It is argued that the success of any system is dependent on the investment, commitment and ownership of those stakeholders who are located closest to the point of service (or care).

⇒ *Giving healthcare professionals, particularly nurses, more control over their practice may improve communication, increase satisfaction with the work environment, improve quality of care, increase focus on the patient, improve efficiency, improve retention of nurses, and reduce costs; but these effects are very uncertain.*

Various strategies giving increased authority to nurses have been implemented since the 1970's (O'May 1999). Most published studies of shared governance describe systems implemented in the United States. Few studies have made any attempt to evaluate shared governance and these have yielded mixed results. Improved communication, increased satisfaction with the work environment, improved quality of care, an increased focus on the patient, improved efficiency, improved retention of nurses and cost savings have been reported. However, the quality of evidence for these improvements is very low.

Potential barriers to successful implementation of shared governance include inadequate planning, communication and training regarding its objectives and implementation, inconsistent organisational values, reluctance of managers to move from a hierarchical approach to a more participative style of management, frequent changing of executive staff, a lack of motivation amongst nursing staff, organisational and financial constraints (particularly a lack of time to participate in meetings), recognition and acceptance of boundaries for shared governance, and domination by a small group, limiting the scope for general acceptance.

### **Decentralisation and recentralisation**

⇒ *Decentralisation appears to strengthen sub-national governments or entities relative to central government and may adversely increase variation in access to care if it is not accompanied by central coordination. However, the impacts of reforms that decentralise or recentralise policy authority are very uncertain.*

Decentralisation refers to a transfer of financial or policy powers from a central to a less central authority (Saltman 2007). In practice most health systems limit the types of decisions that are decentralised or formulate a centralised national health policy with the intention of providing a minimum level of services to all citizens. In addition to variations in the types of decisions that are decentralised, decentralisation may vary with respect to:

- The number and type of agents to whom power is transferred, including the roles of consumers;
- The degree of financial discretion of the local authorities;
- The relationship between local authorities;
- The organisation and selection of healthcare providers;
- The flexibility and type of contracts used between purchasers and providers.

Decentralisation reforms have also introduced market-oriented changes (managed competition). These variations make the concept of decentralisation somewhat fuzzy and its effects difficult to assess.

A potential objective of decentralisation is to increase quality of health services through integration of health services, improved information systems, and improved access to healthcare services for vulnerable groups within decentralised health systems. Other potential objectives of decentralisation include:

- Improving technical efficiency (maximum output relative to resource inputs) through fewer levels of bureaucracy and greater cost consciousness at the local level;
- Increasing allocative efficiency (allocation of resources so as to maximise the welfare of the community) through better matching of public services to local preferences and through improved patient responsiveness;

- Empowering local governments through more active local participation and through improved capacities of local administration;
- Increasing innovation in service delivery through experimentation and adaptation to local conditions and through increased autonomy of local governments and institutions;
- Increasing accountability through public participation and transformation of the role of the central government;
- Increasing equity through allocating resources according to local needs, enabling local organisations to better meet the needs of particular groups, and distribution of resources towards marginalized regions and groups.

Although there are theoretical reasons why decentralised systems may perform better, there is little evidence that allows for comparison of the effects of different models or elements of decentralisation. Moreover, many reforms appear not to have been fully implemented and a “reform overload” has further limited systematic evaluation. Evidence of the effects of decentralisation and recentralisation, which comes from case studies and international comparisons, is thus very limited.

Decentralisation reforms and introducing elements of managed competition appear to have strengthened sub-national levels of government relative to national governments, as would be expected, and increased differences among health services in different jurisdictions within countries. As a result national governments have sought to assume a larger role in health care coordination and monitoring (recentralisation).

While decentralisation can be linked to aspects of the broad practice conditions under which patients receive medical services, and while general issues of equity, access and quality can be affected, it is difficult to connect specific decentralisation or recentralisation decisions to particular clinical outcomes. A firm link between decentralisation and clinical outcomes is not only unclear in the currently available evidence, but would be very difficult to establish under any circumstances for the reasons noted above.

The impact of decentralisation upon equity seems to be mixed. Care must be taken to ensure that decentralisation does not have adverse impacts on different levels of service or in relation to particular illnesses and health problems. While decentralisation is generally expected to increase equity, there is little evidence of this. In contrast, it is more likely that an increase in local or regional autonomy will increase variation. This can be corrected through varying levels of recentralisation of regulation, standard setting, performance criteria and cross-subsidisation across areas and population groups. However, this also means limiting the scope of autonomy. That in turn implies that decentralisation needs necessarily to be complemented by recentralisation and improved coordination of activities.

Decentralisation of social responsibilities with diminishing resources is likely to have negative implications for the capacity to maintain equity. This creates incentives for

more regressive mechanisms of financing through local charging of users and additional mechanisms of financing, such as private voluntary insurance. Inequalities in access to care are related to overall social inequalities and rural and urban variation. The more freedom is allowed for providers to choose their patients and patients to choose their providers, the more likely is the rise of inequities in access to care for those who bear a higher risk and have less capacity to choose.

Experience with decentralisation and recentralisation in the Norwegian healthcare system (derived from Saltman 2007) is briefly summarised in *Appendix 5*.

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## ORGANISATIONAL AUTHORITY

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### For-profit versus not-for-profit ownership of health services

⇒ *Private for-profit ownership of healthcare facilities, in comparison with private not-for-profit ownership, probably adversely affects health outcomes and increases costs.*

Both funding (who pays for health care) and delivery (who owns and administers the institutions or services that provide health care) can be public or private. Private funding (through insurance companies) and delivery can be for-profit or not-for-profit. Although health care in Norway is predominantly publicly funded (through taxes) and delivered (through government owned and administered facilities), there exists both private funding and delivery and there is debate on whether private for-profit health-care facilities can help to contain costs and avoid differential access to health services. An additional consideration is whether there are differences in quality of care and health outcomes.

A systematic review of studies that compared mortality rates in private for-profit and not-for-profit hospitals found 15 observational studies involving more than 26 000 hospitals and 38 million patients (Devereaux 2002a). All of the studies were from the United States. It found consistent evidence that private for-profit ownership of hospitals, in comparison with private not-for-profit ownership, resulted in a higher risk of death for patients (RR 1.02, 95% CI 1.003 to 1.038;  $p = 0.02$ ). The fact that these studies were likely biased in favour of for-profit hospitals makes these results more compelling. In another review, the same authors found that haemodialysis care in private for-profit centres was also associated with a higher risk of mortality (RR 1.08, 95% CI 1.04 to 1.13;  $p < 0.001$ ) (Devereaux 2002b). In a third review they found that private for-profit hospitals result in higher payments for care than private not-for-profit hospitals (relative payments for care 1.19, 95% CI 1.07 to 1.33;  $p = 0.001$ ) (Devereaux 2004).

There are several factors that could explain an increase in mortality in for-profit institutions. Typically, investors expect a 10%–15% return on their investment. Administrative officers of private for-profit institutions receive rewards for achieving or exceeding the anticipated profit margin. In addition to generating profits, private for-profit institutions must pay taxes and may contend with cost pressures associated with large reimbursement packages for senior administrators that private not-for-profit institutions do not face. As a result, when dealing with populations in which reimbursement is similar, private for-profit institutions face a daunting task. They must achieve the same outcomes as private not-for-profit institutions while devoting fewer resources to patient care.

Given the differences in the organisation of the Norwegian and United States health-care systems, one might question whether these results can be applied to Norway. The structure of US health care has, however, shifted dramatically over time. With the exception of a single study, the results were remarkably consistent over time, suggesting that the adverse effect of private for-profit hospitals is manifest within a variety of health care contexts. Furthermore, whatever the context within which they function, for-profit care providers face the problem of holding down costs while delivering a profit. One would, therefore, expect the resulting problems in healthcare delivery to emerge whatever the setting.

### **Private versus public not-for-profit ownership of health services**

⇒ *It is plausible that mixed private and public ownership of health services presents barriers to integration and potential problems with the coordination of care across organisations, but we did not find any systematic reviews that address this.*

We did not find a systematic review of studies comparing private versus public not-for-profit ownership. There is evidence that integrated not-for-profit health systems, such as Kaiser Permanente in the United States, can provide high quality care while containing costs (Singh 2006). However, it is plausible that mixed private and public ownership of health services presents barriers to integration and potential problems with the coordination of care across organisations.

### **Stewardship of the private sector**

⇒ *Strategies that governments can use to improve the quality and coverage of private sector health services include regulating, contracting, providing financial incentives, training private service providers, coordinating alliances among private and public providers, and informing consumers. The impacts of these strategies are very uncertain.*

There are few studies that evaluate the effectiveness, unintended adverse effects, or costs of strategies that governments can use to improve health care delivered by the private sector (Waters 2003).

## Accreditation

⇒ *Accreditation programs may promote change in healthcare organisations, but this and other potential effects of accreditation programs are very uncertain.*

Health care accreditation programs and organisations have emerged and developed since the 1970's. There are now many national accreditation organisations and an international body, the International Society for Quality in Health Care (ISQua), which has enrolled to date members in over 70 countries. A systematic review of accreditation in the health sector (Greenfield 2008) found that the activity of preparing and undergoing accreditation can promote change in health organisations, possibly through providing an opportunity for health professionals to reflect on organisational practices. The organisational impacts of accreditation are unclear. One study reported enhancements to patient care through organisational strategies that were introduced as a result of participating in an accreditation program. Other studies have failed to identify differences between accredited and non-accredited programs. Few studies have evaluated the financial costs of accreditation. Three studies judged the costs for individual organisations to be high and questioned whether accreditation was an appropriate use of resources. The impact of accreditation on quality measures is also unclear. Most studies have found a weak or no relationship between quality measures and accreditation outcomes, and studies comparing accredited and non-accredited hospitals have reported conflicting findings. The quality of this evidence is very low.

## Clinical governance in primary care

⇒ *Changes in clinical governance have extended primary healthcare professionals' accountability for quality of care to local communities, to local or state authorities, and to their peers. While there is evidence that the quality of primary care could be improved, little or no evaluation of the impacts of changes in clinical governance arrangements have been reported and effective clinical governance requires resources.*

The term clinical governance has been used to capture the range of activities required to improve the quality of health services. Central among these are the need for all healthcare organisations to develop processes for continuously monitoring and improving the quality of health care and to develop systems of accountability for the quality of care that they provide. General practitioners are traditionally independent and primary

care services often are fragmented across multiple providers, with no clear managerial or professional hierarchy through which to implement clinical governance.

Clinical governance extends primary healthcare professionals' accountability beyond current legal and professional accountability. It is aimed at enhancing collective responsibility and accountability of professionals. It may increase the accountability of primary health professionals to local communities (downwards accountability), to local or state authorities (upwards accountability), and their peers (horizontal accountability). There may be tensions between downwards and upwards accountability, and limited resources are likely to ensure that upwards accountability is given priority.

A systematic review of clinical governance studies published in 2004 (Tait 2004) found no evidence of the impacts of clinical governance. Although there is substantial evidence of the need for improvements in the quality of primary care (Seddon 2001; Grimshaw 2004), qualitative studies suggest that it is likely to be difficult to achieve an integrated and systematic approach to improving the quality of primary care. Clinical governance requires change at three levels: individual healthcare professionals need training and support, multidisciplinary teams need to share information and understanding of their mutual roles, and primary care organisations need to put in place systems and local arrangements to support quality improvement activities.

Although no studies reported the economic impacts of clinical governance, effective clinical governance is resource intensive. Support is needed for audit, particularly for solo and small practices. Implementing guidelines requires input from clinicians. Personal and professional development requires training, education and clinicians' time that must be funded. Additional information technology and information resources may be needed to monitor progress.

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## CONSUMER AND STAKEHOLDER INVOLVEMENT

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### Participation in decisions

⇒ *Consumer involvement is a strategy for achieving better coordination of care and other health goals and a goal in itself. There is little evidence of its impacts or of the effects of alternative approaches for achieving consumer involvement.*

The potential benefits of consumer involvement in health care include policies with their input and that address their concerns, improved implementation of policies, better care, and better health. Consumer participation can also be viewed as a goal in itself by encouraging participative democracy, public accountability and transparency. However, a review of the effects of involving patients in the planning and development of health care (Crawford 2002) found few studies that have explored the effects of involv-

ing patients. Most of the papers that were identified were case studies. Papers often described changes to services that were attributed to involving patients, including attempts to make services more accessible. Changes in the attitudes of organisations to involving patients and positive responses from patients who took part in initiatives were also reported, but effects on quality of care were not reported.

There is almost no evidence from comparative studies of the effects of consumer involvement in healthcare decisions at the population level. A systematic review (Nilsen 2006) found a single study providing very low quality evidence that telephone discussions and face-to-face group meetings engage consumers better than mailed surveys in setting priorities for community health goals, and result in different priorities being set. Beyond this, there is a lack of evidence from comparative studies of alternative methods of recruiting consumers to be involved in policy decisions, different degrees of involvement, alternative forums for communication, different ways of providing training and support for their involvement, or alternative ways of financing consumer involvement.

- ⇒ *Community coalitions may contribute to the effectiveness of interventions targeted at changing a range of health behaviours.*
- ⇒ *There is inconsistent evidence of the effectiveness of neighbourhood or community committees in changing smoking and dietary behaviours, sparse evidence for other approaches to community engagement, and no studies regarding the impacts of community engagement in health promotion on priority setting, resource allocation or governance.*

Another systematic review of the effectiveness of community engagement in health promotion interventions found 21 studies that evaluated a variety of approaches, including community coalitions, neighbourhood or community committees, community volunteers, community champions and community workshops (Swainston 2008). Community coalitions appear to contribute to the effectiveness of interventions targeted at changing a range of behaviours. There is inconsistent evidence of the effectiveness of neighbourhood or community committees in changing smoking and dietary behaviours. There was sparse evidence for other approaches and no studies regarding priority setting, resource allocation or governance. Several barriers to community engagement were identified, but no data describing interventions to overcome barriers.



# Implementing change

Hva er det viktigste som må gjøres for å få til nødvendige forandringer?

*"Skikkelig løft av allmennlegetjenesten, slik at fastlegen kan fungere som den medisinske koordinator han/hun er ment å være."*

*"Et stort problem er at spesialisthelsetjenesten opererer med uangripelige ventetider på alt mulig, det er et under når vi får gjennomført noe umiddelbart. Større fleksibilitet og mindre formalisme hadde vært bra!"*

*"Kontrollerte forandringer betinget i solid dybdekunnskap og forståelse av hvordan spesialisthelsetjenesten og primærhelsetjenesten best kan gi god diagnostikk, pleie og behandling av pasienter. Forandringene bør ta utgangspunkt i utvalgte pasientgrupper hvor det er klar mangel på god samhandling, og tenke systematisk gjennom fordeler og ulemper med å endre systemene. Nødvendig å evaluere forandringene med pålitelige metoder, helst god helsetjenesteforskning som gir fornuftige svar."*

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## IMPLEMENTING CHANGE - KEY MESSAGES

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### **Barriers to coordinated care**

- ➔ Because there are multiple barriers to organisational and professional change, simple approaches to implementing change are unlikely to be effective, change is likely to occur incrementally and to require ongoing attention.

### **Changing professional behaviour**

- ➔ Most interventions used to change professional practice, such as educational meetings, audit and feedback, and outreach visits, achieve small to moderate (but important) improvements in performance.
- ➔ Multiple interventions are likely to be needed to change professional practice.

### **Organisational change**

- ➔ There are many tools that may be useful for implementing organisational changes, but there is almost no evidence of their effectiveness. These include analytic models, tools for assessing why change is needed, such as SWOT analysis, tools for determining who and what can change, and tools for making changes, such as organisational development and project management.
- ➔ It is widely believed that leadership is important for achieving change, but there is a lack of empirical research or critical assessments of the role of leaders in health care.
- ➔ Clinical leaders likely are important and it has been shown that the use of local opinion leaders can successfully improve practice, but the feasibility of widespread use of opinion leaders is uncertain.
- ➔ It is very uncertain whether efforts to change organisational culture can achieve improvements in performance.

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## BARRIERS TO COORDINATED CARE

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⇒ *Because there are multiple barriers to organisational and professional change, simple approaches to implementing change are unlikely to be effective, change is likely to occur incrementally and to require ongoing attention.*

There are a number of barriers to coordinating or integrating care, even in relatively conducive health systems (Nolte 2008). Major barriers to integrating health and social services that have been identified include:

- structural barriers caused by fragmentation of responsibilities across boundaries between organisations, both within and between levels of care or sectors;
- financial barriers caused by differences in funding mechanisms or payment systems that discourage coordination;
- legal barriers caused by different legal requirements, governance arrangements and accountability;
- procedural barriers arising from differences in planning and information systems;
- professional barriers arising from competing cultures, values, professional self-interest, professional rivalry, and autonomy;
- conflicting views about service users' interests and roles;
- organisational self-interest;
- organisational turbulence from frequent organisational change ;
- introduction of a competitive environment (market mechanisms).

If there are major structural, financial or legal barriers to coordination of care, fundamental reform of the healthcare system may be required. Whether or not a fundamental reform is needed, these barriers suggest that change is likely to require:

- a shared understanding of the problem and broad agreement that change is warranted;
- adequate finances, both to bring about the transition, including the development of new structures and skills, and to sustain the new system;
- information systems designed to support the coordination of care within and across organisations;
- professional change.

Because of the many barriers to organisational and professional change (Cochrane 2007; Fleuren 2004; Wensing 2001), no single approach or intervention is likely to bring about desired changes in the coordination of care. Even with fundamental reforms, changes in behaviour are likely to occur incrementally and to require ongoing attention. For example, a systematic review of interventions that incorporated one or more elements of the chronic care model found that overall these interventions had beneficial effects on processes of care and clinical outcomes, but the size of the effects

were small to moderate and it was not possible to determine which elements of the chronic care model were most effective (Tsai 2005).

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## CHANGING PROFESSIONAL BEHAVIOUR

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- ⇒ *Most interventions used to change professional practice, such as educational meetings, audit and feedback, and outreach visits, achieve small to moderate (but important) improvements in performance.*
- ⇒ *Multiple interventions are likely to be needed to change professional practice.*

Professionals have a large degree of control in health systems. As a consequence, the ability of managers and policymakers to influence decisions is constrained. Thus to achieve change it is essential to engage clinicians. Because there are many factors that influence clinical practice (Cochrane 2007; Fleuren 2004; Wensing 2001), multiple interventions are needed to improve clinical practice. Systematic reviews of various implementation strategies targeted at health professionals (either individually or in combination) have found that most interventions achieve small to moderate (but important) improvements in performance (Grimshaw 2001). For example, in a comprehensive review of strategies for implementing guidelines (Grimshaw 2004) median absolute improvements in performance for implementing clinical practice guidelines were:

- 21% (range 10 to 25%) for patient-mediated interventions
- 14% (range -1 to 34%) for reminders
- 8% (range 4 to 17%) for dissemination of educational materials
- 7% (range 1 to 16%) for audit and feedback
- 6% (range -4 to 17%) for multifaceted interventions involving educational outreach visits

A review of the effects of various interventions to improve outpatient referrals from primary care to secondary care (Akbari 2005) found that passive dissemination of referral guidelines alone is unlikely to lead to improvements in referral practice. Guidelines for appropriate referral are more likely to be effective if local secondary care providers are involved in dissemination activities, and if structured referral sheets are used. There is little evidence on the effects of organisational interventions but the use of 'in-house' second opinion and other intermediate primary care based alternatives to outpatient referral appear promising. Financial interventions can change referral rates but their effect on the appropriateness of referral is uncertain.

The effects of some interventions, such as audit and feedback, are more likely to be larger when baseline compliance to recommended practice is low and when the intervention is provided more intensively (Jamvedt 2006).

Other factors could increase the effects of interventions. For example, for educational meetings, more interactive meetings and higher attendance rates may increase their effectiveness (Forsetlund 2008).

The effects of interventions may also depend on the targeted behaviour. For example, the effects of educational outreach visits were relatively consistent for prescribing, but varied widely for other behaviours (O'Brien 2007).

Tailoring interventions to address specific barriers to change in a particular setting is probably important (Hulscher 2001) but further work on identifying, selecting, and addressing barriers to change is needed (Cheater 2005).

All of these interventions require resources and many require that clinicians have time and space to review their practices and to introduce new ways of delivering services that are more coordinated and effective. To move from ad hoc approaches towards deciding which problems to address and which interventions to use, *systems* are needed to ensure high quality coordinated care. Although there is little evaluation of such systems, key components are likely to include strategies for effective stakeholder involvement, systematic and transparent approaches to setting priorities for improvements, evidence-based clinical guidelines, efficient methods for accessing data that can be used to assess the quality of care, methods for identifying problems with the quality of care and selecting appropriate interventions to address those problems, and efficient ways of monitoring and evaluating change.

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## ORGANISATIONAL CHANGE

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⇒ *There are many tools that may be useful for implementing organisational changes, but there is almost no evidence of their effectiveness. These include analytic models, tools for assessing why change is needed, such as SWOT analysis, tools for determining who and what can change, and tools for making changes, such as organisational development and project management.*

Research into the management of change has come out of schools of management, psychology, sociology, and economics, over the last fifty years. There has, however, been little evaluation of the effectiveness of different approaches to achieving desired organisational changes. The literature is dominated by descriptions of various models and approaches, prescriptive advice and anecdotal accounts of organisational change (Iles 2001). A major problem in this field has been the dominance of gurus who prescribe courses of action without any basis in evidence. Articles based on empirical research are relatively rare and are predominantly single-site case reports, often conducted by a member of the target organisation. Many of the most useful studies are well-conducted qualitative studies.

Change management tools, models and approaches include:

- analytic models for understanding complexity, interdependence and fragmentation, such as Weisbord's six-box organisational model, the 7S model, and process modelling;
- tools for assessing why change is needed, such as SWOT analysis;
- tools for determining who and what can change, such as force field analysis and total quality management; and
- tools for making changes, such as organisational development, action research and project management.

Although these tools have been found to be useful, their impact on helping to achieve desired changes is largely unevaluated. Managers argue that much of the knowledge about the effectiveness of change management techniques is tacit in nature. This suggests that the evidence most practitioners currently use is derived from their own and colleagues' experience. Arguments against the need for evidence in this area are similar to early arguments against evidence-based medicine.

European Foundation Quality Management (EFQM) Excellence model is a widespread model that originally was developed in the private sector. The model has a healthcare-specific version. A systematic review of this and a similar model found only 16 studies, none of which had a controlled design, in contrast to the chronic care model, for which 21 studies were found, including six controlled trials (Minkman 2007).

## Leadership

- ⇒ *It is widely believed that leadership is important for achieving change, but there is a lack of empirical research or critical assessments of the role of leaders in health care.*
- ⇒ *Clinical leaders likely are important and it has been shown that the use of local opinion leaders can successfully improve practice, but the feasibility of widespread use of opinion leaders is uncertain.*

A variety of effects of leadership on individuals and groups are possible, such as job satisfaction, empowerment, job performance, and retention. But ultimately, a major goal of leadership in health care is to improve service to the patient or the effective and efficient functioning of the organization itself, through improved coordination or in other ways.

Most of the health care and business literature on leadership consists of anecdotal or theoretical discussion. Only a small number of studies are data-based (Vance 2002) and most of those are descriptive. Although work in the social sciences indicates that

leadership styles can have a major influence on performance and outcomes, limited research exists on the effects of efforts to change or improve leadership on healthcare outcomes, such as changes in patient care or improvements in organizational outputs.

Although publications emphasise the importance of leadership in quality improvement, this is based largely on consultancy experience or personal experience. There is limited empirical research to support this (Øvretveit 2005). Most studies are interview or survey studies. What research there is suggests that senior leaders are important for successful improvement, but also shows limits of their influence. There is consistent, albeit weak, evidence that actions to engage senior doctors in improvement strategies are the most important for senior management to take. Both formal senior doctors and informal opinion leaders can influence other doctors and personnel to support or oppose improvement. Other forms of leadership may also be important and it may be important for senior leaders to create a “system of leadership” for improvement where all leaders take a common approach.

Opinion leaders are people who are seen as likeable, trustworthy and influential. Because of their influence, it is thought that opinion leaders may be able to help and persuade healthcare providers to improve practice. There are many ways to identify who are the opinion leaders in a hospital or community. There are also many ways opinion leaders can help or persuade people to change. For example, opinion leaders could provide one-to-one or small group teaching, visit the whole community or healthcare providers’ offices. Opinion leaders could also provide informal education or formal education as lectures. It is not clear how best to use opinion leaders. Twelve randomised trials have evaluated the use of opinion leaders (Doumit 2007). Some studies tested whether opinion leaders alone could promote evidence based practice. Other studies tested opinion leaders along with other interventions, such as reminders, audit and feedback, distributing education materials or seminars. Most tried to change the behaviours of doctors, were in the United States, and in hospitals. Overall, these studies provide moderate quality evidence that opinion leaders improve practice. The potential to misuse opinion leaders, particularly by pharmaceutical companies, has also been raised as a concern (Liberati 2003; Steinman 2006; Moynihan 2008).

### **Organisational culture**

⇒ *It is very uncertain whether efforts to change organisational culture can achieve improvements in performance.*

There is increasing interest in managing organisational culture as a way to achieve health care improvement, although there is little consensus on the meaning of ‘organisational culture’. A systematic review (Scott 2003) of empirical studies exploring a relationship between organisational culture (broadly defined) and health care performance (broadly defined) found 10 observational studies that varied in design and quality. Four

of the 10 studies claimed to have found evidence supporting the hypothesis that culture and performance are linked, the other studies were inconclusive. The evidence suggests that those aspects of performance valued by a culture may be enhanced within organisations with that culture. There is very weak evidence to support recommendations for achieving service improvements through cultural transformation.



# Reform options

*”Store forandringer, -  
må bygges opp over  
lang tid.”*

*”Mellomstore.  
Løpende korrigerings basert  
på løpende evaluering av om  
virksomhetene faktisk lever  
opp til de politiske  
honnørordene.”*

*”Jeg tror  
at det beste hadde  
vært å la all helsetjeneste  
organiseres ut fra samme  
nivå, slik at alle aktører  
får samme mål. Det tror  
jeg også er urealistisk å få  
til, i dagens politiske  
Norge! Så da tror jeg  
kanskje det i øyeblikket er  
viktig med små og  
mellomstore  
reformer.”*

**Hvor store forandringer synes  
du er nødvendig?**

*”Mellomstore -  
Tror på at en virkelig betydelig  
styrking av primærhelsetjenes-  
ten er det viktigste.”*

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# Reform options

We outline three broad options for the Integrated Health Care Reform here in order to stimulate, and to some extent structure, discussion of how to bundle the selected potential delivery, financial and governance options into a coherent reform package. The purpose is not to put forward detailed proposals for the reform or to limit the discussion regarding broad options, but rather to provide a framework to help inform further discussion about the advantages and disadvantages of different approaches to addressing the need for improved coordination and integration of care for chronically ill people (and others).

The three options are based on the preceding (incomplete) analysis of the problem that the reform is intended to address, the evidence presented in this policy brief, and the idea that the degree of integration that the reform aims to achieve should correspond to the extent that change is needed in the health system. This is analogous to Leutz's model relating levels of integration to user need (Leutz 1999; Nolte 2008). We have used Leutz's labels for the three approaches: "linkage", "coordination" and "integration".

The three reform packages are not derived directly from the evidence summarised in this policy brief, nor can they be. Evidence of the likely impacts of different policy options is essential, but not sufficient for making decisions about the reform. Other types of evidence, clarity about the goals of the reform and the values on which it is based, and judgements are needed. Moreover, there is insufficient evidence to estimate the impacts of many of the options that might be included in the reform, particularly where they are implemented in combination.

For each option, we have suggested some potential advantages and disadvantages. These are not comprehensive and others may disagree about these judgements. These assessments are not conclusions, but are intended to provide a starting point for an open and informed discussion of the pros and cons of different approaches to improving the Norwegian healthcare system.

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## **REFORM OPTION 1: "LINKAGE"**

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A "linkage" reform would rely on relatively simple, though systematic, linkage of different organisations. This requires each provider to be aware of and to understand the other providers in terms of health and care needs, financing responsibilities and eligibility criteria. The reform would operate through the existing structures of the health

and care systems, with organizations retaining their own service responsibilities, funding and eligibility criteria and operational rules.

This reform option assumes the least need for change and would entail the least amount of structural change in the system. It entails identifying problems with coordination and addressing those, exchanging information as needed between providers, and ensuring clarity over responsibilities, tasks and who pays for what.

It could build on the Norwegian Official Report published in 2005: From fragmented to whole: a coordinated health service (NOU 2005). The mandate given to the committee that prepared that report was to make recommendations that did not include any major structural changes in the health system, and the committee concluded that major changes were not needed, although trials of new arrangements and some changes in financial arrangements were suggested, as well as a billion kroner fund to support coordination initiatives between community and speciality health services. A number of suggestions were made for improving coordination of care, for example:

- Strengthen a patient-centred perspective in the health services
  - Establish consumer committees in the community (primary) health services similar to those linked to the leadership in the regional health authorities.
  - Ensure implementation of ‘individual plans’ through the hospitals’ and community’s quality systems and a national reporting system on the use of individual plans for all communities and hospitals.
  - Make the ‘personal doctor’ arrangement only apply to patients with complex or chronic needs for specialist health services (in order to improve its implementation).
  - Establish patients’ rights to patient education in the patient rights law.
- Support coordination between service providers
  - Introduce clear functions and quality standards to ensure better physician services to patients with large/complex needs into the regular GP (fastlege) regulations.
  - Increase the amount that regular GPs are paid as salary and capitation, decrease the amount they are paid fee-for-service correspondingly, and increase the fees that GPs are paid for patients with large and complex needs.
  - Make the local government councils and health trust boards mutually responsible for having formalised agreements regarding coordination.
  - Establish a clear point of contact for communication between service providers regarding coordination in each local authority and health trust.
  - Build on existing information and communication technology initiatives.
  - Prioritise resources to research into methods for improved coordination.
  - Make coordination a part of the curriculum for all health professionals and have interdisciplinary continuing education that focuses on coordination.
  - Strengthen the practice consultant arrangement (praksiskonsulentordning) (part-time appointments of GPs in hospitals to identify and solve problems with coordination of care) and expand it to other health professionals.

Examples of how this might work are illustrated by the Health Dialogue Programme established in one of the regional health authorities to improve coordination between hospitals, communities and patients (<http://www.helsedialog.no/>) where

- All hospitals have entered into agreements strengthening the cooperation with their local municipalities;
- Close to 70 GPs have been hired (part-time) by the hospitals to improve patient flow between hospitals and providers of primary health care;
- Financial incentives to encourage ambulatory care have been established;
- All hospitals have established Patient Empowerment Centres;
- Funding for spreading good examples of best practice is provided.

### **Advantages**

Although this approach would require a substantial investment to ensure its success, it would likely require less investment than the other two approaches, cause less disruption due to reorganisations, and probably generate the least resistance from key stakeholders.

### **Disadvantages**

This approach relies to a large extent on local and regional initiatives and the extent to which each regional health authority, health trust and local authority prioritises this work. Any major barriers to improvements in coordination inherent in how the health services are currently structured may limit the effectiveness of this approach, as it does not address structural issues explicitly. Although this approach might address the needs of some patients, it may not address adequately the needs of patients who require substantial improvements in the co-ordination of their care. It will also not put in place reforms that place co-ordination and integration at the centre of care delivery in the medium to long term.

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## **REFORM OPTION 2: “COORDINATION”**

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A “coordination” reform also would operate mainly through existing health and care systems, but is a more structured approach that would involve additional explicit structures and processes, such as routinely shared information, managing transitions between settings, and assigning primary responsibility for coordinating care. It would identify points of friction, confusion or discontinuity between organisations and establish structures and processes to address those problems.

This approach is a middle road, incremental approach to change. It would entail new delivery, financial and governance arrangements that build on and are compatible with the existing structure of the Norwegian healthcare system. Key elements of a “coordina-

tion” reform might include implementation of many or all of the elements of option 1 above together with:

- Developing and implementing effective coordinated governance structures at the local, regional and national levels;
- Developing and implementing effective clinical governance structures for both primary and secondary care with appropriate linkages between these;
- Developing and implementing an effective mechanism for stakeholder involvement in planning and implementing improvements in coordination (quality) of care;
- Cautious, carefully planned and monitored use of financial incentives targeted at health professionals and organisations to motivate specific changes in behaviour and desired organisational changes;
- Use of the Chronic Disease Model, or an alternative model better suited to the goals of the reform and the problems that it is intended to address, to develop and implement innovations in how care is delivered within each of the components of the model;
- Use of demonstration programs to implement and rigorously evaluate promising changes in both financial and organisational arrangements rather than wholesale reform of current arrangements.

### **Advantages**

A more structured approach, with more effective governance arrangements and stakeholder involvement, better planned and monitored use of financial incentives and a more systematic approach to planning, implementing and evaluating changes in service delivery might provide a more effective mechanism for improving coordination of care. This approach would likely do more to address the needs of patients with moderate needs for coordination.

### **Disadvantages**

This approach would require a greater investment of resources and new organisational structures. There is a risk that the new structures might not function as intended or may be in conflict with existing structures. Any major barriers to improvements in coordination inherent in how the health services are currently structured would still limit the effectiveness of this approach. This approach might not adequately address the needs of patients with long-term, severe, unstable conditions.

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## **REFORM OPTION 3: “INTEGRATION”**

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An “integration” reform would create a single system with responsibility for all services, resources and funding in a single managed structure, or through contractual agreements between different organizations. Kaiser Permanente, a health maintenance organisation in the United States, is an example of what has been described as a “fully” integrated system.

An integrated system would require major changes in the Norwegian healthcare system or the creation of new programs or units where resources from multiple systems are pooled. This is the most radical of the three approaches and assumes that major structural changes are needed to achieve the goals of the reform.

### **Advantages**

To the extent that there are major barriers to improvements in coordination inherent in the current division and structure of the health and care system, this approach could potentially address those. It might also be more conducive to implementing many or all of the elements of the first two approaches. This may be the most rational way to organise the health services from a long-term perspective and might potentially have the most benefits in the long term. This approach might best address the needs of patients with long-term, severe, unstable conditions, as well as other people living with chronic conditions.

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### **Disadvantages**

This would likely be the most expensive approach in the short to middle term. There would likely be substantially more resistance from stakeholders. There would be more disruption, which could have a negative impact on how the reform is received, particularly in the light of ongoing disruptions from other recent reforms. Restructuring the health and social services might have unintended adverse effects. For example, while this approach might best address the needs of those most in need of improvements in coordination, it could potentially have undesirable effects for patients with little or no need for coordination.

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# References

## Preface

Bero 1997. Bero LA, Jadad AR. How consumers and policymakers can use systematic reviews for decision making. *Ann Intern Med* 1997; 127:37-42.

Cochrane 2007. Cochrane LJ, Olson CA, Murray S. Gaps between knowing and doing: understanding and assessing the barriers to optimal health care. *J Contin Educ Health Prof* 2007; 27:94-102.

EvalGap 2006. Evaluation Gap Working Group. When will we ever learn? Improving lives through impact evaluation. Center for Global Development, Washington, D.C., 2006.

Fishbein 2001. Fishbein M, Triandis HC, Kanfer FH, et al. Factors influencing behavior and behavior change. In: Baum A, Revenson TA, Singer JE. *Handbook of Health Psychology*. Lawrence Erlbaum Publ, London, 2001.

Guyatt 2008. Guyatt GH, Oxman AD, Kunz R, et al. What is 'quality of evidence' and why is it important to clinicians? *BMJ* 2008; 336:995-8.

Ham 2003. Ham C. Improving the performance of health services: the role of clinical leadership. *Lancet* 2003; 361:1978-80.

Iain Chalmers 2003. See: Chalmers I. If evidence-informed policy works in practice, does it matter if it doesn't work in theory? *Evidence & Policy* 2005; 1:227-42.

Julio Frenk 2005. In: Moynihan R, Oxman AD, Lavis JN, Paulsen E. *Evidence-Informed Health Policy: Using Research to Make Health Systems Healthier*. Rapport Nr 1-2008. Oslo: Nasjonalt kunnskapscenter for helsetjenesten, 2008.

Mulrow 1994. Mulrow CD. Rationale for systematic reviews. *BMJ* 1994; 309:597-9.

Nolte 2008. Nolte E, McKee M. Integration and chronic care: a review. In: Nolte E, McKee M, (eds). *Caring for people with chronic conditions: A health system perspective*. Open University Press, Berkshire, 2008.

Oxman 2006. Oxman AD, Fretheim A, Schünemann HJ. Improving the use of research evidence in guideline development: 7. Deciding what evidence to include. *Health Res Policy Syst* 2006; 4:19.

Shortell 2007. Shortell SM, Rundall TG, Hsu J. Improving patient care by linking evidence-based medicine and evidence-based management. *JAMA* 2007; 298:673-6.

Wensing 2001. Wensing M, Bosch M, Foy R, et al. Factors in theories on behaviour change to guide implementation and quality improvement in healthcare. Technical Report for the Rebeqi project. European Commission, Fifth Framework. 2001. Contract nbr. QLRT-00657.

## The policy issue

AGENDA 2007. Magnussen G. FOU-prosjekt. Varige og likeverdige samhandlingsmodeller mellom 1. og 2. linjetjenesten. Rapport 5459. AGENDA Utredning & Utvikling AS, Sandvika, 2007.

Alazri 2006. Alazri M, Neal R, Heywood P, Leese B. Patients' experiences of continuity in the care of type 2 diabetes: a focus group study in primary care *Br J Gen Pract* 2006; 56:488-95.

Bibbee 2006. Bibbee A, Padrini F. Balancing health care quality and cost containment: the case of Norway. From 2005 OECD Economic Survey of Norway. OECD, Paris, 2006.



Calnan 2006. Calnan M, Hutten J, Tiljak H. The challenge of coordination: the role of primary care professionals in promoting care across the interface. In Saltman R, Rico A, Boerma W, (eds). Primary Care in the Driver's Seat? Organizational Reform in European Primary Care, pp.85–104. Open University Press, Maidenhead, 2006.

Eyr 2008a <http://www.uib.no/isf/eyr/2008q4/013007.html>

Eyr 2008b <http://www.uib.no/isf/eyr/2008q4/012986.html>

Finnvold 2003. JE Finnvold: Til enhver etter behov? Om tildeling av trygdeytelser til familier med astmatiske barn. Tidsskrift for Velferdsforskning nr. 4, 2003.

Finnvold 2008. Finnvold JE. Referrals to specialist care and factors extraneous to client need: lessons from the implementation of a list patient system in Norway. Garner JB, Christiansen TC, (eds). Social Sciences in Health Care and Medicine, Nova Science Publishing, Hauppauge, NY, 2008.

Garåsen 2007. Garåsen H, Windspoll R, Johnsen R. Intermediate care at a community hospital as an alternative to prolonged general hospital care for elderly patients: a randomised controlled trial. BMC Public Health 2007; 7:68.

Garåsen 2008. The Trondheim Modell. Improving the professional communication between the various levels of health care services and implementation of intermediate care at a community hospital could provide better care for older patients. Short and long term effects. Thesis. Norwegian University of Science and Technology, Trondheim, 2008.

Hanssen 2008. Samhandlingsreformen. Helse- og omsorgsdepartementet.  
<http://www.regjeringen.no/nb/dep/hod/kampanjer/samhandlingsreformen.html?id=524777>

Hdir 2008. [http://www.shdir.no/prioriteringer\\_helsetjenesten/riktigere\\_prioritering/](http://www.shdir.no/prioriteringer_helsetjenesten/riktigere_prioritering/)

Helsedialog 2005. Helsedialog. Program for samhandling i helsetjenesten. Vedtatt av styret i Helse Sør RHF og KS fylkesstyret i Agder, Buskerud, Telemark og Vestfold. KS BTV/Helse Sør RHF, Skien, 2005.

Hjortdahl 1992. Hjortdahl P, Laerum E. Continuity of care in general practice: effect on patient satisfaction. BMJ 1992; 304:488-95.

HOD 2008a. Legenes bruk av Norsk Helsenett for informasjonsutveksling – kostnader og nytteeffekter. Sluttrapport fra partssammensatt arbeidsgruppe til Helse- og omsorgsdepartementet 07.04.2008.

HOD 2008b. Flere pasienter bør behandles i kommunehelsetjenesten.  
<http://www.regjeringen.no/nb/dep/hod/pressemeldinger/pressemeldinger/2008/flere-pasienter-bor-behandles-i-kommune.html?id=533324>

Johnsen 2006. Johnsen JR. Health Systems in Transition: Norway. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies, Brussels, 2006.

Kunnskapssenteret 2007. Pasienters erfaringer med døgnenheter ved somatiske sykehus. Resultater fra en nasjonal undersøkelse i 2006. PasOpp-rapport nr 01 – 2007.

Kunnskapssenteret 2008. Foresattes vurderinger av tilbudet ved barne- og ungdomspsykiatriske poliklinikker i 2006. Institusjonsresultater fra en nasjonal undersøkelse. PasOpp-rapport nr 04 – 2008.

Leutz 1999. Leutz W. Five laws for integrating medical and social services: lessons from the United States and the United Kingdom, Milbank Q 1999; 77:77–110.

McDonald 2007. McDonald KM, Sundaram V, Bravata DM, et al. Care Coordination. Vol 7 of: Shojania KG, McDonald KM, Wachter RM, Owens DK, editors. Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies. Technical Review 9 (Prepared by the Stanford University-UCSF Evi-

dence-based Practice Center under contract 290-02-0017). AHRQ Publication No. 04(07)-0051-7. Rockville, MD: Agency for Healthcare Research and Quality. June 2007.

<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat2.chapter.25236>

NHN 2008. <http://www.nhn.no/om-oss/statistikk-1/statistikk>

Nolte 2008. Integration and chronic care: a review. In: Nolte E, McKee M, (eds). Caring for people with chronic conditions: A health system perspective. Open University Press, Berkshire, 2008.

Norheim 2003. Norheim OF, Carlsen B. Legens doble rolle som advokat og portvakt i fastlegeordningen. Evaluering av fastlegeordningen. Notat 19-2003. Rokkansenteret, Bergen, 2003.

NOU 1987. NOU: 23 (1987) Retningslinjer for prioriteringer innen norsk helsetjeneste (Guidelines for prioritizations in the Norwegian health care system). Statens forvaltningstjeneste (Royal Commission).

NOU 1997. NOU: 18 (1997) Prioriteringer på ny (Ranking of priorities again). Statens forvaltningstjeneste (Royal Commission).

NOU 2005. NOU: 3 (2005) Fra stykkevis til helt – En sammenhengende helsetjeneste (From piecemeal to completion – One integrated health care service). Statens forvaltningstjeneste (Royal Commission).

NPR 2008. Norsk Pasientregister: Ventetider og pasientrettigheter 2. tertial 2008. Oslo; Helsedirektoratet, 2008.

OECD 2007. Health at a Glance 2007: OECD Indicators.

<http://lysander.sourceoecd.org/vl=1007269/cl=17/nw=1/rpsv/health2007/6-6.htm>

Piette 2004. Piette J, Richardson C, Valenstein M. Addressing the needs of patients with multiple chronic illnesses: the case of diabetes and depression, *Am J Manage Care* 2004; 10:152–62.

Piette 2006. Piette J, Kerr E. The impact of comorbid chronic conditions on diabetes care. *Diabetes Care* 2006; 29:725–31.

Sandfort 2004. Sandfort J. Why is human services integration so difficult to achieve? *Focus* 2004; 23:35-8.

Sandvik 2006. Sandvik H. Evaluering av fastlegereformen 2001-2005. Sammenfatning og analyse av evalueringens delprosjekter. Norges forskningsråd, Oslo, 2006.

Sanne 2008. Sanne AP (editor). Health creates welfare – the role of the health system in Norwegian society. Trends in the health sector, 2008. Norwegian Directorate of Health, Oslo, 2008.

Schiøtz 2003. Schiøtz A. Det offentlige helsevesenet i Norge 1603–2003, Del 2: Folkets helse – landets styrke, 1850–2003. Universitetsforlaget, Oslo, 2003.

Schoen 2008. Schoen C, Osborn R, How SK, et al. In chronic condition: experiences of patients with complex health care needs, in eight countries. *Health Aff* 2008; Epub ahead of print.

SINTEF 2008. Paulsen B, Grimsmo A. God vilje - dårlig verktøy. Om samhandling mellom sykehus og kommunale omsorgstjenester ved utskrivninger av omsorgstrengende eldre. SINTEF Rapport A7877. SINTEF Helse, Trondheim, 2008.

Statistics Norway 2008. See: [www.ssb.no/helsetilstand/](http://www.ssb.no/helsetilstand/)

Sundsbo 2008. Tale til pasientsikkerhetskonferansen. Åpning av pasientsikkerhetskonferansen, Rikshospitalet 10. september 2008.

[http://www.regjeringen.no/nb/dep/hod/aktuelt/taler\\_artikler/politisk\\_ledelse/taler-og-artikler-av-statssekretar-dagfi/2008/tale-til-pasientsikkerhetskonferanse-10-.html?id=526174](http://www.regjeringen.no/nb/dep/hod/aktuelt/taler_artikler/politisk_ledelse/taler-og-artikler-av-statssekretar-dagfi/2008/tale-til-pasientsikkerhetskonferanse-10-.html?id=526174)

WHO 2005. Preventing chronic disease: a vital investment. WHO global report. Geneva,

## **Delivery arrangements and Appendix 2**

Alwan 2008. Alwan NA, Johnstone P, Zolese G. Length of hospitalisation for people with severe mental illness. Cochrane Database of Systematic Reviews 2008, Issue 1.

Barlow 2007. Barlow J, Singh D, Bayer S, Curry R. A systematic review of the benefits of home telecare for frail elderly people and those with long-term conditions. *J Telemed Telecare* 2007; 13:172-9. <http://jtt.rsmjournals.com/cgi/reprint/13/4/172>

Beswick 2008. Beswick AD, Rees K, Dieppe P, Ayis S, Gooberman-Hill R, Horwood J, Ebrahim S. Complex interventions to improve physical function and maintain independent living in elderly people: a systematic review and meta-analysis. *Lancet*. 2008; 371:725-35.

Bodenheimer 2002. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness: the Chronic Care Model, Part 2. *JAMA* 2002; 288:1909-14.

Bodenheimer 2003. Bodenheimer T. Interventions to improve chronic illness care: evaluating their effectiveness. *Dis Manag* 2003; 6:63-71.

Burns 2007. Burns T, Catty J, Dash M, et al. Use of intensive case management to reduce time in hospital in people with severe mental illness: systematic review and meta-regression. *BMJ* 2007; 335:336-40.

Chen 2008. Chen A, Au M. Rapid Review of the Disease Management Literature. Center for Evidence-based Policy, Oregon Health & Science University, Portland, 2008.

Chodosh 2005. Chodosh J, Morton SC, Mojica W, Maglione M, Suttorp MJ, Hilton L, Rhodes S, Shekelle P. Meta-analysis: chronic disease self-management programs for older adults. *Ann Intern Med* 2005; 143:427-38.

Dorr 2007. Dorr D, Bonner LM, Cohen AN, Shoai RS, Perrin R, Chaney E et al. Informatics systems to promote improved care for chronic illness: a literature review. *J Am Med Inform Assoc* 2007; 14:156-63. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pubmed&pubmedid=17213491>

Dy 2005. Dy SM, Garg P, Nyberg D, Dawson PB, Pronovost PJ, Morlock L et al. Critical pathway effectiveness: Assessing the impact of patient, hospital care, and pathway characteristics using qualitative comparative analysis. *Health Serv Res* 2005; 2:499-516.

Eiring 2007. Eiring Ø, Flottorp S, Johansen M, Vandvik PO. Kunnskapsgrunnlaget for behandlingslinjer - en foreløpig oversikt. Notat oktober 2007. Oslo: Nasjonalt kunnskapssenter for helsetjenesten, 2007.

Elkan 2001. Elkan R, Kendrick D, Dewey M, Hewitt M, Robinson J, Blair M, Williams D, Brummell K. Effectiveness of home based support for older people: systematic review and meta-analysis. *BMJ* 2001; 323:719-25.

Elkan 2004. Elkan R, Kendrick D. What is the effectiveness of home visiting or homebased support for older people? WHO 2004. <http://www.euro.who.int/Document/e83105.pdf>

Epping-Jordan 2004. Epping-Jordan JE, Pruitt SD, Bengoa R, Wagner EH. Improving the quality of health care for chronic conditions. *Qual Saf Health Care* 2004; 13: 299-305.

ESD 2005. Early Supported Discharge Trialists. Services for reducing duration of hospital care for acute stroke patients. Cochrane Database of Systematic Reviews 2005, Issue 2.

Ferguson 1998. Ferguson JA, Weinberger M. Case management programs in primary care. *J Gen Int Med* 1998; 13:123-6

- Foster 2007. Foster G, Taylor SJC, Eldridge SE, Ramsay J, Griffiths CJ. Self-management education programmes by lay leaders for people with chronic conditions. *Cochrane Database of Systematic Reviews* 2007, Issue 4.
- Forster 2008. Forster A, Young J, Lambley R, Langhorne P. Medical day hospital care for the elderly versus alternative forms of care. *Cochrane database of Systematic Reviews* 2008, issue 4.
- Garåsen 2007. Garåsen H, Windspoll R, Johnsen R. Intermediate care at a community hospital as an alternative to prolonged general hospital care for elderly patients: a randomised controlled trial. *BMC Public Health* 2007; 7:68.
- Garåsen 2008. Garåsen H, Windspoll R, Johnsen R. Long-term patients' outcomes after intermediate care at a community hospital for elderly patients: 12-month follow-up of a randomized controlled trial. *Scand J Public Health* 2008; 36:197-204.
- Gilbody 2006. Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. *Arch Intern Med* 2006; 166:2314-21.
- Gonseth 2004. Gonseth J, Guallar-Castillon P, Banegas JR, Rodriguez-Artalejo F. The effectiveness of disease management programmes in reducing hospital re-admission in older patients with heart failure: a systematic review and meta-analysis of published reports. *Eur Heart J* 2004; 25:1570-95.
- Griffin 1998. Griffin S, Kinmonth AL. Systems for routine surveillance for people with diabetes mellitus. *Cochrane Database of Systematic Reviews* 1998, Issue 1.
- Griffiths 2007. Griffiths PD, Edwards ME, Forbes A, Harris RL, Ritchie G. Effectiveness of intermediate care in nursing-led in-patient units. *Cochrane Database of Systematic Reviews* 2007, Issue 2.
- Gruen 2003. Gruen RL, Weeramanthri TS, Knight SS, Bailie RS. Specialist outreach clinics in primary care and rural hospital settings. *Cochrane Database of Systematic Reviews* 2003, Issue 4.
- HEN 2003. Are disease management programmes (DMPs) effective in improving quality of care for people with chronic conditions? WHO Regional Office for Europe's Health Evidence Network (HEN), 2003.
- Hesse 2007. Hesse M, Vanderplasschen W, Rapp R, Broekaert E, Fridell M. Case management for persons with substance use disorders. *Cochrane Database of Systematic Reviews* 2007, Issue 4.
- Hollinghurst 2006. Hollinghurst S, Horrocks S, Anderson E, Salisbury C. Comparing the cost of nurse practitioners and GPs in primary care: modelling economic data from randomised trials. *Br J Gen Pract* 2006; 56:530-5.
- Horrocks 2002. Horrocks S, Anderson E, Salisbury C. Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. *BMJ* 2002; 324:819-23.
- Howarth 2006. Howarth M, Holland K, Grant MJ. Education needs for integrated care: a literature review. *J Adv Nurs* 2006; 56: 144-56.
- ICIC 2008. Improving Chronic Illness Care. The Chronic Care Model. [http://www.improvingchroniccare.org/index.php?p=Model\\_Elements&s=18](http://www.improvingchroniccare.org/index.php?p=Model_Elements&s=18)
- Jeffery 2007. Jeffery M, Hickey BE, Hider PN. Follow-up strategies for patients treated for non-metastatic colorectal cancer. *Cochrane Database Syst Rev* 2007, Issue 1.
- Joy 2006. Joy CB, Adams CE, Rice K. Crisis intervention for people with severe mental illnesses. *Cochrane Database of Systematic Reviews* 2006, Issue 4.
- Kalra 2000. Kalra L, Evans A, Perez I, et al. Alternative strategies for stroke care: a prospective randomised controlled trial. *Lancet* 2000; 356:894-9.

- Kim 2003. Kim S, Losina E, Solomon DH, Wright J, Katz JN, Kim S et al. Effectiveness of clinical pathways for total knee and total hip arthroplasty: literature review. *J Arthroplasty* 2003; 18:69-74.
- Kwan 2004. Kwan J, Sandercock P. In-hospital care pathways for stroke. *Cochrane Database of Systematic Reviews* 2004, Issue 4.
- Larsen 2006. Larsen TH, Melle I, Auestad, et al. Early detection of first-episode psychosis: the effect on 1-year outcome. *Schizophr Bull.* 2006; 32:758-64.
- Laurant 2004. Laurant M, Reeves D, Hermens R, Braspenning J, Grol R, Sibbald B. Substitution of doctors by nurses in primary care. *Cochrane Database of Systematic Reviews* 2004, Issue 4.
- Malone 2007. Malone D, Marriott S, Newton-Howes G, Simmonds S, Tyrer P. Community mental health teams (CMHTs) for people with severe mental illnesses and disordered personality. *Cochrane Database of Systematic Reviews* 2007, Issue 3.
- Markle-Reid 2006. Markle-Reid M, Browne G, Weir R, Gafni A, Roberts J, Henderson SR. The effectiveness and efficiency of home-based nursing health promotion for older people: a review of the literature. *Med Care Res Rev* 2006; 63:531-69.
- Marshall 2006. Marshall M, Rathbone J. Early Intervention for psychosis. *Cochrane Database of Systematic Reviews* 2006, Issue 4.
- Mattke 2007. Mattke S, Seid M, Ma S. Evidence for the effect of disease management: is \$1 billion a year a good investment? *Am J Manag Care* 2007; 13:670-6.
- Martin 2008. Martin S, Kelly G, Kernohan WG, McCreight B, Nugent C. Smart home technologies for health and social care support. *Cochrane Database of Systematic Reviews* 2008, Issue 4.
- McAlister 2001. McAlister FA, Lawson FM, Teo KK, Armstrong PW. Randomised trials of secondary prevention programmes in coronary heart disease: systematic review. *BMJ* 2001; 323:957-62.
- McDonald 2007. McDonald KM, Sundaram V, Bravata DM, et al. Care Coordination. Vol 7 of: Shojania KG, McDonald KM, Wachter RM, Owens DK, editors. *Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies. Technical Review 9* (Prepared by the Stanford University-UCSF Evidence-based Practice Center under contract 290-02-0017). AHRQ Publication No. 04(07)-0051-7. Rockville, MD: Agency for Healthcare Research and Quality. June 2007.  
<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat2.chapter.25236>
- McPherson 2006. McPherson K, Kersten P, George S, Lattimer V, Breton A, Ellis B, Kaur D, Frampton G. A systematic review of evidence about extended roles for allied health professionals. *J Health Serv Res Policy.* 2006; 11:240-7.
- Meinck 2004. Meinck M, Lubke N, Lauterberg J, Robra BP. [Preventive home visits to the elderly: systematic review of available evidence]. *Gesundheitswesen* 2004; 66:732-8.
- Mistiaen 2007. Mistiaen P, Francke AL, Poot E. Interventions aimed at reducing problems in adult patients discharged from hospital to home: a systematic meta-review. *BMC Health Serv Res* 2007; 7:47.
- Mitchell 2002. Mitchell G, Del Mar C, Francis D. Does primary medical practitioner involvement with a specialist team improve patient outcomes? A systematic review. *Br J Gen Pract* 2002; 52:934-9.
- Moloney 1999. Moloney R, Maggs C, Moloney R, Maggs C. A systematic review of the relationships between written manual nursing care planning, record keeping and patient outcomes. *J Adv Nurs* 1999; 30:51-7.
- Neumeyer-Gromen 2004. Neumeyer-Gromen A, Lampert T, Stark K, Kallischnigg G. Disease management programs for depression: a systematic review and meta-analysis of randomized controlled trials. *Med Care* 2004; 42:1211-21.

- Nolte 2008. Integration and chronic care: a review. In: Nolte E, McKee M, (eds). *Caring for people with chronic conditions: A health system perspective*. Open University Press, Berkshire, 2008.
- Norris 2002. Norris, S., Nichols, P., Caspersen, C. et al. The effectiveness of disease and case management for people with diabetes. A systematic review. *Am J Prev Med* 2002; 22:15–38.
- O'Connor 2007. O'Connor AM, Bennett C, Stacey D, Barry MJ, Col NF, Eden KB, Entwistle V, Fiset V, Holmes-Rovner M, Khangura S, Llewellyn-Thomas H, Rovner DR. Do patient decision aids meet effectiveness criteria of the international patient decision aid standards collaboration? A systematic review and meta-analysis. *Med Decis Making*. 2007; 27:554-74.
- Ofman 2004. Ofman J, Badamgarav E, Henning J et al. Does disease management improve clinical and economic outcomes in patients with chronic diseases? A systematic review. *Am J Med* 2004; 117:182–92.
- Outpatient Service Trialists 2003. Outpatient Service Trialists. Therapy-based rehabilitation services for stroke patients at home. *Cochrane Database of Systematic Reviews* 2003, Issue 1.
- Ouwens 2005. Ouwens M, Wollersheim H, Hermens R et al. Integrated care programmes for chronically ill patients: a review of systematic reviews. *Int J Qual Health Care* 2005; 17:141-6.
- Petersen 2005. Petersen L, Jeppesen P, Thorup A, et al. A randomised multicentre trial of integrated versus standard treatment for patients with a first episode of psychotic illness. *BMJ* 2005; 331:602.
- Phillips 2004. Phillips CO, Wright SM, Kern DE, et al. Comprehensive discharge planning with post discharge support for older patients with congestive heart failure: a meta-analysis. *JAMA* 2004; 291:1358-67.
- Ploeg 2005. Ploeg J, Feightner J, Hutchison B, Patterson C, Sigouin C, Gauld M. Effectiveness of preventive primary care outreach interventions aimed at older people: meta-analysis of randomized controlled trials. *Can Fam Physician* 2005; 51:1244-5.
- Reeves 2008. Reeves S, Zwarenstein M, Goldman J, Barr H, Freeth D, Hammick M, Koppel I. Interprofessional education: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2008, Issue 1.
- Renholm 2002. Renholm M, Leino-Kilpi H, Suominen T, et al. Critical pathways. A systematic review. *J Nurs Adm* 2002; 32:196-202.
- Richardson 2005. Richardson G, Gravelle H, Weatherly H, Ritchie G. Cost-effectiveness of interventions to support self-care: a systematic review. *Int J Technol Assess Health Care* 2005; 21:423-32.
- Roberts 1998. Roberts E, Mays N. Can primary care and community-based models of emergency care substitute for the hospital accident and emergency (A & E) department? *Health Policy* 1998; 44:191-214.
- Rojas 2000. Rojas MP, Telaro E, Russo A, Moschetti I, Coe L, Fossati R, Palli D, Roselli del Turco M, Liberati A. Follow-up strategies for women treated for early breast cancer. *Cochrane Database of Systematic Reviews* 2000, Issue 4.
- Rotter 2007. Rotter T, Koch R, Kugler J, et al. Clinical pathways: effects on professional practice, patient outcomes, length of stay and hospital costs (Protocol). *Cochrane Database of Systematic Reviews* 2007, Issue 3.
- Shekelle 2006. Shekelle PG, Morton SC, Keeler EB. Costs and Benefits of Health Information Technology. Evidence Report/Technology Assessment No. 132. (Prepared by the Southern California Evidence-based Practice Center under Contract No. 290-02-0003.) AHRQ Publication No.06-E006. Rockville, MD: Agency for Healthcare Research and Quality. April 2006.  
<http://www.ahrq.gov/downloads/pub/evidence/pdf/hitsyscosts/hitsys.pdf>



- Shepperd 2004. Shepperd S, Parkes J, McClaran J, Phillips C. Discharge planning from hospital to home. *Cochrane Database of Systematic Reviews* 2004, Issue 1.
- Shepperd 2008a. Shepperd S, Doll H, Angus RM, Clarke MJ, Iliffe S, Kalra L, Ricauda NA, Wilson AD. Admission avoidance hospital at home. *Cochrane Database of Systematic Reviews* 2008, Issue 4.
- Shepperd 2008b. Shepperd S, Doll H, Broad J, et al. Early discharge hospital at home. *Cochrane Database of Systematic Reviews*. In press.
- Singh 2005a. Which staff improve care for people with long-term conditions? A rapid review of the literature. Birmingham: University of Birmingham and Surrey and Sussex PCT Alliance, 2005. [http://www.hsmc.bham.ac.uk/publications/pdfs/Workforce\\_Implications\\_Review.pdf](http://www.hsmc.bham.ac.uk/publications/pdfs/Workforce_Implications_Review.pdf)
- Singh 2005b. Singh D. Transforming Chronic Care: Evidence about improving care for people with long-term conditions. Birmingham: University of Birmingham and Surrey and Sussex PCT Alliance, 2005. [http://www.hsmc.bham.ac.uk/publications/pdfs/Transforming\\_Chronic\\_Care.pdf](http://www.hsmc.bham.ac.uk/publications/pdfs/Transforming_Chronic_Care.pdf)
- Singh 2006. Singh D, Ham C. Improving care for people with long-term conditions. A review of UK and international frameworks. Health Services Management Centre, Birmingham, 2006. <http://www.hsmc.bham.ac.uk/documents/Improvingcareforpeoplewithlhc.pdf>
- Singh 2008. Singh D. How can chronic disease management programmes operate across care settings and providers. European Observatory of Health systems and Policies, WHO Europe, Copenhagen, 2008. [http://www.euro.who.int/document/hsm/6\\_hsc08\\_epb\\_9.pdf](http://www.euro.who.int/document/hsm/6_hsc08_epb_9.pdf)
- Smith 2001. Smith TJ, Hillner BE, Smith TJ, Hillner BE. Ensuring quality cancer care by the use of clinical practice guidelines and critical pathways. *J Clin Oncol* 2001; 19:2886-97.
- Smith 2007. Smith SM, Allwright S, O'Dowd T. Effectiveness of shared care across the interface between primary and specialty care in chronic disease management. *Cochrane Database of Systematic Reviews* 2007, Issue 3.
- Stuck 2002. Stuck AE, Egger M, Hammer A, Minder CE, Beck JC. Home visits to prevent nursing home admission and functional decline in elderly people: systematic review and meta-regression analysis. *JAMA* 2002; 287:1022-8.
- Sulch 2000. Sulch D, Kalra L. Integrated care pathways in stroke management. *Age and Ageing* 2000; 29:49-52.
- Tsai 2005. Tsai AC, Morton SC, Mangione CM, Keeler EB. A meta-analysis of interventions to improve care for chronic illnesses. *Am J Manag Care* 2005; 11:478-88.
- van Haastregt 2000. van Haastregt JC, Diederiks JP, van Rossum E, de Witte LP, Crebolder HF. Effects of preventive home visits to elderly people living in the community: systematic review. *BMJ* 2000; 320:754-8.
- van Herck 2004. van Herck P, Vanhaecht K, Sermeus W. Effects of clinical pathways: Do they work? *Journal of Integrated Care Pathways* 2004; 3:95-105.
- Wagner 1998. Wagner EH. Chronic disease management: what will it take to improve care for chronic illness? *Eff Clin Pract* 1998; 1:2-4.
- Wagner 2001. Wagner EH, Austin BT, Davis C, et al. Improving chronic illness care: translating evidence into action. *Health Affairs* 2001; 20:64-78.
- Warsi 2004. Warsi A, Wang PS, LaValley MP, Avorn J, Solomon DH. Self-management education programs in chronic disease: a systematic review and methodological critique of the literature. *Arch Intern Med* 2004; 164:1641-9.

Weingarten 2002. Weingarten SR, Henning JH, Badamgarav E, et al. Interventions used in disease management programmes for patients with chronic illness - which ones work? Meta-analysis of published reports. *BMJ* 2002; 325:925.

Wensing 2006. Wensing M, Wollersheim H, Grol R. Organizational interventions to improve improvements in patient care: a structured review of reviews. *Implementation Science* 2006; 1:2.

Williams 2007. Williams JW, Gerrity M, Holsinger T, et al. Systematic review of multifaceted interventions to improve depression care. *General Hospital Psychiatry* 2007; 29:91-116.

Zwar 2006. Zwar N, Harris M, Griffiths R, et al. A systematic review of chronic disease management. Research Centre for Primary Health Care and Equity, School of Public Health and Community Medicine, UNSW, 2006. [http://www.anu.edu.au/aphcri/Domain/ChronicDiseaseMgmt/Approved\\_3\\_Zwar.pdf](http://www.anu.edu.au/aphcri/Domain/ChronicDiseaseMgmt/Approved_3_Zwar.pdf)

## Financial arrangements

Austvoll-Dahlgren 2008. Austvoll-Dahlgren A, Aaserud M, Vist G, et al. Pharmaceutical policies: effects of cap and co-payment on rational drug use. *Cochrane Database of Systematic Reviews* 2008, Issue 1.

Battersby 2005. Battersby MW, SA HealthPlus Team. Health reform through coordinated care: SA HealthPlus. *BMJ* 2005; 330:662-5.

Buchmueller 2005. Buchmueller TC, Grumbach K, Kronick R, Kahn JG. The effect of health insurance on medical care utilization and implications for insurance expansion: a review of the literature. *Med Care Res Rev* 2005; 62:3-30.

Busse 2008. Busse R, Mays N. Paying for chronic disease care. In: Nolte E, McKee M, (eds). *Caring for people with chronic conditions: A health system perspective*. Open University Press, Berkshire, 2008.

Crampton 2002. Crampton P, Sutton F, Foley J. capitation funding of primary care services: principles and prospects. *New Zealand Medical Journal* 2002; 115:1-6.

Dudley 2004. Dudley RA, Frolich A, Robinowitz DL, Talavera JA, Broadhead P, Luft HS, McDonald K. Strategies to support quality-based purchasing: a review of the evidence. Technical Review Number 10. AHRQ Publication No. 04-0057, Agency for Healthcare Research and Quality, 2004. <http://www.ahrq.gov/downloads/pub/evidence/pdf/qbpurch/qbpurch.pdf>

Esterman 2002. Esterman AJ, Ben-Tovim DI. The Australian coordinated care trials: success or failure? *Medical Journal of Australia* 2002; 177:469-70.

Freeman 2008. Freeman JD, Kadiyala S, Bell JF, Martin DP. *Medical Care* 2008; 46:1023-32.

Gauld 2006. Gauld R, Mays N. Are New Zealand's new primary health organisations fit for purpose? *BMJ* 2006; 333:1216-8.

Giuffrida 1997. Giuffrida A, Torgerson DJ. Should we pay the patient? Review of financial incentives to enhance patient compliance. *BMJ* 1997; 315:703-7.

Giuffrida 1999. Giuffrida A, Gosden T, Forland F, Kristiansen IS, Sergison M, Leese B, Pedersen L, Sutton M. Target payments in primary care: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 1999, Issue 4.

Goldman 2007. Goldman D, Joyce G, Zheng Y. Prescription drug cost sharing: associations with medication and medical utilization and spending and health. *JAMA* 2007; 298:61-9.

Gosden 1997. Gosden T, Torgerson DJ. The effect of fundholding on prescribing and referral costs: a review of the evidence. *Health Policy* 1997; 40:103-14.



Gosden 2000. Gosden T, Forland F, Kristiansen IS, Sutton M, Leese B, Giuffrida A, Sergison M, Pedersen L. Capitation, salary, fee-for-service and mixed systems of payment: effects on the behaviour of primary care physicians. *Cochrane Database of Systematic Reviews* 2000, Issue 3.

Gosden 2001. Gosden T, Forland F, Kristiansen IS, Sutton M, Leese B, Giuffrida A, Sergison M, Pedersen L. Impact of payment method on behaviour of primary care physicians: a systematic review. *J Health Serv Res Policy* 2001; 6:44-55.

IOM 2001. Committee on Quality of Health Care in America, Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21<sup>st</sup> Century*. National Academy Press, Washington, D.C., 2001. [http://www.nap.edu/catalog.php?record\\_id=10027](http://www.nap.edu/catalog.php?record_id=10027)

Jeffrey 2006. Jeffrey AE, Newacheck PW. Role of insurance for children with special health care needs: a synthesis of the evidence. *Pediatrics* 2006; 118:1027-38.

Kane 2004. Kane RL, Johnson PE, Town RJ, Butler M. A structured review of the effect of economic incentives on consumers' preventive behavior. *Am J Prev Med* 2004; 27:327-52.

Marshall 2005. Marshall M, Harrison S. It's about more than money: financial incentives and internal motivation. *Qual Saf Health Care* 2005; 14:4-5.

Petersen 2006. Petersen LA, Woodard LD, Urech T, Daw C, Sookanan S. Does pay-for-performance improve the quality of health care? *Ann Intern Med* 2006; 145:265-72.

Rosenthal 2006. Rosenthal MB, Frank RG. What is the empirical basis for paying for quality in health care? *Med Care Res Rev* 2006; 63:135-57.

Sturm 2007. Sturm H, Austvoll-Dahlgren A, Aaserud M, Oxman AD, Ramsay C, Vernby A, Kösters JP. Pharmaceutical policies: effects of financial incentives for prescribers. *Cochrane Database Syst Rev* 2007, Issue 3.

## **Governance arrangements**

Crawford 2002. Crawford MJ, Rutter D, Manley C, et al. Systematic review of involving patients in the planning and development of health care. *BMJ* 2002; 325:1263-7.

Deveraux 2002a. Devereaux PJ, Choi PTL, Lacchetti C, et al. A systematic review and meta-analysis of studies comparing mortality rates of private for-profit and private not-for-profit hospitals. *CMAJ* 2002; 166:1399-406.

Deveraux 2002b. Devereaux PJ, Schünemann HJ, Ravindran N, et al. Comparison of mortality between private for-profit and private not-for-profit hemodialysis centers : a systematic review and meta-analysis. *JAMA* 2002; 288:2449-57.

Deveraux 2004. Devereaux PJ, Heels-Ansdell D, Lacchetti C, et al. Payments for care at private for-profit and private not-for-profit hospitals: a systematic review and meta-analysis. *CMAJ* 2004; 170:1817-24.

Forest 1999. Forest PG, Gagnon D, Abelson J, Turgeon J, Lamarche P. Issues in the governance of integrated health systems. Policy synthesis. Canadian Health Services Research Foundation, Ottawa, 1999. [http://www.chsrf.ca/final\\_research/commissioned\\_research/policy\\_synthesis/pdf/pses-governihis\\_e.pdf](http://www.chsrf.ca/final_research/commissioned_research/policy_synthesis/pdf/pses-governihis_e.pdf)

Greenfield 2008. Greenfield D, Braithwaite J. Health sector accreditation research: a systematic review. *International Journal for Quality in Health Care* 2008; 20:172-83.

Grimshaw 2004. Grimshaw JM, Thomas RE, MacLennan G, et al. Effectiveness and efficiency of guideline dissemination and implementation strategies. *Health Technol Assess* 2004; 8(6) <http://www.ncchta.org/project.asp?PjtId=994>

Nilsen 2006. Nilsen ES, Myrhaug HT, Johansen M, Oliver S, Oxman AD. Methods of consumer involvement in developing healthcare policy and research, clinical practice guidelines and patient information material. *Cochrane Database of Systematic Reviews* 2006, Issue 3.

O'May 1999. O'May F, Buchan J. Shared governance: a literature review. *International Journal of Nursing Studies* 1999; 36:281-300.

Saltman 2007. Saltman RB, Bankauskaite V, Vrangbæk (eds). *Decentralization in Health Care: Strategies and Outcomes*. Open University Press, Berkshire, 2007.

[http://www.euro.who.int/InformationSources/Publications/Catalogue/20070205\\_1](http://www.euro.who.int/InformationSources/Publications/Catalogue/20070205_1)

Seddon 2001. Seddon ME, Marshall MN, Campbell SM, Roland MO. Systematic review of studies of quality of clinical care in general practice in the UK, Australia and New Zealand. *Qual Health Care* 2001; 10:152-8.

Singh 2006. Singh D, Ham C. Improving care for people with long-term conditions: a review of UK and international frameworks. University of Birmingham and National Health Service, Birmingham, 2006.

[http://www.improvingchroniccare.org/downloads/review\\_of\\_international\\_frameworks\\_chris\\_hamm.pdf](http://www.improvingchroniccare.org/downloads/review_of_international_frameworks_chris_hamm.pdf)

Swainston 2008. Swainston K, Summerbell C. The effectiveness of community engagement approaches and methods for health promotion interventions. Rapid Review. Phase 3 (including consideration of additional evidence from stakeholders). NICE National Collaborating Centre, University of Teesside, 2008.

<http://www.nice.org.uk/nicemedia/pdf/HealthPromotionEvidenceReviewFinal.pdf>

Tait 2004. Tait AR. Clinical governance in primary care: a literature review. *Journal of Clinical Nursing* 2004; 13:723-30.

Waters 2003. Waters H, Hatt L, Peters D. Working with the private sector for child health. *Health Policy and Planning*. 2003; 18:127-37.

## **Implementing change**

Akbari 2005. Akbari A, Mayhew A, Al-Alawi MA, Grimshaw JM, Winkens RAG, Glidewell E, Pritchard C, Thomas R, Fraser C. Interventions to improve outpatient referrals from primary care to secondary care. *Cochrane Database of Systematic Reviews* 2005, Issue 3.

Cheater 2005. Cheater F, Baker R, Gillies C, et al. Tailored interventions to overcome identified barriers to change: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2005, Issue 3.

Cochrane 2007. Cochrane LJ, Olson CA, Murray S. Gaps between knowing and doing: understanding and assessing the barriers to optimal health care. *J Contin Educ Health Prof* 2007; 27:94-102.

Doumit 2007. Doumit G, Gattellari M, Grimshaw J, O'Brien MA. Local opinion leaders: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2007, Issue 1.

Fleuren 2004. Fleuren M, Wiefferink, Paulussen T. Determinants of innovation within health care organizations. *International Journal for Quality in Health Care* 2004; 16:107-23.

Foretlund 2008. Forsetlund L, Bjørndal A, Rashidian A, et al. Continuing education meetings and workshops. *Cochrane Database Syst Rev* (in press).

Grimshaw 2001. Grimshaw JM, Shirran L, Thomas R, et al. Changing provider behavior: an overview of systematic reviews of interventions. *Med Care* 2001, 39: II2-45.

Grimshaw 2004. Grimshaw JM, Thomas RE, MacLennan G, et al. Effectiveness and efficiency of guideline dissemination and implementation strategies. *Health Technol Assess* 2004, 8: iii-72.

Hulscher 2001. Hulscher ME, Wensing M, van Der Weijden T, Grol R. Interventions to implement prevention in primary care. *Cochrane Database of Systematic Reviews* 2001, Issue 1.

Iles 2001. Iles V, Sutherland K. Organisational change. A review for health care managers, professionals and researchers. National Co-ordinating Centre for NHS Service Delivery and Organisation R & D, London, 2001.

Jamtvedt 2006. Jamtvedt G, Young JM, Kristoffersen DT, O'Brien MA, Oxman AD. Audit and feedback: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2006, Issue 2.

Liberati 2003. Liberati A, Magrini N. Information from drug companies and opinion leaders. *BMJ* 2003; 326:1156-7.

Minkman 2007. Minkman M, Ahaus K, Huijsman R. Performance improvement based on integrated quality management models: what evidence do we have? A systematic literature review. *International Journal for Quality in Health Care* 2007; 19:90-104.

Moynihan 2008. Moynihan R. Key opinion leaders: independent experts or drug representatives in disguise? *BMJ* 2008; 336:1402-3.

Nolte 2008. Nolte E, McKee M. Making it happen. In: Nolte E, McKee M, (eds). *Caring for people with chronic conditions: A health system perspective*. Open University Press, Berkshire, 2008.

O'Brien 2007. O'Brien MA, Rogers S, Jamtvedt G, et al. Educational outreach visits: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev* 2007; 4.

Scott 2003. Scott T, Mannion R, Marshall M, Davies H. Does organisation culture influence health care performance? A review of the evidence. *J Health Serv Res Policy* 2003; 82:105-17.

Steinman 2006. Steinman MA, Bero LA, Chren MM, Landefeld CS. Narrative review: the promotion of gabapentin: an analysis of internal industry documents. *Ann Intern Med* 2006; 145:284-93.

Tsai 2005. Tsai AC, Morton SC, Mangione CM, Keeler EB. A meta-analysis of interventions to improve care for chronic illnesses. *Am J Manag Care* 2005; 11:478-88.

Vance 2002. Vance C, Larson E. Leadership research in business and health care. *Health Policy and Systems* 2002; 34:165-71.

Wensing 2001. Wensing M, Bosch M, Foy R, et al. Factors in theories on behaviour change to guide implementation and quality improvement in healthcare. Technical Report for the Rebeqi project. European Commission, Fifth Framework. 2001. Contract nbr. QLRT-00657.

Øvretveit 2005. Øvretveit J. Leading improvement. *Journal of Health Organization and Management* 2005; 19:413-30.

## **Reform options**

Leutz 1999. Leutz W. Five laws for integrating medical and social services: lessons from the United States and the United Kingdom. *Milbank Q* 1999; 77:77-110.

Nolte 2008. Integration and chronic care: a review. In: Nolte E, McKee M, (eds). *Caring for people with chronic conditions: A health system perspective*. Open University Press, Berkshire, 2008.

NOU 2005. Fra stykkevis til helt. En sammenhengende helsetjeneste. *Norges Offentlige utredninger* 2005:3.

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# Appendices

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## Appendix 1. How this policy brief was prepared

We searched electronic databases of systematic reviews, including: the Program in Policy Decision-Making / Canadian Cochrane Network and Centre (PPD/CCNC) database of systematic reviews of the effects of delivery, financial and governance arrangements (<http://www.researchtopolicy.ca/search/reviews.aspx>); the Canadian Agency for drugs and Technologies in Health (CADTH) Rx for Change database (<http://www.cadth.ca/index.php/en/compus/optimal-ther-resources/interventions>); the Cochrane Consumers and Communication Review Group Resource Bank (<http://www.latrobe.edu.au/cochrane/resourcebank/resourcebank.html>). These databases included over 700 records of policy-relevant systematic reviews as of 27 October 2008. These were identified through electronic searches of MEDLINE, the Cochrane Database of Systematic Reviews (CDSR), the Database of Abstracts of Reviews of Effectiveness (DARE) and EMBASE up to May 2008.

In addition we searched for relevant overviews of reviews and policy documents in the following databases: Health Evidence Network (HEN) ([http://www.euro.who.int/HEN/policybriefs/20080814\\_2](http://www.euro.who.int/HEN/policybriefs/20080814_2)); European Observatory on Health Systems and Policies ([http://www.euro.who.int/observatory/Publications/20020527\\_16](http://www.euro.who.int/observatory/Publications/20020527_16)); Canadian Health Services Research Foundation (CHSRF) ([http://www.chsrf.ca/final\\_research/commissioned\\_research/policy\\_synthesis/](http://www.chsrf.ca/final_research/commissioned_research/policy_synthesis/)). Relevant overviews of reviews and policy documents are listed in *Appendix 6*.

We supplemented these searches by checking the reference lists of relevant overviews of reviews and policy documents and with focused searches using PubMed, The Cochrane Library, Google, ISI Web of Science, and personal contacts to identify systematic reviews for specific topics that we considered to be a potentially relevant strategy for improving coordination of care for patients with chronic diseases. We adapted a framework developed by John Lavis (which we subsequently modified) to identify and categorise potentially relevant delivery, financial and governance arrangements (Lavis 2008). We used relevant overviews of reviews or policy documents to fill in gaps for potentially relevant interventions for which we were unable to find a systematic review, and to supplement the results of the systematic reviews. The included reviews are placed in this framework in *Appendix 6*.

We included reviews that had a methods section with explicit selection criteria, that were potentially relevant to coordination of care for patients with chronic diseases, and that assessed the effects of governance, financial or delivery arrangements, or implementation strategies. For strategies for which there were multiple reviews, we selected one or more reviews that were most relevant. We gave preference to reviews that were of better quality and were more recent. For delivery arrangements, when

appropriate, we gave preference to reviews that were not restricted to a single disease.

Two authors independently screened the abstracts of the reviews to identify reviews that appeared to be relevant and assessed these as being of high, moderate or low relevance. The final selection of reviews for inclusion was based on a consensus of the authors regarding reviews of highest relevance for coordination of care for patients with chronic diseases in Norway. Excluded reviews that are considered to be relevant are listed in *Appendix 7*.

One of the authors summarised each included review using an approach developed by the SUPPORT Collaboration (<http://www.support-collaboration.org/index.htm>). Because of the short time frame in which this policy brief was prepared, we did not undertake data extraction using standardised forms. However, based on that approach we extracted the key findings of each review, assessed the quality of the evidence, and summarised important information regarding the interventions, participants, settings and outcomes; and considerations of applicability, equity, economic consequences, and the need for monitoring and evaluation. The quality of the evidence was assessed based on the GRADE approach (Guyatt 2008) and the key findings were expressed consistently so as to reflect the quality of evidence, using the approach developed for Cochrane plain language summaries. The information extracted from each review was checked against the full review by a second author.

Using the modified Lavis taxonomy, we summarised the available evidence from the included systematic reviews, overviews of reviews and policy documents; important uncertainties; and important questions for which we could not identify a systematic review. In addition, we sought input from people with relevant technical expertise regarding our summary of the evidence, potentially important strategies that were not included, and important evidence that was not included.

Preparation of this policy brief was funded by the Norwegian Knowledge Centre for the Health Services, where all of the authors are employed. External review of a draft version was managed by the authors. Comments provided by the external reviewers and the authors' responses are available from the authors. A list of the people who provided comments or contributed to this policy brief in other ways is provided in the acknowledgements.

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## REFERENCES

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Lavis 2008. Lavis J, Hammill A, Wilson M, Boyko J, Grimshaw J, Oxman A, et al. Systematic reviews that can inform health systems management and policymaking. Forthcoming.

Guyatt 2008. Guyatt GH, Oxman AD, Kunz R, et al. What is 'quality of evidence' and why is it important to clinicians? *BMJ* 2008; 336:995-8.

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## Appendix 2. Other delivery arrangements

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### APPENDIX 2 - KEY MESSAGES

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#### Changes in who delivers care

- Substitution (e.g. of nurses for doctors) and enhancement (e.g. of the roles of allied professionals) may increase patient satisfaction without changing outcomes or costs, although it may increase the number of tests ordered, length of consultations, recall of patients and the number of hospital admissions.
- Detailed patient decision aids, compared to usual care or simpler decision aids, probably improve knowledge and the accuracy of risk perceptions; help people to feel more informed about their management options; and help people to feel clearer about their values with regard to the decision being made.
- Self-management education programmes probably have small to modest effects on health behaviours and healthcare outcomes.

#### Changes in where care is provided

- Patients discharged from an intermediate care nursing-led inpatient unit are better prepared for discharge, but it is unclear if this is simply a product of an increased length of inpatient stay. Nursing-led units do not appear to increase early mortality and can reduce the number of patients who die within one year of discharge.
- Day care geriatric hospital may be of benefit compared to no comprehensive elderly care, but not compared to comprehensive care in or outside the patient's home.
- Specialist outreach can improve access, outcomes and service use, especially when delivered as part of a multifaceted intervention. The benefits of simple outreach models in urban non-disadvantaged settings seem small and they have not been adequately evaluated in rural areas.
- Complex interventions to improve physical function and maintain independent living in elderly people reduce the risk of not continuing to live at home, admission to nursing homes and hospital admissions, and improve physical function.
- The results of home visiting programs for older people with poor health are inconsistent.
- Rehabilitation services targeted towards stroke patients living at home probably improve independence in personal activities of daily living.
- Despite increasing interest in the potential of early discharge hospital at home services as a cheaper alternative to in-patient care, the economic benefits of this are uncertain.
- For selected patients admission avoidance hospital at home produces similar outcomes to inpatient care, at similar or lower cost.

#### Changes in information and communication technology

- Computerised central recall, with prompting for patients and their family doctors can achieve standards of care in the community that is as good as or better than hospital outpatient care.

- The majority of published studies have revealed a positive impact of specific health information technology components on chronic illness care, but the quality of this evidence is mixed.
- Users of interactive health communication applications tend to become more knowledgeable, feel better socially supported, and may have improved behavioural and clinical outcomes compared to non-users. There is a need for well-designed studies to confirm these preliminary findings and to determine the best type and best way to deliver such interventions to people with chronic conditions.
- The effects of smart technologies to support people in their homes are uncertain.

### **Delivery strategies for mental health**

- Community mental health teams probably lower hospitalisation rates and increase satisfaction with care. Other impacts are uncertain.
- Collaborative care for depressed patients managed in primary care improves symptom scores and adherence to medication, though there is some uncertainty about the applicability of this in the Norwegian healthcare system.
- Crisis teams may reduce readmissions and relieve the burden on the family to some extent.
- Intensive case management for patients with severe mental illness probably reduces rehospitalisation when previous hospital use has been high.

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## **CHANGES IN WHO DELIVERS CARE**

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Regardless which care model is used, providing effective coordinated chronic care requires inputs from those with chronic diseases (self-management), people to support self-management (e.g. to provide patient education or motivational counselling), people to coordinate or manage care for people at high risk of complications (e.g. specialist nurses or multi-disciplinary teams), and people to manage people with complex needs (e.g. hospital and primary care nurses) (Singh 2005a). In addition there may be a role for people who link these different functions together, particularly at the interface between primary and secondary care, and for program managers. For all of these roles, consideration should be given to the potential benefits of substitution (e.g. using lay health workers instead of health professionals for some tasks, or nurses instead of doctors) and expanding the roles of health professionals (e.g. pharmacists or nurses).

### **Substitution and enhancement**

In the context of increasing demand for health services, and the constrained supply of many cadres of health professionals, there is increasing interest in whether care, including for people living with chronic conditions, can be shifted effectively from one group of healthcare providers to another. For example, to what extent could some of the work currently undertaken by doctors be performed by clinical nurse practitioners (Laurent 2004)? Enhancement – “increasing the depth of a job by extending the role or skills of a particular group of workers” – and substitution – expanding the breadth of a job, in particular by working across professional boundar-



ies or exchanging one cadre of worker for another – are both strategies that have been used in different settings (McPherson 2006).

Poor access to primary care for people with chronic conditions may result in increased attendance at hospital emergency departments. A review of the extent to which primary-secondary substitution is possible in the field of emergency care identified 34 studies covering a wide range of interventions (Roberts 1998). There is some evidence that patients seen by primary care nurse practitioners are no more likely to attend emergency departments than those seen by primary care physicians, and nurses were associated with significantly fewer hospital admissions. Other interventions have attempted to integrate primary and secondary care by placing primary care practitioners in emergency departments. Evaluations of these interventions suggest that fewer investigations and referrals were made by primary physicians based in such units, compared to hospital doctors, and that there were no significant differences in user satisfaction or health outcomes. Telephone triage may also allow home management or alternative services to be substituted for emergency room use. However, the review did not identify evidence regarding the effects of such approaches (Roberts 1998).

Systematic reviews of follow-up for cancer patients have found that for patients with breast cancer (Rojas 2000) and colorectal cancer that there does not appear to be a difference in outcomes for patients followed up by primary care physicians or surgeons (Jeffery 2007).

⇒ *Substitution (e.g. of nurses for doctors) and enhancement (e.g. of the roles of allied professionals) may increase patient satisfaction without changing outcomes or costs, although it may increase the number of tests ordered, length of consultations, recall of patients and the number of hospital admissions.*

The substitution of doctors working in primary care by nurse practitioners was examined in a review of 34 studies. There is evidence of low to moderate quality that patient outcomes and care processes were similar for nurses and doctors but that patient satisfaction and quality of care were better for nurses. Evidence of moderate quality suggests that nurse practitioners have longer consultations and undertake more investigations than doctors. They were also more likely to admit patients to hospital than doctors. Little evidence was found on whether shifting tasks from doctors to nurses reduced doctors' workload, although this seems unlikely in most settings as the demand for doctors' time generally exceeds supply (Horrocks 2002).

A second systematic review drew similar conclusions, and also found no significant differences in resource use and costs between nurses and doctors, possibly due to nurses' relative inexperience or lower productivity (Laurent 2004). Subsequent modelling work within the UK National Health Service suggests that the relative

costs of nurse practitioners and general practitioners are similar within that setting at least, and concludes that skill-mix decisions should depend on the full range of roles and responsibilities rather than cost (Hollinghurst 2006).

Allied health professionals may also be able to take on extended roles, including enhancement or substitution. However, a review of 21 studies conducted in high income settings found little high quality evidence of the safety, effectiveness and cost-effectiveness of extending the scope of practice of allied health professionals. There is some evidence that allied health professionals can adequately undertake some tasks typically undertaken by other professionals, but this data is of very low quality. Allied health professionals and other professionals included in these studies expressed a number of concerns regarding extended roles but there is also some evidence that allied health professionals can find these roles satisfying (McPherson 2006).

Important considerations for implementing extended roles for nurses, allied health professionals and other cadres in the context of chronic disease care include the acceptability of such changes to consumers as well as to health professionals and their professional organisations. Resources for training and support also likely to be important as are adequate referral pathways and management guidelines. Legal frameworks and other governance issues for the scope of practice of different cadres of health professional also need to be in place. It is also important to note that where allied health professionals or nurses are also in short supply, extended roles may decrease their availability to perform core functions.

### **Shared decision-making**

⇒ *Detailed patient decision aids, compared to usual care or simpler decision aids, probably improve knowledge and the accuracy of risk perceptions; help people to feel more informed about their management options; and help people to feel clearer about their values with regard to the decision being made.*

Decision aids are intended to improve the involvement of people in decisions regarding their health care. This is highly relevant to chronic disease management, where people need to be involved over long periods in the management of their health issue. A systematic review (O'Connor 2007) of decision aids, not focused specifically on chronic diseases, found 55 randomised trials. There is moderate quality evidence that detailed patient decision aids, compared to usual care or simpler decision aids, probably improve knowledge and the accuracy of risk perceptions; help people to feel more informed about their management options; and help people to feel clearer about their values with regard to the decision being made. There is low quality evidence that detailed patient decision aids may improve value congruence with people's chosen option, compared with usual care. There is little evidence on

the cost-effectiveness of patient decision aids, compared to other methods of decision making.

## Self-management

⇒ *Self-management education programmes probably have small to modest effects on health behaviours and healthcare outcomes.*

Self-management education has been described as “organised learning experiences designed to facilitate adoption of health-promoting behaviours” (Warsi 2004). Such programmes are distinct from more widely used patient or health education initiatives or skills training in so far as they are intended to facilitate people with various illnesses, including chronic diseases, taking an active part in managing their own health care (Foster 2007). This may include self-monitoring of symptoms and decision making regarding disease management (Chodosh 2005). These programmes may be led by both health professionals as well as peers or lay leaders and usually take a structured approach to addressing the self-management of disease. They may be delivered face-to-face, either in groups or individually, as well as via other routes, such as the telephone or internet. Caregivers of people living with chronic diseases may also be involved in these programmes.

Self-management interventions are relevant to the co-ordination of care for chronic diseases in that they intend to shift, or share, responsibility for some aspects of care monitoring, and therefore of co-ordination, to people living with chronic conditions. For example, patients may take on more responsibility for deciding when their symptoms warrant consulting their healthcare provider and for the tailoring of medication.

A number of systematic reviews of self-management education programmes for chronic conditions have been published. Warsi (2004) reviewed randomised and quasi-randomised trials of interventions that included a self-management education component for chronic diseases. The review included only studies reporting clinical outcomes and identified 71 trials from a wide range of settings. The key findings are as follows:

- Overall summary effect sizes for self-management education programmes were small to modest.
- There is moderate quality evidence that these programmes probably improve diabetes control, decrease systolic blood pressure and reduce the frequency of asthma attacks
- There is moderate quality evidence that self-management education programmes probably will not improve pain or disability for people with arthritis.

A review by Chodosh (2005), focusing on programmes for older adults, reached similar conclusions and also noted a lack of empirical evidence regarding the essential elements of self-management programmes.

A more recent review focusing only on lay-led self-management programmes for people with chronic conditions identified 17 randomised trials (Foster 2007). The review also concluded that these programmes result in small, short-term impacts on some health behaviours, such as cognitive symptom management, and certain measures of health status, such as fatigue. No evidence was found of improvements in psychological health, symptoms, health-related quality of life or the use of health services in those participating in self-management programmes.

Richardson et al. (2005) examined the quality and quantity of existing evidence of the cost-effectiveness of patient self-care. They defined self-care as “those interventions that enhance patients’ ability to make decisions intended to alter the effect of their conditions on their health, by means of their responses to symptoms, or monitoring their condition, or self-treatment.” While it is not completely clear whether the interventions included in this review would meet the eligibility criteria for the reviews of effectiveness summarised above, it is important to note that this review found little evidence that self-care interventions are cost-effective, but also noted that the quality of the economic evaluations was poor.

Another review suggested that self-management courses can improve the self-efficacy and confidence of people with long-term conditions (Singh 2005a), and probably improve control of chronic diseases. However, the impacts of such courses on health outcomes and healthcare costs are uncertain. There is some evidence that suggests that courses led by peers are as effective as courses facilitated by professionals, but this is uncertain. It is very uncertain whether some types of professionals are better than others at running self-management courses (Singh 2005a). The targeting, uptake and longer term impacts (beyond 6 months) of these programmes, and their impacts on particular population groups such as men, children and adolescents are also uncertain (Foster 2007).

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## CHANGES IN WHERE CARE IS PROVIDED

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### Day care and intermediate care

⇒ *Patients discharged from an intermediate care nursing-led inpatient unit are better prepared for discharge, but it is unclear if this is simply a product of an increased length of inpatient stay. Nursing-led units do not appear to increase early mortality and can reduce the number of patients who die within one year of discharge.*

The intermediate care nursing-led inpatient unit is one of a range of services that have been considered in order to manage more successfully the transition between hospital and home for patients with extended recovery times. A Cochrane review (Griffiths 2007) found 10 randomised trials and one controlled before-after study of such units. Overall, these studies found that intermediate care nursing-led inpatient units probably do not impact on inpatient or post-discharge mortality, compared with usual care. Discharge to institutional care is probably reduced and functional status is probably improved for patients admitted to such units, compared with usual care. Patients admitted to nursing-led inpatient units may be more satisfied than those receiving usual care. There is no evidence to suggest that the total costs of care for patients admitted to these units are higher due to longer inpatient stays. A recently published trial in Norway (Garåsen 2007; Garåsen 2008), not included in the review, indicates that intermediate care inpatient units are feasible in Norway. This randomised trial found that intermediate care at a community hospital significantly decreased the number of readmissions for the same disease to general hospital, and a significantly higher number of patients were independent of community care after 26 weeks of follow-up, without any increase in mortality and number of days in institutions. Intermediate care at the community hospital in Trondheim was found to be an equal alternative to ordinary prolonged care at the city general hospital in terms of costs, as fewer patients were in need of community care services, and significantly fewer patients died during the 12-month follow-up time.

⇒ *Day geriatric hospital care may be of benefit compared to no comprehensive elderly care, but not compared to comprehensive care in or outside the patient's home.*

Day hospital care is another strategy that has been used in some settings. The first geriatric day hospital was opened in the UK in 1952 and these institutions developed rapidly in the United Kingdom in the 1960s as an important component of elderly care provision designed to complement in-patient services. The model has since been applied widely in New Zealand, Australia, Canada, the United States and several European countries. Day hospitals provide multi-disciplinary rehabilitation in an outpatient setting and operate in a pivotal position between hospital and home-based services. Although there is a considerable descriptive literature on day hospital care, concern has been expressed that evidence for effectiveness is equivocal and that day hospital care is expensive. A systematic review (Forster 2008) found a beneficial effect on preventing the need for long-term institutional care compared with no comprehensive treatment in or outside the patient's home. Day geriatric hospital care was of little benefit to patients receiving comprehensive care or a combination of hospital and home-based care. Day hospital was as expensive as or more expensive than other kinds of comprehensive care. There was a trend towards reduced utilisation of hospital beds, but the difference was small (overall 14.5 days versus 15.7 days).

## Specialist outreach

⇒ *Specialist outreach can improve access, outcomes and service use, especially when delivered as part of a multifaceted intervention. The benefits of simple outreach models in urban non-disadvantaged settings seem small and they have not been adequately evaluated in rural areas.*

Simple 'shifted outpatients' styles of specialist outreach improve access, but there is no evidence of their impact on health outcomes. Outreach as part of more complex multifaceted interventions involving primary care collaborations, education and other services is associated with improved health outcomes, more efficient and guideline-consistent care, and less use of inpatient services. There is a need for better quality evidence evaluating specialist outreach in all settings, but especially in rural and disadvantaged populations (Gruen 2003).

## Home and community-based care

⇒ *Complex interventions to improve physical function and maintain independent living in elderly people reduce the risk of not continuing to live at home, admission to nursing homes and hospital admissions, and improve physical function.*

A large recent review (Beswick 2008) of complex interventions to improve physical function and maintain independent living in elderly people found that these interventions reduced the risk of not continuing to live at home, admission to nursing homes and hospital admissions, and improved physical function. They did not affect death rates. Trained providers are required to deliver these community-based interventions, which must be organised and financed. The studies included in the review showed reduced risk reduction over time for the main outcomes assessed. The review authors suggest that this is a consequence of general improvement in care for the elderly over the last two decades. Implementation of these interventions in settings with strong services for the elderly may therefore result in smaller health improvements than reported in the review.

⇒ *The results of home visiting programs for older people with poor health are inconsistent.*

Home visiting programs aim at improving the health and independent functioning of older people, and at reducing hospital and nursing home admission and associated cost. A substantial number of studies have examined the effects of preventive

home visiting programs on older people living in the community; and several reviews have been conducted. The findings have been inconsistent (van Haastregt 2000; Elkan 2001; Stuck 2002; Meinck 2004; Markle-Reid 2006; Elkan 2004; Ploeg 2005).

⇒ *Rehabilitation services targeted towards stroke patients living at home probably improve independence in personal activities of daily living*

Stroke Unit care is now accepted as an effective service model for hospital care, but the effectiveness of outpatient care is less certain. A Cochrane review (Outpatient Trialists 2003) of therapy-based rehabilitation services targeted at stroke patients living at home defined rehabilitation services as being restricted to those provided by physiotherapists, occupational therapists, or multidisciplinary teams. The review identified a heterogeneous group of 14 trials (1617 patients). The review authors concluded that therapy-based rehabilitation services targeted towards stroke patients living at home appear to improve independence in personal activities of daily living.

⇒ *Despite increasing interest in the potential of early discharge hospital at home services as a cheaper alternative to in-patient care, the economic benefits of this are uncertain.*

⇒ *For selected patients admission avoidance hospital at home produces similar outcomes to inpatient care, at similar or lower cost.*

A recent update of another Cochrane review (Shepperd 2008b) of early discharge hospital at home found that, despite increasing interest in the potential of early discharge hospital at home services as a cheaper alternative to in-patient care, this review provides insufficient objective evidence of economic benefit. Early discharge schemes for older patients recovering from a stroke, those with a mix of medical conditions, and those recovering from elective surgery may have a place in reducing the pressure on acute hospital beds, providing the views of carers are taken into account. For these clinical groups hospital length of stay is reduced, although this is offset by the provision of hospital at home. There is some evidence that the risk of being in long term residential care at follow-up is reduced for those allocated to early discharge hospital at home. Another recent update of a review by the same authors found that for selected patients admission avoidance hospital at home produces similar outcomes to inpatient care, at similar or lower cost (Shepperd 2008a).

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## CHANGES IN INFORMATION AND COMMUNICATION TECHNOLOGY

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### Health record systems and information and communication technology that support providers

⇒ *Computerised central recall, with prompting for patients and their family doctors can achieve standards of care in the community that is as good as or better than hospital outpatient care.*

A Cochrane review (Griffin 1998) of systems for routine surveillance for people with diabetes mellitus found that unstructured care in the community was associated with poorer follow up, greater mortality and worse glycaemic control than hospital care. Computerised central recall, with prompting for patients and their family doctors achieved standards of care as good as or better than hospital outpatient care, at least in the short term. However, schemes with less well-developed support for family doctors were associated with adverse outcomes for patients. Quality of life, cardiovascular risk factors, functional status and the development of complications were infrequently assessed.

⇒ *The majority of published studies have revealed a positive impact of specific health information technology components on chronic illness care, but the quality of this evidence is mixed.*

Dorr et al. reviewed the literature to better understand how to build information systems to support collaborative, team-based, chronic illness care (Dorr 2007). The primary goal was to understand which elements are necessary for software to facilitate best practices and which bring the highest likelihood of successful implementation in a broad network. The literature review targeted functions of healthcare information systems and improvements in processes and outcomes attributable to health information technology and it sought to understand lessons learned from failures. The majority of published studies revealed a positive impact of specific health information technology components on chronic illness care. Sixty-seven percent of reviewed experiments had positive outcomes and 94% of uncontrolled observational studies claimed positive results.

A systematic review (Shekelle 2006) of health information technology, not restricted to chronic care, identified only 15 studies that used a randomised or controlled design, included cost data, and assessed health information technology systems that were not located in settings with limited generalisability to ordinary healthcare institutions. Four of the studies concerned only decision support; four assessed health



information technology systems with decision support and administrative processes; and one study each assessed health information technology systems with health information and data storage; health information and data storage with decision support; order entry management alone; order entry management with reporting and population health management; decision support with patient support and administrative processes; and health information with data storage decision support and administrative processes. None of the studies, outside of those from a handful of health information technology leaders, would allow a reader to make a determination about the generalisability of the systems' reported benefits.

### **Information and communication technology that supports patients**

⇒ *Users of interactive health communication applications tend to become more knowledgeable, feel better socially supported, and may have improved behavioural and clinical outcomes compared to non-users. There is a need for well-designed studies to confirm these preliminary findings and to determine the best type and best way to deliver such interventions to people with chronic conditions.*

A systematic review of home telecare for frail elderly people and for patients with chronic conditions included 68 randomized controlled trials and 30 observational studies with 80 or more participants (Barlow 2007). The most effective telecare interventions appeared to be automated vital signs monitoring (for reducing health service use) and telephone follow-up by nurses (for improving clinical indicators and reducing health service use), but the cost-effectiveness of these interventions was less certain. The effects of home safety and security alert systems are uncertain.

⇒ *The effects of smart technologies to support people in their homes are uncertain.*

The integration of smart home technology to support health and social care is acquiring an increasing global significance. As with many new technologies, smart home technologies are often used without first testing if they are effective. A systematic review (Martin 2008) identified a volume of literature on the use of smart technologies within health care, but there were no studies testing their effectiveness.

Many patients encounter a variety of problems in the first weeks after they have been discharged from hospital to home. In recent years many projects have addressed discharge planning, with the aim of reducing problems after discharge. Telephone follow-up is seen as a good means of exchanging information, providing

health education and advice, managing symptoms, recognising complications early, giving reassurance and providing quality aftercare service. A review of the effects of follow-up telephone calls in the first month post discharge, initiated by hospital-based health professionals, to patients discharged from hospital to home included 33 studies involving 5110 patients. Predominantly, the studies were of low methodological quality. Some studies found effects in favour of the telephone follow-up intervention, but overall studies did not find a statistically significant difference between the telephone follow-up and control groups.

## **Mental health**

Mental illness constitutes a major proportion of the burden of chronic diseases in high income countries such as Norway. Since the 1950's there has been an almost worldwide trend towards the closure of institutions for the mentally ill. Coupled with these closures, many government policies have focused on reducing the number of hospital beds for people with severe mental illness in favour of providing care in a variety of non-hospital settings. The theory behind care in the community is that it enables individuals to live as independently as possible within their own homes or home-like settings in the community. It is hoped that this will increase the opportunities for people with serious mental illness to achieve their full 'potential' as autonomous members of society. Community care policies are also aimed at promoting choice and independence for individuals experiencing mental health difficulties.

## **Community mental health teams**

⇒ *Community mental health teams probably lower hospitalisation rates and increase satisfaction with care. Other impacts are uncertain.*

Various ways of organising care in the community have been used. The community mental health team is seen as a core element of local services. Usually the teams are comprised of several disciplines, including nurses, occupational therapists, psychiatrists, psychologists and social workers. This resembles to a large extent the district psychiatric centre in Norway.

A systematic review of the effects of community mental health teams compared with standard community care found three trials (Malone 2007). They all indicated some benefit. There were lower hospitalisation rates and more people cared for by community mental health teams were satisfied with services, compared with those receiving standard care. There were no statistically significant differences in suicide rates, use of emergency services, or contact with primary care or social services.

## Collaborative care in depression

⇒ *Collaborative care for depressed patients managed in primary care improves symptom scores and adherence to medication, though there is some uncertainty about the applicability of this in the Norwegian healthcare system.*

Depression is prevalent in primary care, but current management is often suboptimal. A review based on 37 studies including more than 12 000 patients with depression found that collaborative care, as organised in the United States, improves symptom scores and adherence to medication (Gilbody 2006). Interventions varied in content, but all included case management. There are relatively few studies and mixed results outside of the United States and there is some uncertainty about how applicable the interventions or results would be in Norway.

Another systematic review (partially overlapping with Gilbody 2006) analysed 28 randomised trials (11 000 patients) in which care for people living with depression was strengthened and better organised than usual care (Williams 2007). Almost all of the interventions included structured follow-up of patients, regular communication between clinicians and patients, and supervision of primary care professionals by mental health specialists. Twenty of 28 studies had patient registries to track the progress of patients and 16 added resources to the primary care practice. Meta-analysis was not possible because the studies were deemed too dissimilar. A descriptive analysis found a substantial (18%, range 8-46%) increase in patients with at least 50% improvement in symptoms. Again, 23 studies were from the United States and there is some uncertainty about how applicable the interventions or results would be in Norway and to what component/s of the intervention the effects can be attributed.

## Crisis teams

⇒ *Crisis teams may reduce readmissions and relieve the burden on the family to some extent.*

A particular challenge to community based care for people with severe mental illness is the delivery of an acceptable level of care during the acute phases or relapses. To avoid hospitalizations during such critical periods, crisis teams have been established in many communities in many countries. Such teams usually require a multi-disciplinary team of specifically trained staff. The teams may be available 24 hours a day. The aim of crisis intervention models is to prevent, where possible, hospitalisation, further deterioration of symptoms and stress experienced by relatives and others involved in the crisis situation.

A systematic review found very few studies that evaluate “pure” crisis intervention models. The evidence suggests that a substantial proportion of people in crisis eventually need hospitalisation anyway (Joy 2006). Crisis teams may, on the other hand, reduce readmissions and relieve the burden on the family to some extent. Management of a crisis at home is now widely incorporated into other care packages.

### **Case management**

⇒ *Intensive case management for patients with severe mental illness probably reduces rehospitalisation when previous hospital use has been high.*

Mental health services try to ensure that people with severe mental illness spend the minimum amount of time in hospital because unnecessary hospital care is wasteful, stigmatising, and disliked by patients. To achieve this goal, mental health services increasingly use intensive case management to care for severely mentally ill people at high risk of readmission. Intensive case management (also called assertive community treatment or assertive outreach) - emphasising small caseloads – is a carefully specified approach to case management. It includes daily team meetings, case sharing, 24 hour availability, and multidisciplinary working with doctors as full team members.

Intensive case management is an established service in many countries. It has been evaluated against community mental health teams and outpatient clinics, which are the most common way of organising care for the severely mental ill in Norway. There is currently at least one implementation project using intensive case management in Norway. A systematic review of 29 studies found that intensive case management for patients with severe mental illness (less than 20 patients per case manager), offered by a team, probably reduces rehospitalisation when previous hospital use has been high (Burns 2007).

Case management has also been found to enhance linkage with other services for people with substance abuse disorders. However, it is uncertain whether case management reduces drug use or has other beneficial outcomes (Hesse 2007).

### **Early intervention in schizophrenia**

Schizophrenia typically begins in young adulthood and may lead to disability that lasts a lifetime. The onset of psychosis is usually preceded by a period of non-psychotic symptoms. Early intervention strategies have been implemented in some places, including Norway. Such services usually have two objectives: to prevent the onset of schizophrenia in people with early symptoms and to provide effective treatment to people in the early stages of schizophrenia, with the goal of reducing

the ultimate severity of the illness. There is currently little evidence of its impacts (Marshall 2006), but further trials are expected. A Danish randomised trial of 500 patients reported improved clinical outcomes and adherence to treatment both after one and two years (Petersen 2005). A nonrandomised Norwegian study, found somewhat fewer symptoms after one year among patients detected early, but on most outcomes there were no difference between the groups (Larsen 2006).

### **Planned short hospital stays**

For patients who have to be admitted to hospital there is limited evidence that suggests that a planned short stay (2-3 weeks) policy for people with serious mental illnesses probably does not encourage a 'revolving door' pattern of admission or disjointed care and may lead to better function and employment (Alwan 2008).

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## Appendix 3. How does it all come together?

### Comments from Mary Draper

How the parts (considered in this policy brief) for which there are varying degrees of evidence relate to the whole. How does it all come together? What aspects need to go together to make it work at the national level? It seems to me that we need to build a model as well informed by evidence as possible, allowing that there are gaps. But essentially, how is this evidence integrated into a system level reform?

If we were to think that the reform intervention we might be proposing is some form/combo of the chronic care model, then a possible framework might look like this. To effect implementation, we need to understand how to build capability in the system to effect change. That might be at the consumer, health provider, service level and system level.

#### ***At the consumer level, what needs to be done to build capability?***

- Health literacy
  - Knowing how to get information and interpret it
  - Understanding one's health and health needs
  - Knowing how to engage with health practitioners/health services
  - Support in decision making
  - Skills in self management
- Access to the right service in the right place at the right time
- Engagement at service planning and policy levels – skills and access
- How is health literacy in respect of one's own health supported by a policy approach to an active health literate public?
- Support for development of evidence

#### ***At the health provider level, what needs to be done to build capability?***

- Evidence-based guidelines
- A focus on the consumer as the rationale for service
- Successful communication strategies with consumers
- Capacity to engage with consumers in decision making and self management
- Capacity to establish the right linkages/coordination skills
- Data and information about outcomes
- Remove barriers to coordination
- Support for development of evidence

***At the health service level, what needs to be done to build capability?***

- Leadership
- A focus on the consumer as the rationale for service
- Working together (e.g. in teams) and stakeholder engagement
- Skills and resources
- Data and information as the basis of planning and continuous quality improvement
- The right people with the right skills, including improvement skills
- A culture that supports innovation
- Commitment and strategy
- Capacity to establish the right linkages/coordination skills
- Remove barriers to coordination
- Support for development of evidence

***At the system level, what needs to be done to build capability?***

- Policy
- Structures
- Financial arrangements
- Governance arrangements
- Workforce planning
- Data and information
- Support for development of evidence

## Appendix 4. A framework for approaches to consumer participation

### Comments from Mary Draper

The term ‘consumer’ is used here to refer to individuals who use health services and also as a collective term to describe a structured set of interests, different from that of provider and funder interests, and composed of those in roles from patient, to community member, to citizen who have a stake in a health producing health system.

Putting it another way, consumers participate in a number of ways that broadly might be described as:

- An individual being involved in decisions about one’s health, treatment options and management of illness or someone in the family
- As someone with common health interests or health condition, being involved and advocating for and influencing the provision of services
- As a citizen and health consumer, having a say in and shaping health service governance, government policy, professional agendas and the ‘subject’ of accountability.

The diagram below is a useful framework to make the case that consumer participation can be conceived of in a range of ways and that different participation strategies rely on different underlying assumptions and are appropriate to different circumstances. A robust approach to consumer participation would embrace all four approaches, but be clear about what assumptions were at play.

Scientific Approaches	Market Solutions	Legal Approaches	Democratic Participation
<b>Rely on:</b> Objective measurement and statistics, evidence	<b>Rely on:</b> Market information or more responsive services	<b>Rely on:</b> Defined rights, access to judicial and semi-judicial institutions	<b>Rely on:</b> Ways to participate individually and collectively in health decisions
<b>Consumers are:</b> Subjects of research / interventions	<b>Consumers are:</b> Informed choosers	<b>Consumers are:</b> Citizens with rights	<b>Consumers are:</b> Equal partners and citizens
<b>Strategies:</b> - Evidence based medicine - Outcomes - Clinical Practice Guidelines - Patient surveys - Research into the patient experience - Systematic reviews and overviews of evidence of effective interventions for improving health literacy	<b>Strategies:</b> - Information on providers, - Marketing, - Statement of expectations, - Consumer surveys	<b>Strategies:</b> - Health charters, - Right to complain, - Legal redress, - Legislation, - Transparent decision making, - Advocacy	<b>Strategies:</b> - Consultation, - Involvement in decisions, - Providing consumers with evidence based information to enable their participation - Hand held records, - Representation, - Consumer membership of collective decision making structures, - Consumer advisory structures, - Accountability to consumers



The framework was adapted and expanded by Draper and Hill from a publication on quality of care by Pfeffer and Coote.

Pfeffer N, Coote A. *Is Quality Good for You?* London: Institute for Public Policy Research; 1991.

Draper M, Hill S. *The Role of Patient Satisfaction Surveys in a National Approach to Hospital Quality Management.* Canberra: Australian Government Publishing Service; 1995.

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## Appendix 5. Decentralisation and recentralisation in the Norwegian healthcare system\*

After the Second World War, there was gradual decentralisation of responsibilities for administration, financing and delivery of health care from the national level to the regional and local levels. Since 1967, local authorities have been responsible for the planning, provision and financing of primary health care and care of the elderly, which has been largely integrated with the social services. In 1969, the administrative responsibility for hospitals, including psychiatric institutions and ambulance services, was decentralised from the national government to the 19 regional (county) councils. The hospitals were still financed, however, by substantial block grants from the national government. Thus, there has been a gradual devolution of authority in the Norwegian healthcare system from the national to the regional and municipal levels, although the national government has kept financial responsibility for the hospitals.

This trend was reversed in 2002, when administrative responsibility for the hospitals was removed from the county councils and transferred to the national level. The main reasons for this recentralisation were to improve the efficiency of the hospitals, to reduce the waiting lists for highly specialised care and to equalise the provision of health services across the different regions. Ownership of the hospitals was recentralised to the national government, but at the same time the government also delegated the responsibility for the management of the hospitals to five (now four) state-owned hospital trusts at the regional level, with around 50 subsidiary hospital trusts at the local level. The regional hospital trusts are independent legal entities with professional management boards. They are supposed to act as purchasers of health services from their own subsidiaries and also from private providers. The hospital trusts are not organised as internal markets, but operate rather as divisionalised structures.

At the institutional level, the Norwegian organisation of primary health care has been a part of local administration, which has a centralised bureaucratic structure although the different health stations are geographically dispersed. The hospitals have also been organised according to strict bureaucratic principles. During the past ten years, however, there has been increasing decentralisation of management responsibilities within the hospitals. According to the hospital reform, hospitals should be run in a more business-like fashion. This means, among other things, that the hospital trusts should be able to make difficult structural decisions on mergers and closures of institutions without political interference. It remains to be seen, however, if this will be possible within the Norwegian system of public health. There are indications of interference from the Ministry of Health in the structural decisions of the hospital trusts.

The government has introduced a national programme for the development of managers and heads of department in connection with the implementation of the hospital reform. According to the reform proposals, there will be more focus on professional management in order to improve the efficiency of the hospitals. This means, among other things, increased emphasis on performance measurement and management control.

Coordination and integration between health care and other sectors have been problematic. There have always been close contacts between primary health care and social services, since they both belong to the local authorities. However, their collaboration with the hospitals has been more problematic. Problems with collaboration may have been increased by the introduction of the hospital trusts because of increasing cultural differences between the local authorities and the hospital trusts in the way that they are organised and managed.

A key argument for recentralising the organisation of hospital services for coordination and steering from 19 counties to five (now four) health regions was that it is easier for a larger unit to implement structural policy changes. Similarly, one of the main arguments behind organising the hospital trusts was that they should be autonomous entities without local political control, but under the control of an executive board. There is now a question of whether the hospital trusts that are outside direct political control are able to implement structural policy changes which are necessary to achieve the goals of the reform. There have been an increasing number of decisions made on structural questions by the boards. However, structural decisions made by the boards appear to have low political legitimacy, in that national politicians can overturn some of the structural decisions the boards take. Decisions to shut down local hospitals, delivery rooms or emergency rooms in local hospitals have been turned down by the Minister of Health. As a consequence of this political overruling, some members of the boards have resigned, arguing that the political control over the hospital trusts is too strong.

The hospital reform maintained decentralisation of the administration and management of the hospital trusts, leading to a large degree of interpretation at the regional level. At the same time, the national government centralised political power, by keeping a central financing model and by creating state ownership. The reform was restricted to specialised care and excluded primary care.

\*Derived from: Saltman RB, Bankauskaite V, Vrangbæk (eds). Decentralization in Health Care: Strategies and Outcomes. Open University Press, Berkshire, 2007.

[http://www.euro.who.int/InformationSources/Publications/Catalogue/20070205\\_1](http://www.euro.who.int/InformationSources/Publications/Catalogue/20070205_1)

## Appendix 6. Included systematic reviews

DELIVERY ARRANGEMENTS	<i>Systematic reviews</i>	<i>Overviews of reviews and policy documents</i>
<p><b>Broad frameworks for delivering chronic care</b></p>	<p>McDonald KM, Sundaram V, Bravata DM, et al. Care Coordination. Vol 7 of: Shojania KG, McDonald KM, Wachter RM, Owens DK, editors. Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies. Technical Review 9 (Prepared by the Stanford University-UCSF Evidence-based Practice Center under contract 290-02-0017). AHRQ Publication No. 04(07)-0051-7. Rockville, MD: Agency for Healthcare Research and Quality. June 2007.  <a href="http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat2.chapter.25236">http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat2.chapter.25236</a></p> <p>Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness: the Chronic Care Model, Part 2. JAMA 2002; 288:1909-14.</p> <p>McAlister FA, Lawson FM, Teo KK, Armstrong PW. Randomised trials of secondary prevention programmes in coronary heart disease: systematic review. BMJ 2001; 323:957-62.</p> <p>Weingarten SR, Henning JH, Badamgarav E, et al. Interventions used in disease management programmes for patients with chronic illness - which ones work? Meta-analysis of published reports. BMJ 2002; 325:925.</p> <p>Bodenheimer T. Interventions to improve chronic illness care: evaluating their effectiveness. Dis Manag 2003; 6:63-71.</p> <p>Gonseth J, Guallar-Castillon P, Banegas JR, Rodriguez-Artalejo F. The effectiveness of disease management programmes in reducing hospital re-admission in older patients with heart failure: a systematic review and meta-analysis of published reports. Eur Heart</p>	<p>Singh D, Ham C. Improving care for people with long-term conditions. A review of UK and international frameworks. Health Services Management Centre, Birmingham, 2006.  <a href="http://www.hsmc.bham.ac.uk/documents/Improvingcareforpeoplewithltc.pdf">http://www.hsmc.bham.ac.uk/documents/Improvingcareforpeoplewithltc.pdf</a></p> <p>WHO Regional Office for Europe's Health Evidence Network (HEN), Are disease management programmes (DMPs) effective in improving quality of care for people with chronic conditions? 2003</p> <p>Ouwens M, Wollersheim H, Hermens R et al. Integrated care programmes for chronically ill patients: a review of systematic reviews. Int J Qual Health Care 2005 17:141-6.</p> <p>Singh D. Transforming Chronic Care: Evidence about improving care for people with long-term conditions. Birmingham: University of Birmingham and Surrey and Sussex PCT Alliance, 2005.  <a href="http://www.hsmc.bham.ac.uk/publications/pdfs/Transforming_Chronic_Care.pdf">http://www.hsmc.bham.ac.uk/publications/pdfs/Transforming_Chronic_Care.pdf</a></p> <p>Wensing M, Wollersheim H, Grol R. Organizational interventions to improve improvements in patient care: a structured review of reviews. Implementation Science 2006; 1:2.</p> <p>Zwar N, Harris M, Griffiths R, et al. A systematic review of chronic disease management. Research Centre for Primary Health Care and Equity, School of Public Health and Community Medicine, UNSW, 2006.  <a href="http://www.anu.edu.au/aphcri/Domain/ChronicDiseaseMgmt/Approved_3_Zwar.pdf">http://www.anu.edu.au/aphcri/Domain/ChronicDiseaseMgmt/Approved_3_Zwar.pdf</a></p> <p>Chen A, Au M. Rapid Review of the Disease Management Literature. Center for Evidence-based Policy, Oregon Health &amp; Science University, Portland, 2008</p>

---

J 2004; 25:1570-95.

Neumeyer-Gromen A, Lampert T, Stark K, Kallischnigg G. Disease management programs for depression: a systematic review and meta-analysis of randomized controlled trials. *Med Care* 2004; 42:1211-21.

Ofman J, Badamgarav E, Henning J et al. Does disease management improve clinical and economic outcomes in patients with chronic diseases? A systematic review. *Am J Med* 2004; 117:182-92.

Tsai AC, Morton SC, Mangione CM, Keeler EB. A meta-analysis of interventions to improve care for chronic illnesses. *Am J Manag Care* 2005; 11:478-88.

Mattke S, Seid M, Ma S. Evidence for the effect of disease management: is \$1 billion a year a good investment? *Am J Manag Care* 2007; 13:670-6.

Singh D. How can chronic disease management programmes operate across care settings and providers. European Observatory of Health systems and Policies, WHO Europe, Copenhagen, 2008.

[http://www.euro.who.int/document/hsm/6\\_hsc08\\_epb\\_9.pdf](http://www.euro.who.int/document/hsm/6_hsc08_epb_9.pdf)

Nolte E, McKee M, (eds). Integration and chronic care: a review. In: *Caring for people with chronic conditions: A health system perspective*. Open University Press, Berkshire, 2008.

SERVICE DELIVERY MODELS	<i>Systematic reviews</i>	<i>Overviews of reviews and policy documents</i>
<b>Disease management</b>	<p>Mattke S, Seid M, Ma S. Evidence for the effect of disease management: is \$1 billion a year a good investment? <i>Am J Manag Care</i> 2007; 13:670-6.</p> <p>Weingarten SR, Henning JH, Badamgarav E, et al. Interventions used in disease management programmes for patients with chronic illness - which ones work? Meta-analysis of published reports. <i>BMJ</i> 2002; 325:925.</p> <p>McDonald KM, Sundaram V, Bravata DM, et al. Care Coordination. Vol 7 of: Shojania KG, McDonald KM, Wachter RM, Owens DK, editors. Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies. Technical Review 9 (Prepared by the Stanford University-UCSF Evidence-based Practice Center under contract 290-02-0017). AHRQ Publication No. 04(07)-0051-7. Rockville, MD: Agency for Healthcare Research and Quality. June 2007. <a href="http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat2.chapter.25236">http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat2.chapter.25236</a></p> <p>Ofman J, Badamgarav E, Henning J et al. Does disease management improve clinical and economic outcomes in patients with chronic diseases? A systematic review. <i>Am J Med</i> 2004; 117:182-92.</p>	<p>Singh D, Ham C. Improving care for people with long-term conditions. A review of UK and international frameworks. Health Services Management Centre, Birmingham, 2006. <a href="http://www.hsmc.bham.ac.uk/documents/Improvingcareforpeoplewithltc.pdf">http://www.hsmc.bham.ac.uk/documents/Improvingcareforpeoplewithltc.pdf</a></p> <p>Zwar N, Harris M, Griffiths R, et al. A systematic review of chronic disease management. Research Centre for Primary Health Care and Equity, School of Public Health and Community Medicine, UNSW, 2006. <a href="http://www.anu.edu.au/aphcri/Domain/ChronicDiseaseMgmt/Approved_3_Zwar.pdf">http://www.anu.edu.au/aphcri/Domain/ChronicDiseaseMgmt/Approved_3_Zwar.pdf</a></p>
<b>Care pathways</b>	<p>Moloney R, Maggs C, Moloney R, Maggs C. A systematic review of the relationships between written manual nursing care planning, record keeping and patient outcomes. <i>J Adv Nurs</i> 1999; 30:51-7.</p> <p>Sulch D, Kalra L. Integrated care pathways in stroke management. <i>Age and Ageing</i> 2000; 29:349-52.</p> <p>Renholm M, Leino-Kilpi H, Suominen T, et al. Critical pathways. A systematic review. <i>J Nurs Adm</i> 2002;32:196-202.</p> <p>Kim S, Losina E, Solomon DH, Wright J, Katz JN, Kim S et al. Effectiveness of clinical pathways for total knee and total hip arthroplasty: literature review. <i>J Arthroplasty</i> 2003; 18:69-74.</p>	<p>Eiring Ø, Flottorp S, Johansen M, Vandvik PO. Kunnskapsgrunnlaget for behandlingslinjer - en foreløpig oversikt. Notat oktober 2007. Oslo: Nasjonalt kunnskapssenter for helsetjenesten, 2007.</p>

---

van Herck P, Vanhaecht K, Sermeus W. Effects of clinical pathways: Do they work? *Journal of Integrated Care Pathways* 2004; 3:95-105.

Shepperd S, Parkes J, McClaran J, Phillips C. Discharge planning from hospital to home. *Cochrane Database of Systematic Reviews* 2004, Issue 1.

Kwan J, Sandercock P. In-hospital care pathways for stroke. *Cochrane Database of Systematic Reviews* 2004, Issue 4.

Dy SM, Garg P, Nyberg D, Dawson PB, Pronovost PJ, Morlock L et al. Critical pathway effectiveness: Assessing the impact of patient, hospital care, and pathway characteristics using qualitative comparative analysis. *Health Serv Res* 2005; 2:499-516.

---

**Case management**

Norris, S., Nichols, P., Caspersen, C. et al. The effectiveness of disease and case management for people with diabetes. A systematic review. *Am J Prev Med* 2002; 22:15–38.

Kim S, Losina E, Solomon DH, Wright J, Katz JN, Kim S et al. Effectiveness of clinical pathways for total knee and total hip arthroplasty: literature review. *J Arthroplasty* 2003; 18:69-74.

Ferguson JA, Weinberger M. Case management programs in primary care. *J Gen Int Med* 1998; 13:123-6.

Singh D. Transforming Chronic Care: Evidence about improving care for people with long-term conditions. Birmingham: University of Birmingham and Surrey and Sussex PCT Alliance, 2005.  
[http://www.hsmc.bham.ac.uk/publications/pdfs/Transforming\\_Chronic\\_Care.pdf](http://www.hsmc.bham.ac.uk/publications/pdfs/Transforming_Chronic_Care.pdf)

---

**Multidisciplinary care**

Reeves S, Zwarenstein M, Goldman J, Barr H, Freeth D, Hammick M, Koppel I. Interprofessional education: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2008, Issue 1.

Howarth M, Holland K, Grant MJ. Education needs for integrated care: a literature review. *J Adv Nurs* 2006; 56:144-56.

---

**Shared care**

Smith SM, Allwright S, O’Dowd T. Effectiveness of shared care across the interface between primary and specialty care in chronic disease management. *Cochrane Database of Systematic Reviews* 2007, Issue 3.

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**Discharge planning**

Mistiaen P, Francke AL, Poot E. Interventions aimed at reducing problems in adult patients discharged from hospital to home: a systematic meta-review. *BMC Health Serv Res* 2007; 7:47.

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Early Supported Discharge Trialists. Services for reducing duration of hospital care for acute stroke patients. *Cochrane Database of Systematic Reviews* 2005, Issue 2.

Phillips CO, Wright SM, Kern DE, et al. Comprehensive discharge planning with post discharge support for older patients with congestive heart failure: a meta-analysis. *JAMA* 2004; 291:1358-67.

Shepperd S, Doll H, Angus RM, Clarke MJ, Iliffe S, Kalra L, Ricauda NA, Wilson AD. Admission avoidance hospital at home. *Cochrane Database of Systematic Reviews* 2008, Issue 4.

Mitchell G, Del Mar C, Francis D. Does primary medical practitioner involvement with a specialist team improve patient outcomes? A systematic review. *Br J Gen Pract* 2002; 52:934-9.

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FINANCIAL ARRANGEMENTS	<i>Systematic reviews</i>	<i>Overviews of reviews and policy documents</i>
<b>Paying for chronic disease care</b>		Busse R, Mays N. Paying for chronic disease care. In: Nolte E, McKee M, (eds). <i>Caring for people with chronic conditions: A health system perspective</i> . Open University Press, Berkshire, 2008.
<b>TARGETED FINANCIAL INCENTIVES</b>		
<b>Financial incentives for providers and organisations</b>	<p>Petersen 2006. Petersen LA, Woodard LD, Urech T, Daw C, Sookanan S. Does pay-for-performance improve the quality of health care? <i>Ann Intern Med</i> 2006; 145:265-72.</p> <p>Dudley RA, Frolich A, Robinowitz DL, Talavera JA, Broadhead P, Luft HS, McDonald K. Strategies to support quality-based purchasing: a review of the evidence. Technical Review Number 10. AHRQ Publication No. 04-0057, Agency for Healthcare Research and Quality, 2004. <a href="http://www.ahrq.gov/downloads/pub/evidence/pdf/qbpurch/qbpurch.pdf">http://www.ahrq.gov/downloads/pub/evidence/pdf/qbpurch/qbpurch.pdf</a></p> <p>Rosenthal 2006. Rosenthal MB, Frank RG. What is the empirical basis for paying for quality in health care? <i>Med Care Res Rev</i> 2006; 63:135-57.</p> <p>Giuffrida A, Gosden T, Forland F, Kristiansen IS, Sergison M, Leese B, Pedersen L, Sutton M. Target payments in primary care: effects on professional practice and health care outcomes. <i>Cochrane Database of Systematic Reviews</i> 1999, Issue 4.</p> <p>Gosden T, Forland F, Kristiansen IS, Sutton M, Leese B, Giuffrida A, Sergison M, Pedersen L. Impact of payment method on behaviour of primary care physicians: a systematic review. <i>J Health Serv Res Policy</i> 2001; 6:44-55.</p>	
<b>Fund holding</b>	<p>Gosden T, Torgerson DJ. The effect of fundholding on prescribing and referral costs: a review of the evidence. <i>Health Policy</i> 1997; 40:103-14.</p> <p>Sturm H, Austvoll-Dahlgren A, Aaserud M, Oxman AD, Ramsay C, Vernby A, Kösters JP. Pharmaceutical policies: effects of financial incentives for prescribers. <i>Cochrane Database Syst Rev</i> 2007, Issue 3.</p>	

<b>Financial incentives for patients</b>	<p>Giuffrida A, Torgerson DJ. Should we pay the patient? Review of financial incentives to enhance patient compliance. <i>BMJ</i> 1997; 315:703-7.</p> <p>Kane RL, Johnson PE, Town RJ, Butler M. A structured review of the effect of economic incentives on consumers' preventive behavior. <i>Am J Prev Med</i> 2004; 27:327-52.</p>
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FINANCING	<i>Systematic reviews</i>	<i>Overviews of reviews and policy documents</i>
<b>Direct payments by patients</b>	<p>Austvoll-Dahlgren A, Aaserud M, Vist G, Ramsay C, Oxman AD, Sturm H, Kösters JP, Vernby Å. Pharmaceutical policies: effects of cap and co-payment on rational drug use. <i>Cochrane Database of Systematic Reviews</i> 2008, Issue 1.</p> <p>Buchmueller TC, Grumbach K, Kronick R, Kahn JG. The effect of health insurance on medical care utilization and implicatins for insurance expansion: a review of the literature. <i>Med Care Res Rev</i> 2005; 62:3-30.</p> <p>Freeman JD, Kadiyala S, Bell JF, Martin DP. The causal effect of health insurance on utilization and outcomes in adults: a systematic review of US studies. <i>Medical Care</i> 2008; 46:1023-32.</p> <p>Goldman D, Joyce G, Zheng Y. Prescription drug cost sharing: associations with medication and medical utilization and spending and health. <i>JAMA</i> 2007; 298:61-9.</p> <p>Jeffrey AE, Newacheck PW. Role of insurance for children with special health care needs: a synthesis of the evidence. <i>Pediatrics</i> 2006; 118:1027-38.</p>	
<b>Funding</b>	<p>Gosden T, Forland F, Kristiansen IS, Sutton M, Leese B, Giuffrida A, Ser-gison M, Pedersen L. Capitation, salary, fee-for-service and mixed systems of payment: effects on the behaviour of primary care physicians. <i>Cochrane Database of Systematic Reviews</i> 2000, Issue 3..</p> <p>Gosden T, Forland F, Kristiansen IS, et al. Impact of payment method on behaviour of primary care physicians: a systematic review. <i>J Health Serv Res Policy</i> 2001; 6:44-55.</p>	

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**Global budgets**

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**Indicative budgets**

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**Provider reimbursement**

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**Resource allocation**

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**GOVERNANCE  
ARRANGEMENTS**

*Systematic reviews*

*Overviews of reviews and policy documents*

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**Governance of integrated  
health systems**

Forest PG, Gagnon D, Abelson J, Turgeon J, Lamarche P. Issues in the governance of integrated health systems. Policy synthesis. Canadian Health Services Research Foundation, Ottawa, 1999.

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**POLICY AUTHORITY**

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**The extent to which decision-making is centralised or decentralised**

O'May F, Buchan J. Shared governance: a literature review. International Journal of Nursing studies 1999; 281-300.

Saltman RB, Bankauskaite V, Vrangbæk (eds). Decentralization in Health Care: Strategies and Outcomes. Open University Press, Berkshire, 2007.

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**Stewardship of the private (or non-state) sector's role in financing and delivering health care**

Waters H, Hatt L, Peters D. Working with the private sector for child health. Health Policy and Planning. 2003; 18:127-37.

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**ORGANISATIONAL  
AUTHORITY**

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**Ownership of health services**

Devereaux PJ, Choi PTL, Lacchetti C, et al. A systematic review and meta-analysis of studies comparing mortality rates of private for-profit and private not-for-profit hospitals. CMAJ 2002; 166:1399-406.

Devereaux PJ, Schünemann HJ, Ravindran N, et al. Comparison of mortality between private for-profit and private not-for-profit hemodialysis centers : a systematic review and meta-analysis. JAMA 2002; 288:2449-57.

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	Devereaux PJ, Heels-Ansdell D, Lacchetti C, et al. Payments for care at private for-profit and private not-for-profit hospitals: a systematic review and meta-analysis. <i>CMAJ</i> 2004; 170:1817-24.	
<b>Accreditation</b>	Greenfield D, Braithwaite J. Health sector accreditation research: a systematic review. <i>International Journal for Quality in Health Care</i> 2008; 20:172-83.	
<b>Clinical governance</b>	Tait AR. Clinical governance in primary care: a literature review. <i>Journal of Clinical Nursing</i> 2004;13:723-30.	
<b>CONSUMER AND STAKEHOLDER INVOLVEMENT</b>		
<b>Participation in policy, organisational and delivery decisions</b>	Crawford MJ, Rutter D, Manley C, et al. Systematic review of involving patients in the planning and development of health care. <i>BMJ</i> 2002; 325:1263-7.	
	Nilsen ES, Myrhaug HT, Johansen M, Oliver S, Oxman AD. Methods of consumer involvement in developing healthcare policy and research, clinical practice guidelines and patient information material. <i>Cochrane Database of Systematic Reviews</i> 2006, Issue 3.	
	Swainston K, Summerbell C. The effectiveness of community engagement approaches and methods for health promotion interventions. Rapid Review. Phase 3 (including consideration of additional evidence from stakeholders). NICE National Collaborating Centre, University of Teesside, 2008.	
<b>IMPLEMENTING CHANGE</b>	<b>SYSTEMATIC REVIEWS</b>	<b>OVERVIEWS OF REVIEWS AND POLICY DOCUMENTS</b>
<b>Barriers to co-ordinated care</b>	Cochrane LJ, Olson CA, Murray S. Gaps between knowing and doing: understanding and assessing the barriers to optimal health care. <i>J Contin Educ Health Prof</i> 2007; 27:94-102.	Nolte E, McKee M. Making it happen. In: Nolte E, McKee M, (eds). <i>Caring for people with chronic conditions: A health system perspective</i> . Open University Press, Berkshire, 2008.
	Fleuren M, Wiefferink, Paulussen T. Determinants of innovation within health care organizations. <i>International Journal for Quality in Health Care</i> 2004;	Wensing M, Bosch M, Foy R, et al. Factors in theories on behaviour change to guide implementation and quality improvement in health-

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16:107-23.

Tsai AC, Morton SC, Mangione CM, Keeler EB. A meta-analysis of interventions to improve care for chronic illnesses. *Am J Manag Care* 2005; 11:478-88.

care. Technical Report for the Rebeqi project. European Commission, Fifth Framework. 2001. Contract nbr. QLRT-00657.

---

**Changing professional behaviour**

Akbari A, Mayhew A, Al-Alawi MA, Grimshaw JM, Winkens RAG, Glidewell E, Pritchard C, Thomas R, Fraser C. Interventions to improve outpatient referrals from primary care to secondary care. *Cochrane Database of Systematic Reviews* 2005, Issue 3. Art. No.: CD005471.

Wensing M, Bosch M, Foy R, et al. Factors in theories on behaviour change to guide implementation and quality improvement in health-care. Technical Report for the Rebeqi project. European Commission, Fifth Framework. 2001. Contract nbr. QLRT-00657.

Cheater F, Baker R, Gillies C, Hearnshaw H, Flottorp S, Robertson N, Shaw EJ, Oxman AD. Tailored interventions to overcome identified barriers to change: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2005, Issue 3. Art. No.: CD005470.

Forsetlund L, Bjørndal A, Rashidian A, et al. Continuing education meetings and workshops. *Cochrane Database Syst Rev* (in press).

Grimshaw JM, Thomas RE, MacLennan G, Fraser C, Ramsay CR, Vale L, Whitty P, Eccles MP, Matowe L, Shirran L, Wensing M, Dijkstra R, Donaldson C: Effectiveness and efficiency of guideline dissemination and implementation strategies. *Health Technol Assess* 2004, 8: iii-72.

Hulscher ME, Wensing M, van Der Weijden T, Grol R. Interventions to implement prevention in primary care. *Cochrane Database Syst Rev* 2001; 1.

Jamtvedt G, Young JM, Kristoffersen DT, O'Brien MA, Oxman AD. Audit and feedback: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev* 2006; 2.

O'Brien MA, Rogers S, Jamtvedt G, et al. Educational outreach visits: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev* 2007; 4.

---

**Organisational change**

Iles V, Sutherland K. Organisational change. A review for health care managers, professionals and researchers. National Co-ordinating Centre for NHS Service Delivery and Organisation R & D, London, 2001.

Minkman M, Ahaus K, Huijsman R. Performance improvement based on inte-

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grated quality management models: what evidence do we have? A systematic literature review. *International Journal for Quality in Health Care* 2007; 19:90-104.

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**Leadership**

Vance C, Larson E. Leadership research in business and health care. *Health Policy and Systems* 2002; 34:165-71.

Øvretveit J. Leading improvement. *Journal of Health Organization and Management* 2005; 19:413-30.

Doumit G, Gattellari M, Grimshaw J, O'Brien MA. Local opinion leaders: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2007, Issue 1.

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**Organisational culture**

Scott T, Mannion R, Marshall M, Davies H. Does organisation culture influence health care performance? A review of the evidence. *J Health Serv Res Policy* 2003; 82:105-17.

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APPENDIX 2: OTHER DELIVERY ARRANGEMENTS	<i>Systematic reviews</i>	<i>Overviews of reviews and policy documents</i>
<b>Changes in who delivers care</b>		<p>Singh D. Which staff improve care for people with long-term conditions? A rapid review of the literature. Birmingham: University of Birmingham and Surrey and Sussex PCT Alliance, 2005.  <a href="http://www.hsmc.bham.ac.uk/publications/pdfs/Workforce_Implications_Review.pdf">http://www.hsmc.bham.ac.uk/publications/pdfs/Workforce_Implications_Review.pdf</a></p>
<b>Substitution and enhancement</b>	<p>Laurant M, Reeves D, Hermens R, Braspenning J, Grol R, Sibbald B. Substitution of doctors by nurses in primary care. <i>Cochrane Database of Systematic Reviews</i> 2004, Issue 4.</p> <p>McPherson K, Kersten P, George S, Lattimer V, Breton A, Ellis B, Kaur D, Frampton G. A systematic review of evidence about extended roles for allied health professionals. <i>J Health Serv Res Policy</i>. 2006; 11:240-7.</p> <p>Roberts E, Mays N. Can primary care and community-based models of emergency care substitute for the hospital accident and emergency (A &amp; E) department? <i>Health Policy</i> 1998; 44:191-214.</p> <p>Rojas MP, Telaro E, Russo A, Moschetti I, Coe L, Fossati R, Palli D, Roselli del Turco M, Liberati A. Follow-up strategies for women treated for early breast cancer. <i>Cochrane Database of Systematic Reviews</i> 2000, Issue 4.</p> <p>Jeffery M, Hickey BE, Hider PN. Follow-up strategies for patients treated for non-metastatic colorectal cancer. <i>Cochrane Database Syst Rev</i> 2007, Issue 1.</p> <p>Horrocks S, Anderson E, Salisbury C. Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. <i>BMJ</i> 2002; 324:819-23.</p>	<p>Hollinghurst S, Horrocks S, Anderson E, Salisbury C. Comparing the cost of nurse practitioners and GPs in primary care: modelling economic data from randomised trials. <i>Br J Gen Pract</i> 2006; 56:530-5.</p>
<b>Shared decision-making</b>	<p>O'Connor AM, Bennett C, Stacey D, Barry MJ, Col NF, Eden KB, Entwistle V, Fiset V, Holmes-Rovner M, Khangura S, Llewellyn-Thomas H, Rovner DR. Do patient decision aids meet effectiveness criteria of the international patient decision aid standards collaboration? A systematic review and meta-</p>	

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analysis. *Med Decis Making*. 2007; 27:554-74.

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**Self-management**

Warsi A, Wang PS, LaValley MP, Avorn J, Solomon DH. Self-management education programs in chronic disease: a systematic review and methodological critique of the literature. *Arch Intern Med*. 2004; 164:1641-9.

Foster G, Taylor SJC, Eldridge SE, Ramsay J, Griffiths CJ. Self-management education programmes by lay leaders for people with chronic conditions. *Cochrane Database of Systematic Reviews* 2007, Issue 4.

Chodosh J, Morton SC, Mojica W, Maglione M, Suttorp MJ, Hilton L, Rhodes S, Shekelle P. Meta-analysis: chronic disease self-management programs for older adults. *Ann Intern Med* 2005; 143:427-38.

Richardson G, Gravelle H, Weatherly H, Ritchie G. Cost-effectiveness of interventions to support self-care: a systematic review. *Int J Technol Assess Health Care* 2005; 21:423-32.

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**CHANGES IN WHERE CARE IS PROVIDED**

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**Day care and intermediate care**

Griffiths PD, Edwards ME, Forbes A, Harris RL, Ritchie G. Effectiveness of intermediate care in nursing-led in-patient units. *Cochrane Database of Systematic Reviews* 2007, Issue 2.

Forster A, Young J, Lambley R, Langhorne P. Medical day hospital care for the elderly versus alternative forms of care. *Cochrane database of Systematic Reviews* 2008, issue 4.

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**Specialist outreach**

Gruen RL, Weeramanthri TS, Knight SS, Bailie RS. Specialist outreach clinics in primary care and rural hospital settings. *Cochrane Database of Systematic Reviews* 2003, Issue 4.

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**Home and community-based care**

Beswick AD, Rees K, Dieppe P, Ayis S, Gooberman-Hill R, Horwood J, Ebrahim S. Complex interventions to improve physical function and maintain independent living in elderly people: a systematic review and meta-analysis. *Lancet*. 2008; 371:725-35.

van Haastregt JC, Diederiks JP, van Rossum E, de Witte LP, Crebolder HF. Effects of preventive home visits to elderly people living in the community:

Singh D. Which staff improve care for people with long-term conditions? A rapid review of the literature. Birmingham: University of Birmingham and Surrey and Sussex PCT Alliance, 2005.

[http://www.hsmc.bham.ac.uk/publications/pdfs/Workforce\\_Implications\\_Review.pdf](http://www.hsmc.bham.ac.uk/publications/pdfs/Workforce_Implications_Review.pdf)

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Elkan R, Kendrick D. What is the effectiveness of home visiting or home-based support for older people? WHO 2004. <http://www.euro.who.int/Document/e83105.pdf>

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systematic review. *BMJ* 2000; 320:754-8.

Elkan R, Kendrick D, Dewey M, Hewitt M, Robinson J, Blair M, Williams D, Brummell K. Effectiveness of home based support for older people: systematic review and meta-analysis. *BMJ* 2001; 323:719-25.

Stuck AE, Egger M, Hammer A, Minder CE, Beck JC. Home visits to prevent nursing home admission and functional decline in elderly people: systematic review and meta-regression analysis. *JAMA* 2002; 287:1022-8.

Meinck M, Lubke N, Lauterberg J, Robra BP. [Preventive home visits to the elderly: systematic review of available evidence]. *Gesundheitswesen* 2004; 66:732-8.

Markle-Reid M, Browne G, Weir R, Gafni A, Roberts J, Henderson SR. The effectiveness and efficiency of home-based nursing health promotion for older people: a review of the literature. *Med Care Res Rev* 2006; 63:531-69.

Ploeg J, Feightner J, Hutchison B, Patterson C, Sigouin C, Gauld M. Effectiveness of preventive primary care outreach interventions aimed at older people: meta-analysis of randomized controlled trials. *Can Fam Physician* 2005; 51:1244-5.

Outpatient Service Trialists. Therapy-based rehabilitation services for stroke patients at home. *Cochrane Database of Systematic Reviews* 2003, Issue 1.

Shepperd S, Doll H, Broad J, et al. Early discharge hospital at home. *Cochrane Database of Systematic Reviews*. In press.

Shepperd S, Doll H, Angus RM, Clarke MJ, Iliffe S, Kalra L, Ricauda NA, Wilson AD. Admission avoidance hospital at home. *Cochrane Database of Systematic Reviews* 2008, Issue 4.

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**CHANGES IN  
INFORMATION AND  
COMMUNICATION  
TECHNOLOGY**

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**Health record systems and information and communication technology that support providers** Griffin S, Kinmonth AL. Systems for routine surveillance for people with diabetes mellitus. *Cochrane Database of Systematic Reviews* 1998, Issue 1.

Dorr D, Bonner LM, Cohen AN, Shoai RS, Perrin R, Chaney E et al. Informatics systems to promote improved care for chronic illness: a literature review. *J Am Med Inform Assoc* 2007; 14: 156-63.  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pubmed&pubmedid=17213491>

Shekelle PG, Morton SC, Keeler EB. Costs and Benefits of Health Information Technology. Evidence Report/Technology Assessment No. 132. (Prepared by the Southern California Evidence-based Practice Center under Contract No. 290-02-0003.) AHRQ Publication No.06-E006. Rockville, MD: Agency for Healthcare Research and Quality. April 2006.  
<http://www.ahrq.gov/downloads/pub/evidence/pdf/hitsyscosts/hitsys.pdf>

---

**Information and communication technology that supports patients** Barlow J, Singh D, Bayer S, Curry R. A systematic review of the benefits of home telecare for frail elderly people and those with long-term conditions. *J Telemed Telecare* 2007; 13:172-9.  
<http://jtt.rsmjournals.com/cgi/reprint/13/4/172>

Martin S, Kelly G, Kernohan WG, McCreight B, Nugent C. Smart home technologies for health and social care support. *Cochrane Database of Systematic Reviews* 2008, Issue 4.

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***MENTAL HEALTH***

---

**Community mental health teams** Malone D, Marriott S, Newton-Howes G, Simmonds S, Tyrer P. Community mental health teams (CMHTs) for people with severe mental illnesses and disordered personality. *Cochrane Database of Systematic Reviews* 2007, Issue 3.

---

**Collaborative care in depression** Gilbody S, Bower P, Fletcher J, Richards D, Sutton AJ. Collaborative care for depression: a cumulative meta-analysis and review of longer-term outcomes. *Arch Intern Med* 2006; 166:2314-21.

Williams JW, Gerrity M, Holsinger T, et al. Systematic review of multifaceted interventions to improve depression care. *General Hospital Psychiatry* 2007; 29:91-116.

---

<b>Crisis teams</b>	Joy CB, Adams CE, Rice K. Crisis intervention for people with severe mental illnesses. <i>Cochrane Database of Systematic Reviews</i> 2006, Issue 4.
<b>Case management</b>	<p>Burns T, Catty J, Dash M, et al. Use of intensive case management to reduce time in hospital in people with severe mental illness: systematic review and meta-regression. <i>BMJ</i> 2007; 335:336-40.</p> <p>Hesse M, Vanderplasschen W, Rapp R, Broekaert E, Fridell M. Case management for persons with substance use disorders. <i>Cochrane Database of Systematic Reviews</i> 2007, Issue 4.</p>
<b>Early intervention in schizophrenia</b>	Marshall M, Rathbone J. Early Intervention for psychosis. <i>Cochrane Database of Systematic Reviews</i> 2006, Issue 4.
<b>Planned short hospital stays</b>	Alwan NA, Johnstone P, Zolese G. Length of hospitalisation for people with severe mental illness. <i>Cochrane Database of Systematic Reviews</i> 2008, Issue 1.

---

## Appendix 7. Other relevant systematic reviews

1. Abdulwadud O. Outpatient multidisciplinary pulmonary rehabilitation program for patients with chronic respiratory conditions. Evidence Centre Critical Appraisal, Series 2002: Intervention <http://www.mihsr.monash.org/cce/res/pdf/b/808or834.pdf>
2. Agence d'Evaluation des Technologies et des Modes d'Intervention en Sante. Effectiveness of self-management programs for obstructive respiratory problems. Centre for Reviews and Dissemination, 2001. <http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?View=Full&ID=32001000069>
3. Ahmed A. Quality and outcomes of heart failure care in older adults: role of multidisciplinary disease-management programs. *Journal of the American Geriatric Society*, 2002; 50:1590–3.
4. Anderson C, Ni MC, Brown PM, Carter K. Stroke rehabilitation services to accelerate hospital discharge and provide home-based care: an overview and cost analysis. *PharmacoEconomics*. 2002; 20(8):537-552.
5. Badamgarav E, Croft JD, Hohlbauch A, et al. Effects of disease management programs on functional status of patients with rheumatoid arthritis. *Arthritis Rheum*. 2003 Jun 15; 49(3):377-87.
6. Barrett J, Curran V, Glynn L, Godwin M. CHSRF Synthesis: Interprofessional Collaboration and Quality Primary Healthcare. Ottawa: Canadian Health Services Research Foundation. December 2007.
7. Bazzoli GJ, Dynan L, Burns LR, Yap C. Two decades of organizational change in health care: what have we learned? *Med Care Res Rev*. 2004 Sep; 61(3):247-331.
8. Beach MC, Gary TL, Price EG, et al. Improving health care quality for racial/ethnic minorities: a systematic review of the best evidence regarding provider and organization interventions. *BMC Public Health*. 2006 Apr 24; 6:104
9. Beney J, Bero LA, Bond C. Expanding the roles of outpatient pharmacists: effects on health services utilisation, costs, and patient outcomes. *Cochrane Database of Systematic Reviews* 2000; 2.
10. Bhogal S, Zemek R, Ducharme FM. Written action plans for asthma in children. *Cochrane Database Syst Rev*. 2006 Jul 19; 3:CD005306.
11. Biem HJ, Turnell RW, D'Arcy C. Computer telephony: automated calls for medical care. *Clin Invest Med*. 2003 Oct; 26(5):259-68.
12. Bostick JE, Rantz MJ, Flesner MK, Riggs CJ. Systematic Review of Studies of Staffing and Quality in Nursing Homes. *J Am Med Dir Assoc*. 2006 Jul; 7(6):366-76.
13. Bourbeau J. Disease-specific self-management programs in patients with advanced chronic obstructive pulmonary disease: a comprehensive and critical evaluation [Disease Management & Health Outcomes](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1451111/). 2003; 11(5):311-9.
14. Bourgeault IL, Kuhlmann E, Neiterman E, Wrede S. How can optimal skill mix be effectively implemented and why? Policy brief. Copenhagen: World Health Organization, on behalf of the European Observatory on Health Systems and Policies. 2008. [http://www.euro.who.int/document/hsm/8\\_hsc08\\_epb\\_11.pdf](http://www.euro.who.int/document/hsm/8_hsc08_epb_11.pdf)
15. Bours GJ, Ketelaars CA, Frederiks CM, et al. The effects of aftercare on chronic patients and frail elderly patients when discharged from hospital: a systematic review. *J Adv Nurs*. 1998;27(5):1076-86.

16. Bower P, Gilbody S, Richards D, et al. Collaborative care for depression in primary care. Making sense of a complex intervention: systematic review and meta-regression. *Br J Psychiatry*. 2006; 189:484-93.
17. Brady BK, McGahan L, Skidmore B. Systematic review of economic evidence on stroke rehabilitation services. *Int J Technol Assess Health Care*. 2005 Winter; 21(1):15-21.
18. Britton M, Andersson A. Home rehabilitation after stroke. Reviewing the scientific evidence on effects and costs. *Int J Technol Assess Health Care*. 2000; 16(3):842-8.
19. Brownstein JN, Chowdhury FM, Norris SL, et al. Effectiveness of community health workers in the care of people with hypertension. *Am J Prev Med*. 2007 May; 32(5):435-47.
20. Buckley B, Byrne MC, Dineen B, Smith SM. Service organisation for the secondary prevention of ischaemic heart disease. *Cochrane Database of Systematic Reviews* 2008 Issue 4.
21. Bunn F, Byrne G, Kendall S. Telephone consultation and triage: effects on health care use and patient satisfaction. *Cochrane Database Syst Rev*. 2004; (4):CD004180.
22. Canadian Coordinating Office for Health Technology Assessment. A clinical and economic review of stroke rehabilitation services. CCOHTA, Issue 10, 2003.  
[http://cadth.ca/media/pdf/263\\_stroke\\_ov\\_e.pdf](http://cadth.ca/media/pdf/263_stroke_ov_e.pdf)
23. Car J, Sheikh A. Telephone consultations. *BMJ*. 2003 May 3; 326(7396):966-9.
24. Cartwright JC. Nursing homes and assisted living facilities as places for dying. *Annu Rev Nurs Res*. 2002; 20:231-64.
25. Centre for Health Economics; York Health Economics Consortium. NHS Centre for Reviews and Dissemination [Concentration and choice in the provision of hospital services \(In three parts, with summary report\)](#) DARE, 1999.  
<http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?View=Full&ID=11997008102>
26. Chaix-Couturier C, Durand-Zaleski I, Jolly D, Durieux P. Effects of financial incentives on medical practice: results from a systematic review of the literature and methodological issues. [Int J Qual Health Care](#). 2000 Apr; 12(2):133-42.
27. Chapman JL, Zechel A, Carter YH, Abbott S. Systematic review of recent innovations in service provision to improve access to primary care. [Br J Gen Pract](#). 2004 May; 54(502):374-81.
28. Clar C, Waugh N, Thomas S. Routine hospital admission versus out-patient or home care in children at diagnosis of type 1 diabetes mellitus. [Cochrane Database Syst Rev](#). 2007 Apr 18; (2):CD004099.
29. Clarke A, Rosen R. Length of stay. How short should hospital care be? [Eur J Public Health](#). 2001 Jun; 11(2):166-70.
30. Cooper C, Wheeler DM, Woolfenden SR, et al. Specialist home-based nursing services for children with acute and chronic illnesses. [Cochrane Database Syst Rev](#). 2006 Oct 18; (4):CD004383.
31. Craven MA, Bland R. Better practices in collaborative mental health care: an analysis of the evidence base. *Can.J.Psychiatry* 2006; 51:7S-72S.
32. Currell R, Urquhart C, Wainwright P, Lewis R. Telemedicine versus face to face patient care: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews* 2000, Issue 2. Art. No.: CD002098.

33. Currell R, Urquhart C, Wainwright P, Lewis R. Telemedicine versus face to face patient care: effects on professional practice and health care outcomes. *Nurs Times*. 2001 Aug 30-Sep 5; 97(35):35.
34. Day P, Rasmussen P. What is the evidence for the effectiveness of specialist geriatric services in acute, post-acute and sub-acute settings? A critical appraisal of the literature. Centre for Reviews and Dissemination, 2004.  
<http://www.crd.york.ac.uk/crdweb/ShowRecord.asp?View=Full&ID=32004000233>
35. Doderstrom L, Tousignant P, Kaufman T. The health and cost effects of substituting home care for inpatient acute care: a review of the evidence. *CMAJ* 1999; 160:1151-55.
36. Ellis G, Mant J, Langhorne P, et al. Stroke liaison workers for stroke patients and carers. *Cochrane Database of Systematic Reviews*, Issue 4, 2008.
37. Engstrom S, Foldevi M, Borgquist L. Is general practice effective? A systematic literature review. *Scand J Prim Health Care*. 2001 Jun; 19(2):131-44.
38. Epstein RM, Alper BS, Quill TE. Communicating evidence for participatory decision making. *JAMA*. 2004 May 19; 291(19):2359-66.
39. Eysenbach G, Powell J, Englesakis M, et al. Health related virtual communities and electronic support groups: systematic review of the effects of online peer to peer interactions. *BMJ*. 2004 May 15; 328(7449):1166.
40. Fahey T, Schroeder K, Ebrahim S. Educational and organisational interventions used to improve the management of hypertension in primary care: a systematic review. *Br J Gen Pract*. 2005 Nov; 55(520):875-82.
41. Faulkner A, Milles N, Bainton D et al. A systematic review of the effect of primary care-based service innovations on quality and patterns of referral to specialist secondary care. *Br J Gen Pract* 2003; 53:878 -884.
42. Ferguson B, Posnett J, Sheldon T. Concentration and choice in the provision of hospital services: summary report. DARE, 2000.  
<http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?View=Full&ID=11997008102>
43. Ferguson JA, Weinberger M. Case management programs in primary care. *J Gen Intern Med*. 1998;13(2):123-6.
44. Ferri M, Sacchetti ML, De LA, et al. Pre-hospital emergency pathways for people with suspected stroke. *Cochrane Database of Systematic Reviews* 2008 Issue 4.
45. Fraser KD. Are home care programs cost-effective? A systematic review of the literature. *Care Manag J*. 2003; 4(4):198-201.
46. French S. Multidisciplinary care for chronic low back pain. Evidence Centre Critical Appraisal, Series 2003: Therapy.  
<http://www.mihsr.monash.org/cce/res/pdf/b/990ca.pdf>
47. Gibson PG, Powell H, Coughlan J, et al. Self-management education and regular practitioner review for adults with asthma. *Cochrane Database Syst Rev*. 2003; (1):CD001117.
48. Godfrey M, Randall T, Long AF, Grant M. Home Care: Review of Effectiveness and Outcomes. Exeter: University of Exeter, Centre for Evidence-Based Social Services. 2000.
49. Gravalin M, Rowell K, de GJ. Interventions to support the decision-making process for older people facing the possibility of long-term residential care. *Cochrane Database of Systematic Reviews*, Issue 4, 2008.

50. Greenhalgh J, Meadows K. The effectiveness of the use of patient-based measures of health in routine practice in improving the process and outcomes of patient care: a literature review. [J Eval Clin Pract.](#) 1999 Nov; 5(4):401-16.
51. Griffin S. Diabetes care in general practice: meta-analysis of randomised control trials. [BMJ.](#) 1998 Aug 8; 317(7155):390-6.
52. Griffiths F, Lindenmeyer A, Powell J, et al. Why are health care interventions delivered over the internet? A systematic review of the published literature. [J Med Internet Res.](#) 2006 Jun 23; 8(2):e10.
53. Griffiths P, Wilson-Barnett J. The effectiveness of 'nursing beds': a review of the literature. [J Adv Nurs.](#) 1998 Jun; 27(6):1184-92.
54. Guo B, Harstall C. Strategies to reduce emergency department overcrowding. Centre for Reviews and Dissemination, 2006. <http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?View=Full&ID=32006000677>
55. Gustafsson F, Arnold JM. Heart failure clinics and outpatient management: review of the evidence and call for quality assurance. [Eur Heart J.](#) 2004 Sep; 25(18):1596-604.
56. Gwadry-Sridhar FH, Flintoft V, Lee DS, et al. A systematic review and meta-analysis of studies comparing readmission rates and mortality rates in patients with heart failure. [Arch Intern Med.](#) 2004 Nov 22; 164(21):2315-20.
57. Haesler EJ, Nay R, O'Donnell M, McAuliffe L. Effectiveness of staffing models in residential/subacute/extended aged care settings. *Cochrane Database of Systematic Reviews* 2008 Issue 4.
58. Hailey D, Ohinmaa A, Roine R. Evidence for the benefits of telecardiology applications: a systematic review. Alberta Heritage Foundation for Medical Research, October 2004, HTA 34. <http://www.ihe.ca/documents/HTA34.FINAL.pdf>
59. Hailey D, Roine R, Ohinmaa A. Systematic review of evidence for the benefits of telemedicine. *J Telemed Telecare.* 2002; 8 Suppl 1:1-30.
60. Handford CD, Tynan AM, Rackal JM, Glazier RH. Setting and organization of care for persons living with HIV/AIDS. [Cochrane Database Syst Rev.](#) 2006 Jul 19; 3:CD004348.
61. Harrington J, Noble LM, Newman SP. Improving patients' communication with doctors: a systematic review of intervention studies. *Patient Educ Couns.* 2004 Jan; 52(1):7-16.
62. Hersh W, Helfand M, Wallace J, et al. A systematic review of the efficacy of telemedicine for making diagnostic and management decisions. [J Telemed Telecare.](#) 2002; 8(4):197-209.
63. Hillmer MP, Wodchis WP, Gill SS, et al. Nursing home profit status and quality of care: is there any evidence of an association? *Med Care Res Rev.* 2005 Apr; 62(2):139-66.
64. Holland R, Battersby J, Harvey I. Systematic review of multidisciplinary interventions in heart failure. [Heart.](#) 2005 Jul; 91(7):899-906.
65. Holloway F, Carson J. Case management: an update. *Int J Soc Psychiatry.* 2001; 47(3):21-31.
66. Hyde CJ, Robert IE, Sinclair AJ. The effects of supporting discharge from hospital to home in older people. *Age Ageing.* 2000; 29(3):271-9.
67. Jaana M, Pare G. Home telemonitoring of patients with diabetes: a systematic assessment of observed effects 4. *J.Eval.Clin.Pract.* 2007; 13:242-53.

68. Jennett PA, Affleck HL, Hailey D, et al. The socio-economic impact of telehealth: a systematic review. [J Telemed Telecare](#). 2003; 9(6):311-20.
69. Johnstone P, Zolese G. Systematic review of the effectiveness of planned short hospital stays for mental health care. *BMJ*. 1999; 318(7195):1387-90.
70. Johri M, Beland F, Bergman H. International experiments in integrated care for the elderly: a synthesis of evidence. *Int J Geriatr Psychiatry* 2003; 18:225-235.
71. Jolly K, Taylor RS, Lip GYH, Stevens A. Home-based cardiac rehabilitation compared with centre-based rehabilitation and usual care: A systematic review and meta-analysis. [Int J Cardiol](#). 2006 Aug 28; 111(3):343-51.
72. Jones JF, Brennan PF. Telehealth interventions to improve clinical nursing of elders. [Annu Rev Nurs Res](#). 2002; 20:293-322.
73. Kamel SJ, Jarrett P, MacDonald E. Effectiveness of geriatric evaluation and management units in caring for older adults. *Geriatrics Today: Journal of the Canadian Geriatrics Society*. 2005; 8(3).
74. Khan F, Disler P. Multidisciplinary rehabilitation interventions for joint replacement at the knee and hip for arthropathies. *The Cochrane Database of Systematic Reviews* 2005, Issue 2.
75. Khan F, et al. Multidisciplinary rehabilitation for adults with multiple sclerosis. *Cochrane Database of Systematic Reviews* 2008.
76. Kim YJ, Soeken KL. A meta-analysis of the effect of hospital-based case management on hospital length-of-stay and readmission. *Nurs Res*. 2005; 54(4):255-64.
77. Koshman SL, et al. Pharmacist care of patients with heart failure: a systematic review of randomized trials. [Review] [24 refs]. *Archives of Internal Medicine*. 2008; 168(7):687-94.
78. Langhorne P, Dennis MS, Kalra L, et al. Services for helping acute stroke patients avoid hospital admission. [Nurs Times](#). 2001 Jul 12-18; 97(28):44.
79. Langhorne P, Duncan P. Does the organization of postacute stroke care really matter? [Stroke](#). 2001 Jan; 32(1):268-74.
80. Langhorne P, Taylor G, Murray G, et al. Early supported discharge services for stroke patients: a meta-analysis of individual patients' data. *Lancet*. 2005 Feb 5-11; 365(9458):501-6.
81. Langton H, Barnes M, Haslehurst S, et al. Collaboration, user involvement and education: a systematic review of the literature and report of an educational initiative. [Eur J Oncol Nurs](#). 2003 Dec; 7(4):242-52.
82. Légaré F, Ratté S, Stacey D, et al. Interventions for improving the adoption of shared decision making by healthcare professionals. *Cochrane Database of Systematic Reviews*, Issue 4, 2008.
83. Legg L, Langhorne P. Rehabilitation therapy services for stroke patients living at home: systematic review of randomised trials. *Lancet* 2004; 363:352-6.
84. Lemieux-Charles L, McGuire WL. What do we know about health care team effectiveness? A review of the literature. *Med Care Res Rev*. 2006; 63(3):263-300.
85. Lewin SA, Dick J, Pond P, et al. Lay health workers in primary and community health care. [Cochrane Database Syst Rev](#). 2005 Jan 25; (1):CD004015.
86. Lewin SA, Skea ZC, Entwistle V, et al. Interventions for providers to promote a patient-centred approach in clinical consultations. [Cochrane Database Syst Rev](#). 2001; (4):CD003267.



87. Lindenmeyer A, et al. Interventions to improve adherence to medication in people with type 2 diabetes mellitus: a review of the literature on the role of pharmacists. *Journal of Clinical Pharmacy & Therapeutics*. 2006; 31(5):409-19.
88. Louis AA, Turner T, Gretton M, et al. A systematic review of telemonitoring for the management of heart failure. [Eur J Heart Fail](#). 2003 Oct; 5(5):583-90.
89. Loveman E, Royle P, Waugh N. Specialist nurses in diabetes mellitus. [Cochrane Database Syst Rev](#). 2003; (2):CD003286.
90. Marshall MN, Shekelle PG, Leatherman S, Brook RH. The public release of performance data: what do we expect to gain? A review of the evidence. [JAMA](#). 2000 Apr 12; 283(14):1866-74.
91. Mason A, Weatherly H, Spilsbury K, et al. A systematic review of the effectiveness and cost-effectiveness of different models of community-based respite care for frail older people and their carers. *Health Technol Assess*. 2007 Apr; 11(15):1-157, iii.
92. McAlister FA, et al. Randomised trials of secondary prevention programmes in coronary heart disease: systematic review. *British Medical Journal*, 2001; 323:957-62.
93. McAlister FA, Stewart S, Ferrua S, McMurray JJJV. Multidisciplinary strategies for the management of heart failure patients at high risk for admission: A systematic review of randomized trials. [J Am Coll Cardiol](#). 2004 Aug 18; 44(4):810-9.
94. McAlister FA, Lawson FM, Teo KK, Armstrong PW. A systematic review of randomized trials of disease management programs in heart failure. [Am J Med](#). 2001 Apr 1; 110(5):378-84.
95. McCusker J, Verdon J. Do geriatric interventions reduce emergency department visits? A systematic review. [J Gerontol A Biol Sci Med Sci](#). 2006 Jan; 61(1):53-62.
96. McGowan JL, McAuley LM, Dawes M, et al. Electronic access to health information and/or knowledge by health professionals to improve practice and patient care. *Cochrane Database of Systematic Reviews* 2008 Issue 4.
97. Mistiaen P, Poot E. Telephone follow-up, initiated by a hospital-based health professional, for postdischarge problems in patients discharged from hospital to home. [Cochrane Database Syst Rev](#). 2006 Oct 18; (4):CD004510.
98. Mottram P, Pitkala K, Lees C. Institutional versus at-home long term care for functionally dependent older people. [Cochrane Database Syst Rev](#). 2002; (1):CD003542.
99. Murray E, Burns J, See TS, et al. Interactive Health Communication Applications for people with chronic disease. [Cochrane Database Syst Rev](#). 2005 Oct 19; (4):CD004274.
100. New Zealand Health Technology Assessment Clearing House. Can outpatient interventions reduce acute respiratory admissions? A critical appraisal of the literature. NZHTA Report 2, June 1998. <http://nzhta.chmeds.ac.nz/publications/nzhta2.pdf>
101. New Zealand Health Technology Assessment Clearing House. Emergency department attendance: a critical appraisal of the literature. 1999. <http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?View=Full&ID=31999008418>
102. Noorani HZ, Brady B, McGahan L, et al. Stroke rehabilitation services: systematic reviews of the clinical and economic evidence. Ottawa: Canadian Coordinating Office for Health Technology Assessment; 2003. Technology report no 35.
103. Norris SL, Chowdhury FM, Van LK, et al. Effectiveness of community health workers in the care of persons with diabetes. [Diabet Med](#). 2006 May; 23(5):544-56.

104. Norris SL, Nichols PJ, Caspersen CJ, et al. Increasing diabetes self-management education in community settings. A systematic review. [Am J Prev Med](#). 2002 May; 22(4 Suppl):39-66.
105. Norris SL, Nichols PJ, Caspersen CJ, et al. The effectiveness of disease and case management for people with diabetes. A systematic review. [Am J Prev Med](#). 2002 May; 22(4 Suppl):15-38.
106. O'Connor AM, Stacey D, Entwistle V, et al. Decision aids for people facing health treatment or screening decisions. *Cochrane Database of Systematic Reviews* 2003, Issue 1. Art. No.: CD001431. DOI: 10.1002/14651858.CD001431.
107. Oakeshott P, Kerry S, Austin A, Cappuccio F. Is there a role for nurse-led blood pressure management in primary care? *Fam Pract*. 2003 Aug; 20(4):469-73.
108. Page T, Lockwood C, Conroy-Hiller T. Effectiveness of nurse-led cardiac clinics in adult patients with a diagnosis of coronary heart disease. [International Journal of Evidence-Based Healthcare](#), 2005; 3(1):2-26.
109. Parker G, Bhakta P, Katbamna S, et al. Best place of care for older people after acute and during subacute illness: a systematic review. [J Health Serv Res Policy](#). 2000 Jul; 5(3):176-89.
110. Parker G, Bhakta P, Lovett CA, et al. A systematic review of the costs and effectiveness of different models of paediatric home care. [Health Technol Assess](#). 2002; 6(35):iii-108.
111. Parker SG, Peet SM, McPherson A, et al. A systematic review of discharge arrangements for older people. *Health Technol Assess*. 2002; 6(4):1-183.
112. Patterson CJ, Mulley GP. The effectiveness of pre-discharge home assessment visits: a systematic review. [Clin Rehabil](#). 1999 Apr; 13(2):101-4.
113. Philbin EF. Comprehensive multidisciplinary programs for the management of patients with congestive heart failure. [J Gen Intern Med](#). 1999 Feb; 14(2):130-5.
114. Phillips CO, Singa RM, Rubin HR, Jaarsma T. Complexity of program and clinical outcomes of heart failure disease management incorporating specialist nurse-led heart failure clinics. A meta-regression analysis. [Eur J Heart Fail](#). 2005 Mar 16; 7(3):333-41.
115. Piette JD. Interactive voice response systems in the diagnosis and management of chronic disease. *Am J Manag Care*. 2000; 6(7):817-27.
116. Ram FSF, Jones A, Fay JK. Primary care based clinics for asthma. *Cochrane Database of Systematic Reviews* 2008 Issue 4.
117. Ram FSF, Wedzicha JA, Wright J, Greenstone M. Hospital at home for acute exacerbations of chronic obstructive pulmonary disease. [BMJ](#). 2004 Aug 7; 329(7461):315.
118. Rhydderch M, Edwards A, Elwyn G, et al. Organizational assessment in general practice: a systematic review and implications for quality improvement. [J Eval Clin Pract](#). 2005 Aug; 11(4):366-78.
119. Richards S, Coast J. Interventions to improve access to health and social care after discharge from hospital: a systematic review. *J Health Serv Res Policy*. 2003; 8(3):171-9.
120. Roccaforte R, Demers C, Baldassarre F, et al. Effectiveness of comprehensive disease management programmes in improving clinical outcomes in heart failure patients. A meta-analysis. [Eur J Heart Fail](#). 2005 Dec; 7(7):1133-44. Epub 2005 Sep 29.
121. Roine R, Ohinmaa A, Hailey D. Assessing telemedicine: a systematic review of the literature. *CMAJ*. 2001; 165(6):765-71.

122. Roughead E.E., Semple S.J., Vitry A.I. Pharmaceutical Care Services: a systematic review of published studies, 1990 to 2003, examining effectiveness in improving patient outcomes. *International Journal of Pharmacy Practice* 2005; 13: 53-70.
123. Sarria-Santamera A, Yanez-Cadena D. Review of primary care interventions to improve the quality of chronic disease management. Centre for Review and Dissemination, 2004.  
<http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?View=Full&ID=32004000126>
124. Sempowski IP. Effectiveness of financial incentives in exchange for rural and underserved area return-of-service commitments: systematic review of the literature. *Can J Rural Med.* 2004 Spring; 9(2):82-8.
125. Shekelle PG, Morton SC, Keeler EB. Costs and benefits of health information technology. *Evid Rep Technol Assess (Full Rep)*. 2006 Apr; (132):1-71.
126. Shojania KG, Ranji SR, McDonald KM, et al. Effects of quality improvement strategies for type 2 diabetes on glycemic control: a meta-regression analysis. *JAMA*. 2006 Jul 26; 296(4):427-40.
127. Shojania KG, Ranji SR, Shaw LK, et al. Closing the quality gap: a critical analysis of quality improvement strategies, volume 2 - diabetes mellitus care. AHRQ Publication No. 04-0051-2, September 2004.  
<http://www.ahrq.gov/downloads/pub/evidence/pdf/qualgap2/qualgap2.pdf>
128. Simmonds S, Coid J, Joseph P, et al. Community mental health team management in severe mental illness: a systematic review. *Br J Psychiatry*. 2001 Jun; 178:497-502; discussion 503-5.
129. Simpson EL, House AO. Involving users in the delivery and evaluation of mental health services: systematic review. *BMJ*. 2002; 325(7375):1265.
130. Smith B, Appleton S, Adams R, et al. Home care by outreach nursing for chronic obstructive pulmonary disease. *Cochrane Database Syst Rev*. 2001; (3):CD000994.
131. Söderberg E, Alexanderson K: 'Gatekeepers in sickness insurance' - a systematic review of the literature on practices of social insurance officers. *Health and Social Care in the Community* 2005; 13(3):211-223.
132. Taylor RS, Dalal H, Jolly K, et al. Home-based versus centre-based cardiac rehabilitation. *Cochrane Database of Systematic Reviews* 2008 Issue 4.
133. Taylor S, Bestall J, Cotter S, et al. Clinical service organisation for heart failure. *Cochrane Database Syst Rev*. 2005 Apr 18; (2):CD002752.
134. Taylor SJC, Candy B, Bryar RM, et al. Effectiveness of innovations in nurse led chronic disease management for patients with chronic obstructive pulmonary disease: Systematic review of evidence. *BMJ*. 2005 Sep 3; 331(7515):485.
135. Thome B, Dykes AK, Hallberg IR. Home care with regard to definition, care recipients, content and outcome: systematic literature review. *J Clin Nurs*. 2003 Nov; 12(6):860-72.
136. Thorne SE, Paterson BL. Health care professional support for self-care management in chronic illness: insights from diabetes research. *Patient Educ Couns*. 2001 Jan; 42(1):81-90.
137. Turnock AC, Walters EH, Walters JA, Wood-Baker R. Action plans for chronic obstructive pulmonary disease. *Cochrane Database Syst Rev*. 2005; (4):CD005074.
138. Unknown author. Home haemodialysis is an effective alternative to hospital or satellite unit haemodialysis. *Healt Care & Public Health*. 2005; 9(2):123-4.

139. Unknown author. 'Hospital at home' schemes are as safe as inpatient care for people with exacerbated chronic obstructive pulmonary disease (COPD). *Health Care & Public Health*. 2005; 9(1):46-7.
140. Verhoeven F, van Gemert-Pijnen L, Dijkstra K, et al. The contribution of teleconsultation and videoconferencing to diabetes care: a systematic literature review. *J Med Internet Res*. 2007; 14:9(5):e37.
141. Wadhwa S, Lavizzo-Mourey R. Tools, methods, and strategies. Do innovative models of health care delivery improve quality of care for selected vulnerable populations? A systematic review. *Joint Commission Journal of Quality Improvement*. 1999; 25(8):408-33.
142. Walsh KK, Kastner TA, Green RG. Cost comparisons of community and institutional residential settings: historical review of selected research. *Ment Retard*. 2003 Apr; 41(2):103-22.
143. Ward D, Severs M, Dean T, Brooks N. Care home versus hospital and own home environments for rehabilitation of older people. *Cochrane Database Syst Rev*. 2008 Oct 8; (4):CD003164.
144. Weir RP. Rehabilitation of cerebrovascular disorder (stroke): early discharge and support. A critical appraisal of the literature. NZHTA REPORT, January 1999; 2(1).  
<http://nzhta.chmeds.ac.nz/publications/stroke.pdf>
145. Wens J, Vermeire E, Hearnshaw H, et al. Educational interventions aiming at improving adherence to treatment recommendations in type 2 diabetes: A sub-analysis of a systematic review of randomised controlled trials. *Diabetes Res Clin Pract*. 2008 Mar; 79(3):377-88.
146. Wetzels R, Harmsen M, Van WC, et al. Interventions for improving older patients' involvement in primary care episodes. *Cochrane Database Syst Rev*. 2007 Jan 24; (1):CD004273.
147. Whitten PS, Mair FS, Haycox A, et al. Systematic review of cost effectiveness studies of telemedicine interventions. *BMJ*. 2002; 324(7351):1434-7.
148. Whitten PS, Mair FS, Haycox A, et al. Systematic review of cost effectiveness studies of telemedicine interventions. *BMJ*. 2002 Sep 14; 325(7364):598; [author reply 598](#).
149. Woods L, Belling R, McLaren S. Specialist nursing interventions for inflammatory bowel disease. *Cochrane Database of Systematic Reviews* 2007, Issue 3.
150. Wright C, Catty J, Watt H, Burns T. A systematic review of home treatment services--classification and sustainability. *Soc Psychiatry Psychiatr Epidemiol*. 2004 Oct; 39(10):789-96.
151. Wu L, Forbes A, Griffiths PD, While A. Telephone follow-up for type 2 diabetes mellitus. *Cochrane Database of Systematic Reviews* 2007, Issue 3.
152. Wu RC, Straus SE. Evidence for handheld electronic medical records in improving care: A systematic review. *BMC Med Inform Decis Mak*. 2006 Jun 20; 6:26.
153. Wubben DP, Vivian EM. Effects of pharmacist outpatient interventions on adults with diabetes mellitus: A systematic review. *Pharmacotherapy*. 2008; 28(4):421-36.
154. Yu DS, Thompson DR, Lee DT. Disease management programmes for older people with heart failure: Crucial characteristics which improve post-discharge outcomes. *Eur Heart J*. 2006 Mar; 27(5):596-612.

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## Appendix 8. International experts

### **Mary Draper, *Australia***

Mary Draper has been the Director of Clinical Governance at the Royal Women's Hospital since 2003. Prior to this she was the Manager of the Effectiveness Unit, Quality Branch, Department of Human Services, where she was responsible for a number of programs, including evidence based health care, quality improvement, Consumer Participation and Information Program, Community Advisory Committees, Quality of Care Reports and the Patient Satisfaction Monitor, Patient safety. In 1991/92, she was seconded to the Health Issues Centre to identify policy, program and funding issues arising from implementation of casemix funding, especially on service gaps for consumers, such as discharge planning and post-hospital services. She represented the Consumers Health Forum on a number of committees including the Taskforce on Quality in Australian Health Care, working parties on General Practice Standards and was a member of the Australian Council of Social Services Board, and the Board of the Australian Institute of Health and Welfare. From 1983 – 1987 Mary was Director, Women's Policy Co-ordination Unit, Department of the Premier and Cabinet. Her primary role was to advise the Premier on women's policy issues and to initiate policy development.

### **Shelley Farrar, *Scotland***

Shelley is a Research Fellow in the Behaviour, Performance and Organisation of Care Programme of the Health Economics Research Unit. She has extensive experience in the application and development of discrete choice experiments in health care. Specifically, these have focussed on the issues of priority setting and the elicitation of organisational and individual objectives. Her PhD thesis examined a number of issues relating to the organisation and delivery of care. Specifically the questions addressed by the thesis are whether the profit-maximising assumption is appropriate to understand and predict hospital behaviour, what other types of arguments may be in the hospital objective function, the effects of exogenous shocks on the hospital and decision-makers therein and the extent to which we can think of the hospital as a consensus organisation with a single objective function. The rationale behind the thesis is that a better understanding of what drives the decision-makers in the hospital should inform the development of health policy. Shelley was the principal investigator on a project examining the NHS Scotland Performance Assessment Framework (PAF) and accountability arrangement. The PAF has a crucial role to play in delivering increased performance and a more efficient and equitable health care system. The aim of this project was to examine whether the PAF is meeting its original objectives. Theoretical and empirical literature was used as a framework for identifying the parameters of interest in the relationships between the key stakeholders with respect to the PAF, guiding the line of investigation and then the interpretation of data collected from those investigations. Shelley's current main focus is as principal investigator on a project funded by the Department of Health

examining the effects of the introduction of Payment by Results, a case mix based prospective payment system for hospitals in England.

**Mark Gibson, USA**

Mark Gibson was the Chief of Staff to Oregon Senate President John Kitzhaber M.D. In this role he participated directly in the drafting and passage of the groundbreaking Oregon Health Plan. From 1993 through January of 2003, he served as Policy Advisor for Health, Human Services, and Labor to Governor John Kitzhaber of Oregon. In this role he led Oregon's numerous health initiatives from Workers' Compensation Reforms, to creation of the Oregon Children's Health Insurance Program and to a reorganization and expansion of the Oregon Health Plan. Most recently, Gibson led the effort to enact the Practitioner Managed Prescription Drug Plan, Oregon's answer to increasing drug costs in its Medicaid program. This approach uses systematic reviews of global drug effectiveness research to guide the creation of a preferred drug list that is both clinically sound and economical. From 2000-2002 Gibson served as Co-chair of the Reforming States Group, a voluntary nonpartisan collaboration of senior health policy officials from both the legislative and executive branches of state government. Mr. Gibson has an ongoing relationship with policy makers and officials at various levels within the federal government, state governments, and the private sector. In the federal government he routinely works with senior officials from the Centers for Medicare and Medicaid, the Agency for Healthcare Research and Quality, the Veterans Administration, the Institute of Medicine, and the National Institute of Mental Health.

**Niek Klazinga, Netherland**

Niek Klazinga is professor of social medicine at the Academic Medical Centre of the University of Amsterdam since 1999. At present he is working half of his time for the OECD in Paris as coordinator of OECD's Health Care Quality Indicator Programme. Other functions include the presidency of the Dutch Public health Federation, the College of Social Medicine and a visiting professorship at Corvinus University, Budapest. Niek is a health services researcher with a medical background, his work focuses on health system redesign, performance and quality of care. He publishes widely, is involved in numerous (inter)national projects and successfully supervised 21 PhD students over the past years.

**Sharon Levine, USA**

Sharon Levine, MD, is a nationally respected expert and frequent speaker on issues of health policy, drug use management, and the design and delivery of health care services. As associate executive director for The Permanente Medical Group of Northern California since 1991- the largest medical group in the country – she has responsibility for the recruitment, compensation, clinical education, management training, and leadership development for the group's physicians; government and community relations; health policy and external affairs; and pharmacy policy and drug use management.

**Ellen Nolte, *England***

Her main research interests are in the field of health systems including approaches to health system performance assessment, health system responses to chronic disease, international health care system comparisons, as well as trends and determinants of population health in former communist countries of central and eastern Europe. Before joining LSHTM in 1998 as Marie Curie Research Fellow Ellen worked as research fellow at Bielefeld University and the Federal Agency for Occupational Safety and Health, Berlin. She holds a prestigious Career Scientist Award by the UK National Institute for Health Research (NIHR) to undertake a five-year research programme into chronic diseases. As part of this work she led on an international comparative study, co-funded by the European Observatory on Health Systems and Policies, which examines chronic care in Europe from a health system perspective. The findings have just been published in a book entitled: 'Caring for people with chronic conditions: A health system perspective' with a second volume reporting on the experience in eight countries to be published shortly.

**Frede Olesen, *Denmark***

Since 1992 administrative and scientific director of the Research Unit for General Practice. Former member of and during three years chairman of the Danish College of General Practitioners. Former member of the county board and of the council of the Organisation of General Practitioners in Denmark. From 1995 - 1998 president of The European Society of General Practice/Family Medicine and vice president of the World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (WONCA). From 1999 - 2001 member of the Danish Medical Research Council. From 2006 chairman of the Danish Cancer Society. Been a member of several National Board of Health committees including chairman of two boards. A former member of the European Working Party on Quality in Family Practice (EQUIP).

**Markku Pekurinen, *Finland***

Dr. Pekurinen is a research professor in health economics at the Centre for Health Economics at Stakes (CHESS), a non-profit governmental research institution. He has published over 300 articles and reports on various topics in health economics, health policy, and the funding and provision of health services. He has been a member of several governmental working groups preparing national programmes to reform health care, municipalities and services. He is also a director of CHESS, a leading health economics research centre in Finland. Dr Pekurinen is also a docent in health economics in two universities (Tampere and Kuopio).

**Shasha Shepperd, *England***

After a first degree in psychology Sasha graduated from the Harvard School of Public Health with an MSc, and then completed research for a DPhil at the Department of Public Health, University of Oxford. She is currently funded by an NIHR Evi-

dence Synthesis Award which is supporting research on synthesizing and translating evidence of complex interventions, is an editor for the Cochrane Effective Practice and Organisation of Care (EPOC) Review Group, a co-convener with Professor Martin Eccles (University of Newcastle) for a new UK EPOC satellite group, and co-applicant on an NHS Cochrane Collaboration Programme Grant: Effective Practice and Organisation of Care in the NHS

<http://www.ncl.ac.uk/ihs/research/project/2604>

Current research includes an individual patient data meta-analysis of the different types of hospital at home schemes, systematic reviews of other service interventions and methods for improving the translation of evidence of complex interventions.

Other research interests include developing methods for improving the quality of health information used by the public, this has resulted in the DISCERN guidelines for producing and appraising health information for the public [www.discern.org.uk](http://www.discern.org.uk).