

Bridging the worlds of research and policy in European health systems



Chapter 8

**Knowledge brokering in
Norway: bringing rigour
and transparency to
policy inputs**

Govin Permanand, Anne Karin Lindahl, John-Arne Rottingen

European Observatory on Health Systems and Policies

The European Observatory on Health Systems and Policies supports and promotes evidence-based health policy-making through comprehensive and rigorous analysis of the dynamics of health-care systems in Europe.

Authors

Govin Permanand, PhD, Senior Health Policy Analyst, Division of Health Systems and Public Health, WHO Regional Office for Europe, Copenhagen, Denmark.

Anne Karin Lindahl, MD, PhD, Executive Director, Norwegian Knowledge Centre for the Health Services, Oslo, Norway; and Professor, Institute of Health and Society, Faculty of Medicine, University of Oslo, Norway.

John-Arne Røttingen, MD, PhD, Professor, Department of Health Management and Health Economics, Institute of Health and Society, Faculty of Medicine, University of Oslo, Norway; Visiting Professor, Department of Global Health and Population, Harvard School of Public Health, Boston, USA; Research Associate, European Observatory on Health Systems and Policies, Brussels, Belgium.

Funding

The BRIDGE study received funding from the European Community's Seventh Framework Programme (FP7/2007–2013) under grant agreement n°223473. Sole responsibility lies with the authors and the European Commission is not responsible for any use that may be made of the information contained in this book.

Conflict of interest

The authors declare that they have no commercial interests relevant to this chapter. Two authors are (AKL) or were (JAR) affiliated with one of the organizations described in the chapter; however, members of the BRIDGE study team who do not hold these affiliations reviewed this description and suggested any necessary modifications to it. The funder played no role in the selection and study of the policy-making processes profiled in the chapter or in the writing of the chapter.

Acknowledgments

The authors thank John Lavis for designing the approach to the case studies; overseeing efforts to ensuring the comparability of the concepts and data presented here to the concepts and data presented elsewhere in the book; and editing the chapter to draw out points relevant to other parts of the book and to facilitate comparisons to the case studies from other countries. They also thank Amy Zierler for her copy-editing of the chapter. They also acknowledge the staff of the European Observatory on Health Systems and Policies.

Citation

Permanand G, Lindahl AK, Røttingen J-A (2013). Knowledge brokering in Norway: bringing rigour and transparency to policy inputs. Chapter 8 in: Lavis JN, Catallo C, editors. Bridging the worlds of research and policy in European health systems. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.

Key messages

Key attributes of the national context for knowledge brokering in Norway

- Norway is a unitary state with centralized authority for making decisions; centralized decision support; and infrequent turnover in its governing party/coalition and its civil service, all of which provides a clear, stable audience for knowledge-brokering organizations.
- The country is home to a small population of 5 million; technical and government staff collaborate closely; and international collaboration makes it possible for key documents from outside the country to have a significant impact within it.

Knowledge brokering mechanisms and models in use

- While 16 Norwegian knowledge-brokering organizations were carefully considered for inclusion in the BRIDGE study, 10 met our eligibility criteria.
- The organizations tended to use fairly traditional information-packaging mechanisms and interactive knowledge-sharing mechanisms. Some of the more innovative mechanisms involve:
 - policy briefs
 - deliberative dialogues, and
 - workshops on guideline development.
- The 10 organizations tended not to provide much description of their organizational models or their approaches to monitoring and evaluation on their websites.

Spotlight on a selected knowledge-brokering organization

- The Norwegian Knowledge Centre for the Health Services (*Nasjonalt kunnskapssenter for helsetjenesten*, NOKC) is an independent organization set up to improve the knowledge base for professional decision-making in health services and policy in Norway.
 - NOKC is actively involved in networks that support its knowledge-brokering activities, both within and outside Norway.
 - NOKC has established and cultivates functional linkages with policy-making and stakeholder organizations.

- Despite having the Directorate of Health as its official superordinate body, NOKC's bylaws establish its professional independence and transparent governance which help to ensure its impartiality in meeting the needs of its diverse clients, including policy-makers, provider organizations and professional organizations.

Examples of intersections with policy-making processes

- Two case studies provide particularly interesting examples of how NOKC can influence, and has influenced, policy-making:
 - centralizing the delivery of selected specialized procedures, and
 - coordinating care for people with chronic conditions.

Lessons learned

- Norway has a limited number of knowledge-brokering organizations actively engaged in preparing information products and organizing interactive knowledge-sharing opportunities.
- Yet, the national context is conducive to knowledge brokering given the stability of the system and open lines of communication between researchers and policy-makers and with the public.
- Where NOKC, as the main health knowledge-brokering organization in the country, has been successful in informing policy-making, this success has been as a result of the organization's:
 - proximity to the policy-making process, both by design and through the active work of senior management, while retaining its independence from political agendas and interest groups;
 - active involvement in international (European and global) networks, which has contributed to the development of capacity and competence and the opportunity to use information products developed elsewhere; and
 - ability to synthesize research evidence in a systematic, transparent and timely manner (primarily through systematic reviews and health technology assessments) and to deliver the syntheses in formats required by the target audience.

Knowledge brokering in Norway

This chapter focuses on the role and influence that information can, and has, played in the health policy-making landscape in Norway. It combines document analysis with interviews with a small number of policy-makers, knowledge brokers and researchers, to better understand the arena within which knowledge may or may not be brokered. It then focuses on two examples where commissioned research evidence from a dedicated national knowledge-brokering organization has had some influence on policy and practice in Norway. Unless otherwise indicated, the information about the organizations highlighted in this chapter reflects the situation as of 2011.

National context for knowledge brokering

Norway is a parliamentary monarchy with a population of 5 million and an estimated gross domestic product (GDP) per capita of US\$ 52 400 (Statistics Norway, 2012). The national-level government comprises a prime minister and 18 ministers; the country is divided into 19 counties and 429 municipalities.

Norway makes considerable investment in education and research (both nationally and internationally) and enjoys an enviable record for spending on health care. In 2009, for instance, Norway had the second highest per capita spending on health care among Organisation for Economic Co-operation and Development (OECD) countries although, as a percentage of GDP, it spent roughly the same as the OECD median (9.6% versus 9.5%) (Lindahl & Squires, 2011).

Norwegian health system in brief profile

The Norwegian health system is founded on the principles of universal and equal access, decentralization and free choice of provider. All residents are covered by the National Insurance Scheme (*Folketrygden*), which is managed by the Norwegian Health Economics Administration (*Helseøkonomiforvaltningen*, HELFO), and residents are invited to choose their general practitioner (GP) from a list (with some 99% of Norwegians having chosen to do so). GPs act as gatekeepers for specialized care. These principles are aimed at ensuring equal access for all residents irrespective of their ability to pay or their place of residence. The latter point is a noteworthy one given both the geographical size of the country and the distances and terrains involved, which often pose challenges regarding timely and accessible care. The system is financed through tax revenues, as well as income-related employee and employer contributions and out-of-pocket payments (co-payments). Private medical insurance is limited but expanding.

While health-care policy is controlled centrally, the delivery of care is decentralized. Local authorities at the municipal level organize and co-finance primary health-care services according to local demand. These services include GP care, emergency first aid, physiotherapy services, nursing services and nursing homes. Dental care is run at the county level. The central government has overall managerial and financial responsibility for the acute care (hospital) sector, while the country's four regional health authorities control the delivery of specialty services through 21 local hospital trusts and five trusts providing pharmaceutical services and ambulance services, each of which is an independent legal body. Most hospitals in Norway are public hospitals, funded and owned by the state. Only a small number of hospitals are privately owned, and most of these privately owned hospitals are funded by government.

Beginning in 2001 and 2002, a series of major changes in the structure of the Norwegian health system has created reforms in three key areas: (i) primary care (the rostering of GPs' patient populations); (ii) acute care (transfer of hospital ownership from counties to the national government and devolution of decision-making authority to the five, later four, regional health enterprises); and (iii) national authority (merger of existing national bodies into a smaller number and the restructuring of their functions). The hospital reform facilitated the centralization of services within the four regions. The first case study in this chapter describes how information was used to support decision-making about centralization in the country's largest region.

More recently, in 2009, the Minister of Health proposed a reform focused on care coordination (known as *Coordination reform: proper treatment – at the right place and right time*) to enhance prevention, integrate care and strengthen health care in the municipalities (Norwegian Ministry of Health and Care Services, 2008). The proposed reform also addressed three other domains. First, the reform aimed to curb the rapid growth in hospital expenditures and to direct more investment toward primary care. As an indication of the challenges being faced, the proportion of physicians working as GPs had fallen dramatically in the preceding 15 years. Second, the reform introduced financial incentives for municipalities to lower rates of hospitalization. For instance, 20% of diagnosis-related group (DRG) payments for inpatients would now be charged to the municipalities. Third, the reform sought to strengthen health information systems and specifically to establish a new national, state-owned company, the Norwegian Health Network, to develop and operate information technology infrastructure for the health-care sector. Implementation of the coordination reform began on 1 January 2012, with many elements of the original proposal intact. The second case study in this chapter describes how NOKC's work on the coordination of care for chronic disease management informed the

government's plans. Elements of NOKC's work can be seen in documents related to the reform, even if they were not cited explicitly.

A greater focus on quality improvement and priority setting in the health-care sector is another feature of recent health-care reform in Norway. In 2007 the current government established the Norwegian Council for Quality Improvement and Priority Setting in Health¹ and a set of priority-setting guidelines has been created to guide referrals to secondary care. The government also recently issued a white paper on quality of care and patient safety (Ministry of Health and Care Services, 2013a).

Key attributes of the policy-making context in Norway

Norway exemplifies the principles of consultative political processes and encourages civic engagement. Site-visit interviews indicated that the general culture of transparency and flat (non-hierarchical) structures, where discussion and debate are considered healthy, is mirrored by a scientific culture that places a high value on rigour and transparency. Norwegian is the predominant language and Norwegians have a high level of English literacy.

Internet usage and social media penetration is high in Norway (both in personal life and in the workplace), and freedom of expression is a given and is supported by an open and engaged media. Research culture is strong in the country, and health systems and services research in particular has grown dramatically in recent years (Velasco Garrido, Hansen & Busse, 2011).

It is also noteworthy that knowledge transfer is a stated objective in the higher education sector, albeit with reference primarily to technology. The Employees' Inventions Act and the Universities and Colleges Act of 2003 specifically calls for harnessing the results of research to benefit society, and a common law for state and private education institutions stipulates that their three main objectives include education, research and "community contact" (which is interpreted as meaning the sharing of research findings) (Øverland, 2011).

Table 8.1 presents some of the key attributes of the national policy-making context in Norway, with a particular focus on those that influence knowledge brokering, including those listed below.

- Norway is a unitary state with centralized authority for making decisions; centralized decision support; and infrequent turnover in its governing party/coalition and its civil service, all of which provides a clear, stable audience for knowledge-brokering organizations.

¹ Now the Norwegian Council for Quality Improvement and Priority Setting in Health Care (see <http://www.kvalitetogprioritering.no/r%C3%A5det/mandat?language=english>, accessed 27 March 2014).

Table 8.1 Attributes of the policy-making context in Norway that can influence knowledge brokering

Potential attributes (from the BRIDGE framework, Table 2.3)	Key attributes in Norway
Salient features of policy-making institutions and processes	
<ul style="list-style-type: none"> • Unitary versus federal state • Centralized versus distributed authority for making decisions about priority problems, policy/programme options, and implementation strategies • Single-party versus coalition government • Infrequent versus frequent turnover of the governing party/coalition and its leadership • Civil service versus political party influence over decision support within government • Centralized versus decentralized decision support within government • High versus low capacity for policy analysis within the civil service • Low versus high turnover rate within the civil service • Significant versus limited resources to commission supports outside the civil service 	<ul style="list-style-type: none"> • Unitary state • Centralized authority • Single party (minority) or coalition as was the case during the study period • Infrequent turnover • Civil service influence • Centralized decision support • Sufficient resources, and now an increased focus on the use of evidence in numerous areas, not just health care
Salient features of stakeholder opportunities and capacities for engagement	
<ul style="list-style-type: none"> • Formal, significant versus informal, limited role of stakeholders in policy-making • High versus low degree of coordination within stakeholder groups • High versus low autonomy of stakeholder groups from government and from narrow interests within their own memberships • High versus low capacity for policy analysis within stakeholder groups • Significant versus limited resources to commission supports outside the groups 	<ul style="list-style-type: none"> • Informal role • High autonomy • Adequate capacity
Salient features of research institutions, activities and outputs	
<ul style="list-style-type: none"> • Small versus large number of strong research institutions involved in the production, packaging and sharing of health systems information • Large versus small scale of research institutions • Explicit versus implicit mandate for, and resource commitment to, knowledge-brokering (not just research) activities and outputs 	<ul style="list-style-type: none"> • Small to medium number • Medium • Implicit
General features of national policy-making context	
<ul style="list-style-type: none"> • English (the language of most health systems information) is versus is not spoken in addition to local languages • Small (everyone knows each other) versus large size of the population • High versus low rates of Internet use • High versus low capacity of local news media for objective reporting 	<ul style="list-style-type: none"> • English widely spoken • Small population • High • High

Note: to highlight ways in which each of these features might help or hinder knowledge brokering, we present the either/or options such that the first option likely simplifies the landscape for a knowledge-brokering organization while the second one likely complicates it.

- Health system stakeholders have an informal role in policy-making and are not a target audience on a par with policy-makers for any knowledge-brokering organization seeking to inform the policy-making process.
- A small to medium number of strong research institutions are engaged in knowledge brokering, one of which is described in this chapter.
- The country is home to a small population of 5 million; technical and government staff collaborate closely; and international collaboration makes it possible for key documents from outside the country to have a significant impact within it (particularly if embedded in synthesis products such as systematic reviews).

Knowledge-brokering mechanisms and models in use

While 16 Norwegian knowledge-brokering organizations were carefully considered for inclusion in the BRIDGE study, 10 met our eligibility criteria. These organizations varied somewhat in size but most represented medium-sized scales of operation. They all tended to use fairly traditional information-packaging mechanisms and interactive knowledge-sharing mechanisms, reflecting the demand for such types of product by their main target audiences, namely national and subnational politicians and civil servants (Table 8.2). Some of the more innovative mechanisms involve policy briefs, deliberative dialogues, and workshops on guideline development, all of which are undertaken by the knowledge-brokering organization selected for this chapter's case studies. The 10 organizations tended not to provide much description of their organizational models or their approaches to monitoring and evaluation on their websites.

Spotlight on a selected knowledge-brokering organization

NOKC

The NOKC is a scientifically, politically and administratively independent body that was set up in 2004 in response to a perceived need to strengthen the knowledge base for professional decision-making in health services in Norway. Three distinct entities were merged to create NOKC: (i) the national health technology assessment agency; (ii) a health services research foundation; and (iii) the former division of knowledge management in the Directorate of Health and Social Affairs (now the Directorate of Health and hereafter called the Directorate). The Directorate in turn is a semi-independent unit that provides analytical support to the Ministry of Health and Care Services (hereafter, the Ministry) and formerly also to the Ministry of Labour and Social Affairs.

Table 8.2 Knowledge-brokering mechanisms used in Norway

Potential characteristics (from the BRIDGE criteria, Table 2.2)	Common characteristics in Norway
Information-packaging mechanisms used	
<ul style="list-style-type: none"> • Traditional versus innovative types of information products • Innovative products draw on systematic reviews (part of criterion 3) • Innovative products target policy-makers as a key audience (criterion 5) • Innovative products reviewed before publication by target audience (criterion 6) • Innovative products highlight decision-relevant information (criterion 7) • Innovative products use language designed to be accessible (criterion 8) • Innovative products follow a graded-entry format (criterion 9) • Innovative products accompanied by online commentaries (criterion 10) • Innovative products brought to attention by e-mail (criterion 11) 	<ul style="list-style-type: none"> • Traditional • Some draw on reviews • Some target policy-makers • Some designed to be accessible • Some follow a graded-entry format • Many with e-mail alerts
Interactive knowledge-sharing mechanisms used	
<ul style="list-style-type: none"> • Traditional versus innovative types of knowledge-sharing mechanisms used • Innovative mechanisms draw on systematic reviews (part of criterion 4) • Innovative mechanisms target policy-makers as a key audience (criterion 5) • Innovative mechanisms timed to relate to policy-making or requests (criterion 6) • Innovative mechanisms involve pre-circulated products (criterion 8) • Innovative mechanisms involve the creation of new products (criterion 10) • Innovative mechanisms involve the announcement of new products (criterion 11) 	<ul style="list-style-type: none"> • Traditional • Limited • Some target policy-makers • Some are timed for policy-making

NOKC manages its own work but is formally an agency under the Directorate, which has general governance and supervision functions but does not instruct NOKC on individual projects. The Directorate and NOKC jointly develop an annual agreement outlining the latter's broad responsibilities and areas of work. NOKC receives direct commissions for work from the Directorate, and considers requests from the public and stakeholders within the health system, including other governmental organizations, regional health authorities, and provider and professional organizations (it does not take on paid assignments from for-profit enterprises). While independent politically and administratively, NOKC enjoys three types of relationships with the Ministry: (i) governance (through the Directorate); (ii) commissioning (the Ministry can make a request to NOKC to undertake a specific project); and (iii) advisory (the Ministry seeks specific topic expertise from NOKC as needed).

To date, NOKC has focused primarily on clinical issues and some public health questions, reflecting both its primary target audiences of clinicians and managers in the primary and acute care sectors and the high degree of local decision-making. However, recently it has also addressed health system concerns. Of the questions (topics of work) received for consideration by NOKC, around 20% to 25% are now related to health systems and services, and the organization now has 10 to 15 staff members with expertise in this area. NOKC has initiated a series of health systems policy briefs, one of the innovative types of information-packaging mechanisms highlighted in the first BRIDGE summary (Lavis, Catallo, Permanand et al., 2013). Indeed, one such policy brief, on the coordination of care for patients with chronic conditions (Oxman et al., 2008), is featured below as a case study of NOKC's intersection with policy-making. NOKC also conducts training workshops on evidence-informed policy-making, one of the innovative types of interactive knowledge-sharing mechanisms featured in the second BRIDGE Summary (Lavis, Catallo, Jessani et al., 2013).

In terms of its other outputs, NOKC places a significant emphasis on systematic reviews. These reviews support its mandate to serve the health services through promoting quality and improving patient safety (by, in this case, interpreting and disseminating research findings). NOKC is also the national and sole health technology assessment (HTA) agency in Norway, although hospitals will often undertake their own mini HTAs as a form of local decision support. NOKC is exploring ways to help facilitate the preparation of these mini HTAs.

With many of these reports, NOKC targets policy-makers only as a secondary audience. Its primary target audience is decision-makers in regional health authorities, specifically those who run specialty services, as well as leaders and clinicians in primary and acute care settings. However, some reports are specifically prepared to inform national policies related to clinical guidelines, reimbursement of health professionals, and hospital payment. The reports are externally reviewed both by other scientists and by clinicians and decision-makers interested in the particular topic being addressed. Reports may be updated, often by request, as new research findings become available, but this is not a standard undertaking. In view of the organization's knowledge-brokering aims, NOKC's communications unit (which includes a dedicated journalist among its staff) will often write a plain-language summary and sometimes write short pieces for NOKC's online newsletter. Discussions with the Directorate continue regarding how to make the information more accessible to patients and the general public.

NOKC's rigorous assessment of research evidence, and its application of that evidence to key policy issues, have established it as a key resource for decision-

making. As a result, NOKC has been able to become an active part of policy circles and debates on national and regional policy (as reflected in the two case studies below). Additionally, NOKC's process of inviting decision-makers to submit requests for systematic reviews on specific topics (with submissions reviewed on a yearly basis and discussed with a broad group of organizations to identify priorities) helps to ensure that its services are actively sought (as was the case with the centralization case described below). The emerging use of deliberative dialogues, either after the publication of a review (e.g. rehabilitation for breast cancer patients) or prior to publication (e.g. exposure to mercury), is an innovative way of obtaining policy-making buy-in and has proven successful, even if such dialogues are not yet standard practice. Primarily through its systematic reviews, NOKC has also embedded itself into international networks and is well regarded outside Norway. This standing has, in turn, given NOKC the credibility to engage in informal interactions with policy-makers and stakeholders and thereby ensure its involvement in domestic decision-making.

NOKC's role has expanded over the years as Norway has increasingly recognized that health policy-making needs to be better informed by research evidence. The Directorate supports evidence-informed policy-making as a priority and sees NOKC as having not just a major, but perhaps the key, role to play in this area. At the same time, interviews with senior staff at NOKC suggest that the organization is unsure that it is having the hoped-for impact on decision-making within the Directorate and Ministry. This is in part due to the organization's continued predominant focus on clinical issues and may also be due to its lack of staff dedicated to health system knowledge-brokering, despite the growing interest in carrying out this role. Nevertheless, while it may be traditional in some respects and innovative in others, NOKC – like most of the organizations studied in the BRIDGE project – is strengthening its knowledge-brokering work and is responding to the demands of its target audience.

In summary, NOKC can be seen as an independent body that meets some, but not all, of the BRIDGE criteria for knowledge-brokering organizations (Chapter 2). On the one hand, NOKC:

- gives policy-makers and some (if not all) stakeholders an explicit role in its governance and ensures they exercise their role with transparency and objectivity;²
- has, and enforces, rules that ensure independence and address conflicts of interest;

² This is complicated by the Directorate being not only one of the NOKC's many policy clients but also the body to which it reports, whereas the Ministry and the broader set of organizations reporting to the Ministry (including the Directorate, regional health authorities and the Norwegian Medicines Agency) are the true clients that NOKC really serves in its policy-oriented work.

- grants its director general the authority needed to ensure accountability to its knowledge-brokering mandate;
- is actively involved in networks that support its knowledge-brokering activities, including the Campbell Collaboration; Cochrane Collaboration; European Network for Health Technology Assessment (EUnetHTA); Guidelines International Network (G-I-N); Health Technology Assessment International (HTAi); and the International Network of Agencies for Health Technology Assessment (INAHTA) (and in some cases hosts their secretariats);
- collaborates with other knowledge-brokering organizations, both within the country and internationally; and
- establishes functional linkages with policy-making and stakeholder organizations.

On the other hand, NOKC:

- does not ensure an appropriate size, mix and capacity of staff with knowledge-brokering responsibilities relative to its scale (the majority of staff being researchers and clinicians, a smaller number serving as administrators, and very few working as dedicated knowledge brokers on health systems and policy issues);
- does not ensure an appropriately diversified budget for knowledge brokering, with nearly complete budgetary dependence on the Norwegian government; and
- does not have an explicit approach to prioritizing knowledge brokering in general or urgent requests for knowledge syntheses in particular (the most frequent type of request), although it does have a formal process for making non-urgent requests for knowledge syntheses.

However, the organization's staff indicated during our site visit that they see dependence on a single government as a strength rather than a limitation, because it ensures government buy-in. At the same time, NOKC's rules about independence and conflict of interest are robust and prevent political interference in its work. The staff viewed this arrangement as preferable to having a number of different funders who may intentionally or unintentionally use project funding as a lever to skew knowledge-brokering priorities or influence the approaches used.

Case studies of intersections with policy-making processes

This section describes two examples of how NOKC and its work have intersected with the policy-making process. This work was related to centralizing the delivery of selected specialized procedures (undertaken in 2007) and coordinating care for people with chronic conditions (undertaken in 2008). The case studies are based on interviews with a small number of actors who collectively have a broad range of policy-making and research experience.

Case study 1. Centralizing the delivery of selected procedures

Background and context

In 2007, following a merger of two regional health authorities, the new South-Eastern Norway Regional Health Authority (Helse Sør-Øst)³ approached NOKC to undertake a series of seven so-called rapid reviews about patient volume and quality of care (i.e. outcomes) related to cancer surgeries and selected vascular surgeries. This request came through NOKC's question-submission process mentioned above. The reviews were expected to inform the process of deciding which hospitals in the amalgamated region should be responsible for delivering which procedures. For example, two large university hospitals in Oslo, both of which had teaching responsibilities at the tertiary care level, provided the same full suite of procedures. At more local levels, several small hospitals were each performing small numbers of the same advanced procedures. For cancer surgeries, these concerns had been discussed for some time, both in this region and in other parts of the country.

The specific procedures and topics covered in the rapid reviews (all written in Norwegian with English summaries) were:

- patient volume and quality of care for the treatment of stroke or intracranial aneurysm (Thürmer et al., 2009);
- patient volume and quality of care for the treatment of abdominal aortic aneurysm (Norderhaug, Krogstad, Lindahl et al., 2009);
- patient volume and quality of care for the treatment of carotid stenosis (Norderhaug, Krogstad, Jensen et al., 2009);
- hospital or surgeon volume and quality of care for gastric cancer (Norderhaug & Thürmer 2009a);
- hospital or surgeon volume and quality of care for prostate cancer (Norderhaug & Thürmer 2009b);

³ Helse Sør-Øst [website]. About us. (<http://www.helse-sorost.no/omoss/english/Sider/page.aspx>, accessed 27 March 2014).

- patient volume and quality of care for colon cancer surgery (Norderhaug, Thürmer, Jensen 2009);
- patient volume and quality of care for liver cancer surgery (Norderhaug & Thürmer 2009c).

In considering the request to NOKC for these reviews, it is important to note that the process of centralization has been a long-standing issue for many Norwegian organizations. The country's geography and low population density have dictated the need for some degree of centralization in the delivery of specialty services. In 1993, before the then five regional health authorities were established, the Directorate prepared a comprehensive report containing a thorough data and literature review, which showed that there were a sufficient number of hospitals providing low volumes of selected services to warrant increased centralization of many specialty services (Kvinnslund et al., 1993). This was particularly the case for cancer treatment, an area with a long tradition in Norway of exploring centralization opportunities. At the time it was generally perceived as unsustainable for some hospitals to be undertaking only one or two procedures of a particular type per year, a position that was later supported by an HTA report published in 2001 by one of the precursor organizations to NOKC (Teisberg et al., 2001). The report, which was widely cited and not seen as controversial, called for centralizing the delivery of cancer treatment in particular. Then, in 2005, following the establishment of NOKC itself, the Northern Norway Regional Health Authority (Helse Nord RHF) asked NOKC for a report on childbirth services in hospitals. The report made the case for increased centralization in this area as well, but this was opposed by the national health minister at the time (Myrhaug & Norderhaug, 2005).

In approaching NOKC to conduct this series of rapid reviews, Helse Sør-Øst stressed that its interest was in ensuring equity in access to quality specialty services and improving patient experiences and outcomes. Helse Sør-Øst made the case that medical advances in specialty services provide the opportunity for greater efficiency and quality in hospital settings, particularly as more patients could be treated as outpatients and day patients. Additionally, it pointed to better knowledge management; improved health technologies, including e-health; and improvements to professional practice as elements that would help to ensure more equitable treatment and, importantly, improve predictability around hospital stays and bed use. In its strategic plan for 2009–2020, Helse Sør-Øst called for:

better coordination both within the specialist health service and not least between the municipal health service and the specialist health service. Better coordination will especially benefit the chronically ill, elderly and patients

with mental disorders and substance abuse problems. Sustainable development involves continuous development of fields together with more efficient use of space, where capacity is adjusted to the need in the catchment area (Helse Sør-Øst, 2008).

Conducting the rapid reviews

Before the work began, NOKC carried out detailed discussions of work plans with the health authority commissioning the work, with lengthy interactions and debates to define the terms, scope and process. NOKC also worked with national cancer experts to determine a quality-assessment scale (which had been initially proposed in the 2001 HTA report mentioned above).

The rapid reviews were conducted in 2007. Each review followed a strict protocol and search strategy, drew on considerable input from clinical experts and took about two months to conduct. The reason for the relatively quick turnaround time was that the centralization issue (both in general and for cancer in particular) was relatively well understood; the literature was, in large part, already known (including the potential confounders and the like); and the search strategies were essentially in place and could be easily adapted or replicated. After the reviews were completed, the commissioning health authority was given two to four weeks to comment (depending on the review), although in all cases no comments were received.

While the reports all supported the case for increased centralization, and this was indeed what was decided for the most part, the narrowness of the question posed (the relationship between volume and outcomes for each procedure of interest) led some hospital administrators to reject the findings of the two vascular surgery reports. In this instance, they argued that an equally salient question was whether vascular surgery was a key competence required in every hospital given that other patients may require the services of a vascular surgeon on an urgent basis. The result was some centralization in the Oslo region, with one hospital assuming responsibility for aortic aneurysms and another handling carotid stenosis, but several smaller hospitals in other regions retained vascular surgery even if only a few surgeries were performed each year.

The role of geography and local interests in these discussions at policy, professional and patient levels cannot be understated. Stakeholders had competing interests on a range of issues. For instance, many physicians expressed a preference to be in, or close to, bigger cities while others were happy practising in more remote and less busy hospitals. Some hospital administrators were concerned about finances and the efficiency gains that can accrue through the closure of low-volume facilities, while others were concerned about the potential for losing specialists to other cities. Politicians and the civil servants supporting them

needed to be attentive to these different voices and to how they can influence public opinion.

Impact of the rapid reviews

The reviews had a major impact in pointing to the many hospitals providing low volumes of specialty services (and by extension, according to the research literature, suboptimal outcomes), thereby allowing policy-makers to argue that centralization would have clear benefits. Additionally, as a follow-up to the seven reviews, the directorate agreed to develop cancer treatment guidelines (Ministry of Health and Care Services, 2006). The guidelines contributed to the further centralization of cancer services, although there is still uncertainty whether the centralization will be extended to include skin, colon, liver and prostate cancer services as well.

As a final point, it is important to note that, despite NOKC's role, the process of centralizing select procedures was already underway and, arguably, the decision had already been taken. Nevertheless the NOKC reports had a legitimizing role, providing a formal evidence base that helped to accelerate and communicate the rationale for the process.

Case study 2. Coordinating care for people with chronic conditions

Background and context

In 2008 a new red-green coalition government took office, and in 2009 the new health minister introduced the so-called coordination reform mentioned above. The explicit aim was to improve the country's health services through better coordination across different levels of care and among different providers within each level. A 2003 expert committee report had called for greater cooperation between primary and secondary care within regions, but the recommendations were not acted upon. A similar initiative in 2005 was also not pursued (NOU, 2005). The 2009 reform represented a more hands-on role for central government – through new legislation, administrative and structural reform, and the use of financial incentives – thereby effectively doing away with the cooperation-promoting approach that had characterized previous efforts (Romøren, Torjesen & Landmark, 2011). As noted earlier, the new reform took effect on 1 January 2012.

While the coordination reform was a broad initiative with system-wide repercussions, NOKC's work centred on the issue of coordinating care for people with chronic conditions. This focus was spurred by the recognition that an estimated 1 million Norwegians were living with chronic conditions (Sanne, 2008) and that this had significant implications for current and future health-care costs, quality of life and other outcomes. People living with chronic disease

are typically regular, intense users of the health system who have to negotiate the interface between primary and secondary care as part of their routine care-seeking behaviours. Consequently, chronic disease management was seen as a barometer of how the entire system is functioning.

Innovative approaches: a policy brief and a deliberative dialogue

The Ministry commissioned NOKC to conduct this work over a very short time frame so that it could inform a forthcoming white paper on the 2009 reform. It was agreed that the research synthesis should be prepared as a policy brief, with an examination of the problem, options for addressing it, and key implementation considerations (Oxman et al., 2008), to inform a deliberative dialogue in which key policy-makers, stakeholders and researchers could work through these issues. The research team – comprising research staff with clinical, health system and guideline development expertise – had just two weeks to produce an initial draft and another two weeks to finalize it based on feedback received by content experts. The deliberative dialogue was scheduled for two weeks after the policy brief was finalized, by which time the Minister was expected back from a period of travel. Timing and timeliness were therefore crucial.

The Minister requested both a closed meeting (the deliberative dialogue) and, later, a larger and more public meeting to engage other stakeholders. Nine international experts from a range of disciplines – including individuals with clinical, quality of care, health system and policy expertise – were invited to attend the deliberative dialogue, along with Norwegian policy-makers and some Norwegian researchers. As part of the dialogue, expert were asked to summarize their reactions to the brief with respect to their areas of expertise.

The commissioning of NOKC to summarize research evidence as an input to the reform process was an atypical occurrence at the time. Traditionally, official reports produced by selected experts were the primary external input into such a process. These official reports generally did not offer any type of systematic synthesis of the evidence, tending instead to outline personal views about steps to be undertaken and strategies to be pursued. The unusual and innovative choice to commission a policy brief had been spurred by an active effort on the part of the NOKC Director General to promote this approach in a meeting with the Directorate and the Ministry. This was an (ultimately successful) attempt to showcase NOKC's ability to be an active knowledge broker addressing key policy issues in the Norwegian context.

Assessing the impact

The policy brief was undoubtedly an innovative information-packaging product for NOKC, but how much did it influence the reform? While this is difficult

to ascertain, one of the brief's authors expressed the view that it probably did not directly change or inform the reform, but may have somewhat influenced the thinking. At the same time, senior management at NOKC reported that elements of the report appeared to have made their way into various Ministry documents and speeches, although without reference to either the policy brief or NOKC itself in these materials. This reinforces the fact noted by numerous commentators and scholars that it is difficult to demonstrate the contribution of a particular information-packaging or interactive knowledge-sharing approach on a particular policy decision.

One researcher described NOKC's involvement in developing the policy brief as a "convergence of circumstances," including:

- a new red-green labour coalition government that was open to new ways of doing things;
- a new health minister who had no health-care background but who was looking to have an impact from a management perspective (to demonstrate that his government was addressing long-standing challenges in the health system);
- at that time NOKC was actively looking to take on a project such as this to inform policy;
- senior management at NOKC had developed closer formal and informal links with national level policy- and decision-makers; and
- a team of four researchers were in a position to essentially drop everything to take on this work within a very short time frame.

This confluence of elements clearly reflects the three main factors identified in the BRIDGE systematic review (see Chapter 3) as key for information to be used in policy-making.

1. Interactions between researchers and policy-makers: in this case, NOKC had relationships with, and direct access to, senior-level policy-makers.
2. Timing/timeliness of the information being made available or accessible: the Minister of Health had a deadline in order to feed into a policy process, and NOKC was able both to produce an innovative information-packaging product (the policy brief) and to make use of an innovative knowledge-sharing mechanism (the deliberative dialogue with local policy-makers and external experts).
3. An accordance between the available information and the prevailing thinking: coordination of care had been a long-standing issue in Norway and (with the Government's explicit aims of improving the patient experience

and reducing health-care costs) chronic disease management was a clear choice of topic area.

Additionally, the fact that NOKC was commissioned to produce a rigorous evidence synthesis on a tight deadline, and its success in doing so, indicates both the standing it enjoyed (including its proximity to the policy process) and the strides it had taken in its first few years (including building a reputation as a first point of call and as an organization that produces quality material of relevance to policy-making and policy-makers' requirements).

The NOKC policy brief has been referenced in the European literature for its topicality and the quality of the evidence review (e.g. Shaw, Rosen & Rumbold, 2011) and in wider knowledge-brokering circles for its systematic and transparent approach and innovative format (e.g. Lavis, Permand et al., 2009). In particular, the policy brief demonstrates several features of innovative information-packaging mechanisms, according to the BRIDGE criteria: it emphasizes systematic reviews (and pursues a quality-of-evidence approach in its choice of research evidence); it uses a graded-entry format; and it delineates the policy problem, options for addressing it (in this case, delivery, financial and governance arrangements) and implementation considerations.

With NOKC now hosting the secretariat for the National Council for Quality Improvement and Priority Setting in Health Care, other knowledge-brokering mechanisms are being pursued in the area of chronic disease and coordination of care, such as one-page summaries of research evidence written in accessible format (e.g. on patients requiring long-term mechanical ventilation) (Wang, Ringard & Høymark, 2012). As well, senior staff at NOKC have indicated an interest in pursuing the policy brief format on a wider scale, possibly by developing a dedicated knowledge-brokering arm to the organization's work, though it remains to be seen whether demand is sufficient to warrant such a resource commitment.

Lessons learned

Norway has a limited number of knowledge-brokering organizations actively engaged in preparing information products and organizing interactive knowledge-sharing opportunities. Yet the national context is conducive to knowledge brokering, given the stability of the system and open lines of communication between researchers and policy-makers and with the public.

NOKC, the main health knowledge-brokering organization in the country, was externally evaluated in 2007 using a process that included interviews with many stakeholders (Sosial- og helsedirektoratet, 2007). The evaluation focused largely on NOKC's role in fostering evidence-based practice and less on its

role in supporting evidence-informed policy-making. The evaluators concluded that NOKC's products were of high quality and that its legitimacy had grown, and they underscored the importance of independence and scientific rigour. However, they also noted that being too closely involved in informing health policy through, for instance, the National Council for Quality Improvement and Priority Setting in Health Care, may threaten its credibility with clinical audiences. This is a balancing act for a centre that, on the one hand, needs support from clinical leaders to foster improvements in clinical practice and, on the other hand, informs clinical policies that may challenge clinical groups. The evaluation concluded that NOKC had established itself internationally and with good networks that are crucial for delivering on its mandate.

Where NOKC has been successful in informing policy-making, this success has been as a result of the organization's:

- proximity to the policy-making process, both by design and through the active work of senior management, while retaining its independence from political agendas and interest groups;
- active involvement in international (European and global) networks, which has contributed to the development of capacity and competence and the opportunity to use information products developed elsewhere; and
- ability to synthesize research evidence in a systematic, transparent and timely manner (primarily systematic reviews and HTAs) and to deliver the syntheses in formats required by the target audience.

That said, the attribution of policy impact to the work of a knowledge-brokering organization such as NOKC remains difficult to substantiate since there is no tradition of citing sources used in policy documents and in parliamentary decisions in Norway. It has been easier to identify NOKC's impact on decisions relevant to clinical practice due to the direct use of systematic reviews and HTAs in informing clinical guidelines and clinical payments/reimbursements.

However, awareness of the utility of more explicitly using research evidence to address health policy and system issues seems to be growing in Norway, and NOKC has facilitated this thinking within and outside the health sector. A recent white paper tasked the Norwegian Institute of Public Health with informing policy decisions about public health through the use of systematic reviews (Ministry of Health and Care Services, 2013b). Moreover, the Ministry of Research and Education has established a Knowledge Centre for Education, and NOKC has acted on an interim basis as host for Knowledge Centre functions in the field of welfare services. These developments were most likely spurred by the successful experiences with NOKC and constitute another way of measuring the impact of the centre. A broader mix of knowledge-brokering

institutions will also help to sustain a culture and a system of knowledge brokering informed by research evidence.

Conclusions

The establishment and evolution of NOKC in Norway has been notable for its efforts to bring rigour and transparency to policy inputs. To achieve impact, the approaches used to synthesize and present research evidence to policy-makers need to be systematic, transparent and timely. NOKC's example has inspired the development of new institutional capacities for knowledge brokering both within and outside the health sector in Norway. The NOKC experience suggests that knowledge-brokering institutions can be close to the policy-making process and political powers, but must at the same time be assured independence to function well and maintain the necessary legitimacy. The experience also suggests that such institutions are likely to be more productive and produce work of higher quality if they are well rooted in international networks.

References

- Helse Sør-Øst (2008). Plan for strategisk utvikling 2009–2020: "Omstillingsprogrammet" [Plan for strategic development 2009–2020: The change programme]. Hamar, Norway (in Norwegian)(http://www.helse-sorost.no/SiteCollectionDocuments/OmOss/MalOgStrategier/Plan_for_strategisk_utvikling2009-2020.pdf, accessed 27 March 2014):8.
- Kvinnslund S, Enger E, Førde OH, Kufaaas T, Evensen SA, Søreide O et al. (1993). Forholdet mellom pasientvolum og behandlingskvalitet [The relationship between patient volume and quality of care] (in Norwegian). Oslo: Helsedirektoratets utredningsserie: 4–93, 1–80.
- Lavis JN, Catallo C, Jessani N, Permanand G, Zierler A, BRIDGE Study Team (2013). Learning from one another: enriching interactive knowledge-sharing mechanisms to support knowledge brokering in European health systems. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies (Policy Summary 8, BRIDGE Series; http://www.euro.who.int/__data/assets/pdf_file/0006/195234/Obs-Policy-Summary-8,-Learning-from-one-another.pdf, accessed 19 March 2014).
- Lavis JN, Catallo C, Permanand G, Zierler A, BRIDGE Study Team (2013). Communicating clearly: enhancing information-packaging mechanisms to support knowledge brokering in European health systems. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on

Health Systems and Policies (Policy Summary 7, BRIDGE Series; http://www.euro.who.int/__data/assets/pdf_file/0005/195233/Obs-Policy-Summary-7,-Communicating-clearly.pdf?ua=1, accessed 19 March 2014).

Lavis J, Permanand G, Oxman A, Lewin S, Fretheim A (2009). SUPPORT Tools for evidence-informed health Policy-making (STP) 13: preparing and using policy briefs to support evidence-informed policy-making. *Health Res Policy Syst.* 7(Suppl 1):S13. doi: 10.1186/1478-4505-7-S1-S13.

Lindahl AK, Squires D (2011). The Norwegian health care system. In: Thomson S, Osborn R, Squires D, Reed SJ, editors. *International profiles of health care systems*. New York (NY): The Commonwealth Fund:92–8 (http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2011/Nov/1562_Squires_Intl_Profiles_2011_11_10.pdf, accessed 26 March 2014).

Ministry of Health and Care Services (2006). *Nasjonal strategi for kreftområdet 2006–2009* [National cancer strategy 2006–2009]. Circular, 15 May 2006. Oslo: Helse- og omsorgsdepartementet (in Norwegian) (<http://www.regjeringen.no/upload/kilde/hod/rus/2006/0008/ddd/pdfv/281026-kreftstrategi.pdf>, accessed 27 March 2014).

Ministry of Health and Care Services (2013a). *God kvalitet – trygge tjenester: kvalitet og pasientsikkerhet i helse- og omsorgstjenesten* [Good quality – safe services: quality and patient safety in health care]. Reports to Parliament, Meld. St. 10 (2012–2013) (in Norwegian) (<http://www.regjeringen.no/pages/38154897/PDFS/STM201220130010000DDDPDFS.pdf>, accessed 27 March 2014).

Ministry of Health and Care Services (2013b). *Folkehelsemeldingen. God helse – felles ansvar* [Public health white paper: good health – joint responsibility]. Meld. St. 34 (2012–2013) (in Norwegian) (<http://www.regjeringen.no/pages/38307106/PDFS/STM201220130034000DDDPDFS.pdf>, accessed 27 March 2014).

Myrhaug HT, Norderhaug IN (2005). *Fødeavdelinger, fødestuer, pasientvolum og behandlingsskvalitet: Notat 2005* [Maternity departments, delivery rooms, patient volume and quality of care]. Oslo: Norwegian Knowledge Centre for the Health Services (in Norwegian).

Norderhaug I, Thürmer H (2009a). *Pasientvolum og kvalitet ved behandling av kreft i magesekken* [Patient volume and quality of care for gastric cancer]. Oslo: Norwegian Knowledge Centre for the Health Services (<http://www.kunnskapssenteret.no/Publikasjoner/7469.cms?language=english>, accessed 27 March 2014).

Norderhaug I, Thürmer H (2009b). Pasientvolum og kvalitet ved radikal kirurgisk behandling av prostatakreft [Patient volume and quality of care for prostate cancer]. Oslo: Norwegian Knowledge Centre for the Health Services (<http://www.kunnskapssenteret.no/Publikasjoner/7468.cms?language=english>, accessed 27 March 2014).

Norderhaug I, Thürmer H (2009c). Pasientvolum og behandlingsskvalitet ved operasjoner for kreft i lever [Patient volume and quality of care for liver cancer surgery]. Oslo: Norwegian Knowledge Centre for the Health Services (<http://www.kunnskapssenteret.no/Publikasjoner/7470.cms?language=english>, accessed 27 March 2014).

Norderhaug I, Krogstad U, Jensen JO, Thürmer H (2009). Pasientvolum og kvalitet ved behandling av karotisstenose [Patient volume and quality of care for the treatment of carotid stenosis]. Oslo: Norwegian Knowledge Centre for the Health Services (<http://www.kunnskapssenteret.no/Publikasjoner/6440.cms?language=english>, accessed 27 March 2014).

Norderhaug I, Krogstad U, Lindahl A, Odgaard-Jensen J (2009). Pasientvolum og behandlingsskvalitet ved behandling av abdominale aortaneurismer [Patient volume and quality of care for the treatment of abdominal aortic aneurysm]. Oslo: Norwegian Knowledge Centre for the Health Services (<http://www.kunnskapssenteret.no/publikasjoner/pasientvolum-og-behandlingsskvalitet-ved-behandling-av-abdominale-aortaneurismer?language=english>, accessed 27 March 2014).

Norderhaug I, Thürmer H, Jensen JO (2009). Pasientvolum og kvalitet ved koloncancerkirurgi [Patient volume and quality of care for colon cancer surgery]. Oslo: Norwegian Knowledge Centre for the Health Services (<http://www.kunnskapssenteret.no/Publikasjoner/7471.cms?language=english>, accessed 27 March 2014).

Norwegian Ministry of Health and Care Services (2008). Coordination reform: proper treatment – at the right place and right time. Summary in English: Report No. 47 (2008–2009) to the Storting [Parliament] (http://www.regjeringen.no/upload/HOD/Samhandling%20engelsk_PDFS.pdf, accessed 26 March 2014).

NOU (2005). Fra stykkevis til helt: en sammenhengende helsetjeneste [From parts to the whole: continuity in health care]. Oslo: Statens forvaltningstjeneste (Norges offentlige utredninger [Official Norwegian Reports] 2005:3. (<http://www.regjeringen.no/Rpub/NOU/20052005/003/PDFS/NOU200520050003000DDDPDFS.pdf>, accessed 26 March 2014).

Øverland EF (2011). IP management in knowledge transfer from universities and PROs in Norway. Presentation, Nordic Workshop, Knowledge Transfer Study 2010–2012. Gothenburg, 1 June 2011 (http://knowledge-transfer-study.eu/fileadmin/KTS/workshop/Nordic/KTS_WS_Nordic_2011-06-01_E.Overland.pdf, accessed 26 March 2014).

Oxman AD, Bjørndal A, Flottorp S, Lewin S, Lindahl AK (2008). Integrated health care for people with chronic conditions: a policy brief. Oslo: Norwegian Knowledge Centre for the Health Services.

Romøren TI, Torjesen DO, Landmark B (2011). Promoting coordination in Norwegian health care. *Int J Integr Care*. 11(Special 10th anniversary edition):e127.

Sanne AP, editor (2008). Health creates welfare – the role of the health system in Norwegian society. Oslo: Norwegian Directorate of Health (IS-1545E; <http://www.helsedirektoratet.no/english/publications/health-creates-welfare--the-role-of-the-health-system-in-norwegian-society/Publikasjoner/health-creates-welfare-the-role-of.the-health-system-in-norwegian-society.pdf>, accessed 26 March 2014).

Shaw S, Rosen R, Rumbold B (2011). What is integrated care? An overview of integrated care in the NHS. London: The Nuffield Trust (http://www.nuffieldtrust.org.uk/sites/files/nuffield/publication/what_is_integrated_care_research_report_june11_0.pdf, accessed 26 March 2014).

Sosial- og helsedirektoratet (2007). Evaluering av Nasjonalt kunnskapscenter for helsetjenesten: Sluttrapport [Evaluation of the Norwegian Knowledge Centre for the Health Services: final report]. Oslo (IS – 1503; <http://www.kunnskapscenteret.no/nyheter/nyttig-evaluering-av-kunnskapscenteret>, accessed 19 October 2013).

Statistics Norway (2012). Statistical yearbook of Norway 2012: 131st issue. Oslo (http://www.ssb.no/en/befolkning/artikler-og-publikasjoner/_attachment/91796?_ts=13c6ca485b8, accessed 26 March 2014).

Teisberg P, Hansen FH, Hotvedt R, Ingebrigtsen T, Kvalvik AG, Lund E et al. (2001). Pasientvolum og behandlingskvalitet: metodevurdering basert på egen og internasjonal litteraturgransking [Patient volume and quality of care: technology assessment based on internal and international literature]. Oslo: SINTEF Unimed (in Norwegian) (SMM-rapport Nr.2/2001; http://www.kunnskapscenteret.no/publikasjoner/_attachment/10916?&_ts=12c7de68374, accessed 26 March 2014).

Thürmer H, Krogstad U, Jensen JO, Norderhaug I (2009). Pasientvolum og kvalitet ved behandling av hjerneslag og intrakraniale aneurismer [Patient

volume and quality of care for the treatment of stroke or intracranial aneurysm]. Oslo: Norwegian Knowledge Centre for the Health Services (<http://www.kunnskapscenteret.no/Publikasjoner/6454.cms?language=english>, accessed 27 March 2014).

Velasco Garrido MV, Hansen J, Busse R (2011). Mapping research on health systems in Europe: a bibliometric assessment. *J Health Serv Res Policy* 16(Suppl 2):27–37.

Wang H, Ringard Å, Høymork S (2012). The role of the Norwegian priority council and HTA in challenging patient pathways. Oslo: Norwegian Knowledge Centre for the Health Sciences (HTAi 2012, Abstract number 361; http://www.kvalitetogprioritering.no/r%C3%A5det/publikasjoner/_attachment/14521?_ts=138383967cb, accessed 26 March 2014).