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TECHNICAL REPORT

# Framework for assessing, improving and enhancing health service planning

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# Preface

This report aims to contribute to policy learning across countries from the diversity of healthcare planning approaches in Europe and elsewhere through developing and validating a framework for assessing, improving and enhancing healthcare planning and so presenting a potential tool for analysts and decision makers seeking to understand whether the approach of planning taken in a given setting supports its goals and how the approach can be improved in future.

This report was prepared in collaboration between RAND Europe (Mihaly Fazekas, Jennifer Newbould and Ellen Nolte) and the London School of Hygiene & Tropical Medicine (Stefanie Ettelt). It was funded by the Bertelsmann Foundation.

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# Executive summary

Healthcare planning is widely seen as a core component of health system governance. It forms a key instrument for decision makers to influence and direct health service provision, a function which is likely to become ever more important as health systems in Europe are facing increasingly complex challenges that demand innovative solutions. How this is achieved best and in what circumstances remains however uncertain, given the variety of approaches adopted in different settings, often reflecting the wider institutional, legislative and political framework of a country's health system. However, there is considerable potential for policy learning across countries from the diversity of healthcare planning approaches in Europe and elsewhere. This report aims to contribute to this process through developing and validating a framework for assessing, improving and enhancing healthcare planning and so providing a tool for analysts and decision makers seeking to understand whether the approach of planning taken in a given setting supports its goals and how the approach can be improved in future.

We identified a set of criteria guided by an understanding of healthcare planning as an explicit process of defining objectives and goals and to devise strategies of how these objectives can be met. The criteria of the framework developed here can broadly be classified into three themes:

- "Vision" encapsulates the goals and objectives of healthcare planning, which should be aligned with the overall goals of health system governance, reflected in all areas of the healthcare system, and taking a long-term perspective.
- "Governance" refers to the role of decision makers and implementers to whom clear responsibilities should be assigned, the alignment of planning with sanctions and incentives that support implementation, the balance involved of relevant stakeholders, and the consistency of the approach at different levels of planning.
- "Intelligence" highlights the importance of the availability and appropriate analysis of relevant data, the existence of sufficient analytical and administrative capacity for these tasks to be carried out, and the need for continuous monitoring and measuring of progress against set objectives.

We tested our criteria empirically through an in-depth analysis of four countries, using a case study approach. Countries were selected to provide a range of types of government and healthcare system: Germany, Austria, Canada (Ontario) and New Zealand.

The analysis provides important insights into how different systems approach healthcare planning, identifying common challenges, but also differences highlighting the very

contextual nature within which healthcare planning as an instrument to directing health service provision sits. Thus, it will be important to understand the role and power of actors as powerful stakeholder interests are likely to undermine effective planning if there are no mechanisms in place that allow for consensus building and establish lines of accountability for implementation. Likewise, the most sophisticated planning tool is likely to be of little value if it is not supported by an appropriate governance structure.

Planning is also affected by a wider socio-economic context. Broad political goals, such as ensuring economic sustainability, have to be considered and weighed against the goals of healthcare planning. Given that different groups (e.g. providers, payers, patients) are affected by planning in different ways, a transparent, evidence-based and goal-oriented approach is desirable.

The framework developed here presents a first step towards developing a tool for assessing healthcare planning in high income countries. Further validation through applying it to a wider range of countries is desirable.

# Acknowledgements

We wish to thank all study participants who have so kindly given us their valuable time to be interviewed for this work.

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The views expressed in this report are those of the authors alone and do not necessarily represent those of the Bertelsmann Foundation. The authors are fully responsible for any errors.

# CHAPTER 1 Introduction

## 1.1 Background and aims of the study

Most industrialised countries share the vision that publicly funded healthcare should provide a comprehensive range of services that are clinically effective, cover the entire population and aim to improve standards of quality, equity and responsiveness of care (WHO, 2008). However, systems differ in their approaches to achieving this and while in most countries the central government is usually responsible for developing the overall framework for funding and organising healthcare, the governance of the system is frequently shared with regional and local authorities and other actors.

Healthcare planning is considered to form a core component of healthcare governance. However, approaches to, and the scope of, planning vary, with responsibility generally reflecting the governance structure of the health system, and planning responsibility often shared by authorities at different tiers of government and/or health authority (Ettelt et al., 2008).

Previous work has demonstrated how healthcare planning is embedded in the wider institutional, legislative and political framework of a country's health system, reflecting the political, social, economic and cultural context within which systems sit (Ettelt et al., 2008). It found how governments and healthcare authorities are subject to a range of pressures such as decentralisation, market competition and pluralism when they aim at providing equitable, affordable and accessible healthcare. In this context, planning can be seen as a potential though not the only tool for advancing coordination and enhancing efficiency by directing scarce resources where they are of best use.

Ettelt et al. (2009) also touched on a number of issues related to planning that require further analysis to enable policy learning from the diversity of healthcare planning approaches in Europe and elsewhere. Specifically, there is a need to better understand the relative advantages and disadvantages of different planning approaches. Uncertainty about what should be planned and how also raises questions about whether there is an "optimal" unit of planning and if so what it is. There is a need to better understand how planning is linked to other governance functions such as budgeting, contracting and regulation of providers. Further, there is a particular need to identify the key features of planning as it relates to processes and outcomes, including health plans and their implementation in order to be able to assess their impact on healthcare provision and health outcomes.

This report aims to contribute to policy learning across countries and regions through:

- identifying the key components and functions of effective healthcare planning;
- assessing the outcomes of planning processes in selected countries; and
- developing a framework for assessment of healthcare planning.

In doing so, the report also aims to contribute to a better understanding of the contextual factors that influence, enable or hinder the successful implementation of effective healthcare planning.

## 1.2 Methodology

This report builds on an earlier comprehensive review by Ettelt et al. (2008) which reported on healthcare capacity planning in nine countries. This report seeks to advance this work further by developing an assessment framework for healthcare planning and applying it in four countries, using a comparative case study approach.

### 1.2.1 Selection of countries

Four countries – Austria, Germany, Canada (Ontario) and New Zealand – were selected for this analysis to provide a range of types of government and healthcare system. All of the countries have a similar commitment to providing universal and reasonably equitable access to healthcare for their populations, but do so in different ways. Canada (Ontario) and New Zealand operate mostly tax funded, largely public systems, whereas the health systems in Austria and Germany are mostly funded through statutory social insurance with multiple health insurance funds and independent providers. Countries also represent different governance systems, with New Zealand being perceived as traditionally more centralist while administrative and political responsibility in Austria, Canada (Ontario) and Germany is partly devolved to regional authorities (Canada/Ontario) and federal states (Austria, Germany) (Table 1.1).

**Table 1.1 Key features of case study countries**

| | Main funding of publicly financed healthcare | Governance of the public health system |
|---|---|---|
| Germany | Social health insurance covering 88% of population plus supplementary and complementary private insurance | Responsibility for the health system shared by federal, regional and local authorities and corporatist actors<br>Responsibility for hospital sector mainly rests with the federal states (*Länder*) |
| Austria | Combination of social health insurance (50%) and general taxation (32%) | Responsibility for the health system shared by federal, regional and local authorities and corporatist actors<br>Responsibility for hospital sector mainly rests with the federal states (*Länder*) |
| Canada (Ontario) | General taxation (national and provincial) | Shared by the federal and the provincial or territorial governments with the provinces having extensive autonomy |
| New Zealand | General national taxation and compulsory social insurance (injuries and accidents) | Healthcare governance is shared by the central government and 21 district health boards (DHBs) |

### 1.2.2 Data collection

Data collection involved a review of the published and grey literature on strategic planning in private and public organisations to inform the development of a framework to assess healthcare planning. It further involved a rapid review of the published and grey literature on healthcare planning and an online information search using standard search engines (e.g. Google and Yahoo!) of governmental and non-governmental agencies involved in healthcare planning in the countries under review with the aim to update the country reports presented by Ettelt et al. (2008).

Data also include insights from 13 interviews with key informants in the four countries reviewed here who are directly involved in, or close observers of, the process of healthcare planning in the relevant country. The purpose of these interviews was to attempt to understand the complex, informal and tacit aspects of the planning process which are not well captured in published accounts or in official descriptions of how systems operate. The topic guide for interviews is included as an appendix to this report.

Interview participants were selected according to their professional roles as representatives of organisations involved in the planning process at national (Ontario: provincial) and regional level or as external observers familiar with the process. Participants represented a spectrum of actors ranging from senior officials at ministries of health (or their equivalent) at the various administrative tiers of a given system to senior managers in government agencies and senior representatives of corporatist organisations and professional associations. Participants were identified through official websites, the authors' professional networks and recommendations from other interviewees. Although the number of interviewees varied among case studies, with numbers particularly small in two of the four countries – Germany (four), Austria (five), Canada/Ontario (two) and New Zealand (two) – making this an exploratory rather than a confirmatory investigation, in each, the range of interviewees covered a wide spectrum of professional roles and perspectives on healthcare planning.

## 1.3 This report

This report proceeds as follows: Chapter 2 elaborates on the definition of healthcare planning and the key issues revolving around it. Chapter 3 develops a framework for assessment of healthcare planning by identifying a set of criteria which are then used in Chapter 4 to assess international approaches to healthcare planning in the four countries under study. The report concludes with Chapter 5, which also highlights gaps in our understanding and requirements for future work.

# CHAPTER 2 Healthcare planning and its context

This chapter defines healthcare planning and highlights some of its alternative understandings. It further discusses the rationale underlying planning, focusing in particular on rational policy making, and its critique. It concludes by describing the context within which health systems sit and the impact of this context on healthcare planning.

## 2.1 Defining healthcare planning

### 2.1.1 What is healthcare planning?

Healthcare planning is widely seen as a core component of health system governance (Pencheon et al., 2006); it is one instrument for decision makers to influence and direct health service provision (Lawrence, 2006), typically used in conjunction with other policy instruments such as regulation or performance management (e.g. standard and target setting).

There are many approaches to defining "planning", reflecting different sectors or purposes of planning. The common denominator of these approaches is their "concern about making decisions relating to the future" (Green, 2007: 1). More specifically, planning has been defined as "a coordinated and comprehensive mechanism […] for the efficient allocation of resources to meet a specific goal or goals" (Thomas, 2003: 2); this definition emphasises the nature of planning as a process that requires a degree of coordination and comprehensiveness to achieve a particular purpose.

As a component of health system governance, there is considerable overlap between planning and concepts such as "policy" and "strategy". One definition proposes that policy relates to all approaches that aim to achieve the goals and objectives of a government or organisation, whereas strategies and plans "determine how these goals and objectives are to be implemented using resources such as capital, revenue, leadership capacity, organisational structures and the workforce" (Goodwin, 2006). In this view, in healthcare, planning focuses on organising the inputs used for the production of health services.

Planning has been conceptualised in different ways. For example, Figueras (1993) distinguishes strategic and operational planning. *Strategic* planning involves determining the goals and general direction of healthcare delivery and the development of the overall framework and principles, which may require "engineering" an agreement between various stakeholders. *Operational* planning refers to the translation of strategic objectives into a

concrete sequence of activities, involving the allocation of budgets and resources, the provision of facilities, equipment and staff and the organisation of services (Ettelt et al., 2006).

Green (2007) distinguishes *activity planning*, which refers to the setting of monitorable timetables and schedules for implementation, from *allocative planning*, which largely relates to decisions concerning the spending of resources. In this definition, which is mainly geared towards middle and low income countries, "(allocative) (p)lanning is a systematic approach to attaining explicit objectives for the future through the efficient and appropriate use of resources, available now and in the future" (Green, 2007: 3).

In practice, the objectives of planning vary among countries, reflecting the policy goals of a given health system. Thus, in countries where the government is responsible for funding health services, the motivation for planning will be largely budgetary. These countries are more likely to engage in allocative planning, given that public resources for health services are finite, especially if seen in relation to other uses to which a government could put them. In contrast, in countries that fund health services largely through statutory health insurance with less direct involvement of government, mechanisms for resource allocation are typically less stringent. Although healthcare planning can still contribute to cost containment (e.g. through constraining supply), these opportunities are more difficult to realise, as governance responsibility tends to be fragmented.

In summary, healthcare planning aims to translate policy objectives into practical efforts to steer health service provision (Lawrence, 2006). Planning thus involves an explicit process of defining objectives and goals and devising strategies for meeting these objectives, a definition we chose to guide the present study. By implication, effective healthcare planning denotes such planning which effectively steers healthcare provision towards the goals of a given plan.

## 2.2 The rationalist model of planning and its critique

Healthcare planning has its roots in a particular rationalist and positivist (i.e. evidence based) understanding of policy making in healthcare. This approach has guided the development of the framework for assessing healthcare planning employed in the analysis presented here. However, we acknowledge that this interpretation of the health policy process has its limitations, which we briefly discuss below.

### 2.2.1 Rational policy making and rational planning

The rationalist ideal of planning is based on the assumption that reason can be used to control future behaviour of an organisation as complex as a health system (Lawrence, 2006). This assumption follows the lines of reasoning of several authors putting forward rational decision making in the public sector (Leach, 1982; Forester, 1984; for a comprehensive review see Boyne, 2001).

In this interpretation, healthcare planning can be distinguished into separate (and consecutive) stages which follow a circular "logic" (Figure 2.1) (Green, 2007). Stages

include (1) situational analysis, (2) priority-setting, (3) option appraisal, (4) programming, (5) implementation and monitoring, and (6) evaluation.[1]

In relation to healthcare planning, the various steps can be identified as follows:

- *situational analysis*: assessing the healthcare needs of the population and the availability and distribution of health services;
- *priority-setting*: defining goals, objectives and the vision for future health service provision;
- *option appraisal*: e.g. modelling the impact of variables such as changing disease profiles and availability of health personnel; assessing options of future health service configuration;
- *programming*: e.g. contracting providers; developing legislation and regulation; aligning funding;
- *implementation and monitoring*: e.g. collecting data on service provision; and
- *evaluation*: assessing progress against the objectives of the plan and optional feedback loop to *situational analysis* (stage 1) if a given discrepancy between planning and outcome exceeds a pre-defined margin.

A key advantage of this circular logic is to improve our understanding through a holistic concept, in which outcomes of the policy process potentially trigger new stages of healthcare planning.

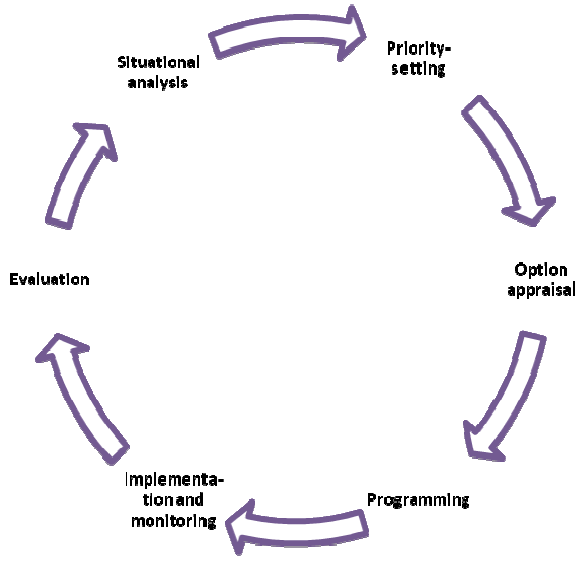


**Figure 2.1 The planning cycle**

Note: adapted from Green (2007)

[1] For a general discussion of policy cycles see for example Jann and Wegrich (2007).

However, in practice, planning approaches do not always involve all steps of the planning cycle. "Programming", for example, may more easily translate into a specific activity in systems in which the main planning body is also responsible for allocating healthcare resources (e.g. through purchasing health services from providers).[2] In systems, in which the role of the purchaser is less pronounced and less aligned with decision making at health system level (e.g. in social insurance systems in Austria and Germany) this aspect of the cycle is more difficult to locate.

### 2.2.2 Critique of rational planning

The healthcare planning cycle (Figure 2.1) illustrates some of the challenges of the rationalist model of planning. For example, it assumes a staged or sequential approach towards decision making, which is rarely the case. It also fails to acknowledge the impact on different stages by factors acting outside the immediate health system (e.g. economic downturn or pandemic outbreak).

Historically, rational planning followed a steering approach exercised in many countries, most notably in "planned economies", such as the Soviet Union, but also in the United States, Britain and other countries in western Europe, where the experience of the Second World War evoked a belief in planned social and economic (re-)construction (Green, 2007) and in planning as a means to advance public interest (Melhado, 2006). The importance of healthcare planning as a steering tool has however declined during past decades, at least in high-income settings, while remaining an important tool in low and middle income countries.

The "decline" of healthcare planning in many high-income countries can be seen in the context of the increasing prominence of markets, choice and competition as drivers of efficiency and quality in healthcare emerging in the 1980s. Thus, healthcare planning was increasingly perceived to stifle innovation, to be unconducive to promoting productivity and to be inefficient as an approach to allocating resources.

In a remarkable coincidence, the academic literature on healthcare planning in high income countries appears also to have ceased to be published in the mid-1980s. Analysts of planning had become increasingly critical of rational approaches to planning. It was argued that planning suffers from "information overload" in so far as it is unlikely that any planning approach has the ability to capture all possible alternatives or to process all information relevant to capture a healthcare system. Thus, there are cognitive limits to planning, with Simon (1997) suggesting that rationality can only be "bounded", i.e. limited, by human brain capacity. Even if it were possible to identify an optimal solution to a problem, experience so far demonstrates that plans were often not implemented because of practical obstacles, such as resource constraints. Thus, planning forces planners to compromise ("satisfice") (Puelzl and Treib, 2007). Perhaps most importantly, planning theories increasingly recognised that the success of a given planning approach crucially depended on political will and the support of stakeholders involved in implementation (Boyne et al., 2004; Mott, 1969).

[2] The planning cycle is echoed in the healthcare commissioning cycle, developed for the National Health Service in England (http://www.ic.nhs.uk/commissioning).

However, healthcare planning has remained a feature of health system governance in almost all high income settings, with many countries continuing to plan elements of their healthcare systems, such as the distribution of large healthcare facilities and expensive technology (Ettelt et al., 2008). Thus, with the possible exception of the Netherlands, where planning at health system level was almost entirely abolished in the context of the 2006 healthcare reform (Ettelt et al., 2008; Westert et al., 2009), healthcare planning has continued to exist alongside elements of markets, competition and mixed healthcare economies. Other trends, such as the promotion of administrative reform under the label New Public Management pioneered in Australia, New Zealand and the United Kingdom during the 1980s, also had an impact on the role of planning by introducing concepts of strategic management used in the private sector (Brinkerhoff, 2004; Pollitt and Bouckaert, 2004). At the same time, the New Public Management movement has also brought about stronger involvement of the central government in monitoring, performance management and standard setting.

As a consequence, healthcare planning today exists in a diverse context where private and public providers increasingly share responsibility for delivering healthcare. In this context, governments often aim to balance opposing policy objectives, such as competition and control, regulation and deregulation, decentralisation and centralisation, each of them adding to the complexity of the planning process.

## 2.3 The context of healthcare planning

Healthcare planning takes place within the wider political, social and economic context and a changing context will inevitably impact on the role of planning as a tool to steer health systems. Changes in population health and demographic profile, and related changes in the healthcare workforce, advances in healthcare technology, and funding available for healthcare, to name but a few, will influence healthcare planning. For example, the rising burden of chronic disease requires systems to adapt service delivery to changing health needs to meet the requirements of those with chronic health problems (Nolte and McKee, 2009). Accelerating progress in medical technology offers considerable potential for advancing the delivery and organisation of healthcare; yet there is a need to ensure that innovation in healthcare promotes system objectives and that investments are appropriate to the often significant costs imposed by new technologies. An increasing feminisation of the medical profession is likely to change patterns of work as women are more likely to take career breaks and work part-time (Dubois et al., 2006). In addition, patterns of workforce mobility have become more difficult to predict and sensitive to a variety of factors, including those outside the health system.

As healthcare systems in Europe and elsewhere are facing increasingly complex challenges, planning is likely to become more important as a tool to develop innovative and well-measured solutions in response to a changing environment.

# CHAPTER 3 The assessment framework

This chapter outlines our proposed framework for assessing healthcare planning. Its primary aim is to identify a set of criteria against which to assess planning approaches and which reflect key components that are considered to be conducive to effective planning. The practical value and usefulness of each criterion is then assessed in Chapter 4 using the example of healthcare planning in Austria, Germany, New Zealand and Canada (Ontario).

At the outset it is important to reiterate that the international comparative literature on the relative advantages and disadvantages of different healthcare planning approaches is quite limited (Ettelt et al., 2009). Although there is a considerable body of work examining planning approaches in specific service areas (for a list of references see for example Mathis et al., 2009), work specifically focusing on system-level, or, as conceptualised by Thomas (2003), community-based approaches remains scarce, in particular as it relates to systematic comparative work. The framework developed here therefore had to be guided by the published literature on strategic planning in private and public organisations on assessment criteria as identified in the literature on health planning systems in low and middle income countries proposed by Green (2007) (Box 3.1).

The framework was developed as a set of criteria that were further informed by the experience in the four case study countries such as the characteristics of planning systems as documented in government and academic publications, the historical development of planning approaches, including ongoing reform efforts, and the countries' (self) assessment as reported by key informants. Although we have aimed to test the framework by applying the set of criteria to the planning reality in four countries, we recognise that the resulting list of criteria is preliminary and requires further validation and refinement.

In line with the definition chosen to guide the present analysis that conceptualises planning as an explicit process of defining objectives and goals and to devise strategies of how these objectives can be met (Lawrence, 2006), our assessment criteria focus on planning as a process, typically involving several bodies responsible for health system governance. While we recognise that planning usually involves the production of a plan, we argue that the greatest benefit of planning lies in providing a "mechanism for finding a solution" (Thomas, 2003: 12) rather than presenting a quick fix to a given problem.

**Box 3.1 Criteria for assessing a health planning system**

Green (2007) proposed a list of criteria for assessing a health planning system as derived from approaches of allocative planning in low and middle income countries. Criteria are presented in the form of questions for assessing the strengths and weaknesses of planning systems, with an emphasis placed on the actual approach to planning, rather than on the planning document (the plan). Is the purpose and role of the health planning system clear, appropriate and widely understood?

1. Is the purpose and role of the health planning system clear, appropriate and widely understood?
2. Is the health planning system based on explicit values?
3. Does the system facilitate planning for health rather than solely for healthcare?
4. Does the planning system consider the private sector alongside the public sector?
5. Is there a robust process for analysing the context?
6. Are the functions of, and inter-relationships between, actors in the health system well understood?
7. Are the decision-making structures of the planning system open and transparent?
8. Is there an appropriate balance between central and local decision making?
9. Is there consistency between different planning approaches (strategic and operational) and between planning and other decision-making processes?
10. Does the planning system balance technical and political analysis?
11. Is there a robust process for all stages of the planning process?
12. Does the planning timetable balance long-term direction with short-term flexibility?
13. Is there an adequate information base for planning and is it used? Is there a variety of appropriate and well-used planning processes and tools?
14. Is planning adequately and sustainably technically resourced?
15. Are external resources and partnerships well managed?

## 3.1 Expectations towards our framework

The development of the assessment framework was guided by a set of basic principles, in line with the main purpose of planning, namely to influence and direct health service provision.

Therefore, a suitable assessment framework should:

- guide health policy makers in drawing lessons by allowing for identification of the strengths and weaknesses of different planning approaches;
- be applicable in diverse political, economic, social and health contexts;
- be based on a broad assessment of planning approaches and on evidence of their effectiveness, as far as it is possible;

- highlight the interdependencies between different elements of healthcare planning and the wider context of health system governance; and
- consider the interrelations between healthcare planning and its wider social and economic environment, for example, as it relates to education, migration and the labour market.

## 3.2 Assessment criteria for healthcare planning

As noted above we identified a set of criteria for the assessment of healthcare planning, which draws on the published literature. We orient our criteria along the questions formulated by Green (2007) as a means to assess strengths and weaknesses of planning systems (see Box 3.1), but group them according to overarching themes, in line with the definition of healthcare planning guiding this work.

Our assessment criteria are not organised along the stages of the planning process as defined by the "rational" planning cycle (Chapter 2). We argue that criteria that have been identified in the relevant literature, and which we report on below as being considered as conducive to effective planning, cut across the components or stages of the health planning cycle described here (Figure 2.1). For example, high quality information will be important to inform situational analyses, priority setting, option appraisal, monitoring and evaluation. Similarly, stakeholder involvement will be relevant for a number of stages, although the balance and level of involvement will likely vary.

Our framework is guided by an understanding of healthcare planning as an explicit process of defining objectives and goals and devising strategies for how these objectives can be met. The criteria of the framework developed here can broadly be classified into three themes: (1) vision, (2) governance and (3) intelligence:

- "Vision" encapsulates the goals and objectives of healthcare planning, which should be aligned with the overall goals of health system governance, reflected in all areas of the healthcare system, and taking a long-term perspective.
- "Governance" refers to the role of decision makers and implementers to whom clear responsibilities should be assigned, the alignment of planning with sanctions and incentives that support implementation, the balanced involved of relevant stakeholders, and the consistency of the approach at different levels of planning.
- "Intelligence" highlights the importance of the availability and appropriate analysis of relevant data, the existence of sufficient analytical and administrative capacity for these tasks to be carried out, and the need for continuous monitoring and measuring of progress against set objectives.

In what follows, we describe the three groups of criteria in detail.

### 3.2.1 Vision

***Alignment of planning goals with health system goals ("strategic vision")***

Planning is likely to produce the most desirable outcomes if its goals are consistent with the goals of the healthcare system as a whole (Green, 2007). For this to happen, it is important that (1) there is a shared understanding of the strategic direction of development of the system, and (2) that goals are set explicitly and in a transparent manner. Explicit goal setting is widely viewed as an essential feature of planning (Boyne, 2001; Boyd and Reuning-Elliott, 1998; Boyne and Gould-Williams, 2003; Phillips and Moutinho, 2000). As a process, goal setting can serve as a platform for stakeholders with diverse interests to develop some degree of consensus about the future direction of the healthcare system and about the strategies as to how to get there. Goal setting also helps to identify trade-offs and potential compromises that are required if conflicting goals exist. We argue:

*Setting explicit planning goals in line with overall health system goals is likely to contribute to effective planning.*

***Comprehensiveness of the planning approach ("whole systems perspective")***

This criterion captures the extent of coverage of the functional areas and geographical units of a healthcare system. Functional areas are defined as sectors of healthcare provision (e.g. primary care; secondary care; rehabilitation) and the type of inputs to the production of health services (e.g. human resources, investment in facilities and technology) (cf. Boyne, 2001; Phillips and Moutinho, 2000; Ramanujam et al., 1986). Geographical coverage refers to geographical planning units, such as districts or regions and the links between them.

Planning at health system level should take a "whole system perspective" ("community-based planning" as defined by Thomas (2003)). Fragmented planning approaches, in contrast, are likely to lead to inconsistencies between different plans and may undermine the ability of each plan to contribute to overarching goals.

Arguably, the ideal scope of planning may change over time. For example, the fact that travelling times have become shorter may affect the geographical distribution of healthcare facilities. Likewise, changes in healthcare provision, for example, through the development of new models of care, are also likely to affect the distribution of facilities in future, which may have an impact on the size of the appropriate planning unit. We therefore hypothesise:

*Planning is likely to be more effective if a whole system perspective is taken, across different sectors of healthcare, inputs in service production and geographical areas.*

***Planning horizon ("long-term and short-term perspective")***

Planning horizon denotes the timeframe of planning and the existence of multiple timeframes in line with different planning objectives (e.g. biannual plans integrated into 15-year plans) (Green, 2007).

There is little evidence of an optimal planning horizon and thus the ideal mix of short-term and long-term plans is difficult to establish. Experience in low and middle income countries demonstrates that a combination of a long-term and a short-term perspective, in line with the goals of planning, is desirable (Green, 2007). In high income countries, a

long-term perspective may be particularly helpful with regard to long-term financial investments in healthcare infrastructure, which may involve reconfiguration of health services.

At the same time it will be important to account for sufficient flexibility and contingency in the planning approach, to adjust for newly emerging circumstances (Boyne, 2001; Green, 2007). A caveat here is that at the extreme, flexible planning will be indistinguishable from unplanned incrementalism. We thus propose:

*Planning is likely to be more effective if planning timeframes include both a long-term and short-term perspective, balancing long-term direction with short-term flexibility.*

### 3.2.2 Governance

#### *Clear responsibilities and lines of accountability*

Both the process of planning and the process of implementing a plan typically require the contribution of a range of stakeholders, often with divergent interests. Thus, planning is not only a technical exercise, but usually involves an element of political decision making (Thomas, 2003). For planning to be successful it is essential that the roles and responsibilities of stakeholders involved in planning are clear and consistent with their roles in governing the health system. Actors involved in planning need to be accountable for contributing to the objectives of the plan (Boyne, 2001; Boyne and Gould-Williams, 2003; Green, 2007; Phillips and Moutinho, 2000). Key questions are therefore: Who is responsible for planning? And who is responsible for delivering the objectives set out in the plan? How are stakeholders held to account for working towards achieving the goals and objectives of a plan? We therefore stipulate:

*Planning will be most effective if the process is embedded in a governance framework that assigns clear roles in and responsibilities for planning, including lines of accountability for delivering planning objectives.*

#### *Appropriate sanctions and incentives*

Health systems vary as to how they provide incentives and disincentives for implementation. Where the government allocates funding for health services, providers tend to be directly accountable to higher level authorities and so give authorities a lever to impose changes in accordance with the healthcare plan (Figueras et al., 2005). However, not all governance arrangements allow for this level of influence (Ettelt et al., 2008). It is thus important to consider how planning is compatible with the wider spectrum of policy tools and decisions (Boyne, 2001; Boyne and Gould-Williams, 2003; Green, 2007; Phillips and Moutinho, 2000). It will therefore be important to identify to what extent the objectives of planning are supported by appropriate levers, including sanctions. Also, it will be important to assess the degree to which planning objectives are supported by other policy tools and incentives, such as payment systems and regulatory arrangements. We therefore argue:

*Healthcare planning is likely to be more effective if planning is supported by sanctions and incentives.*

#### *Balanced stakeholder involvement and commitment*

There is a need to consider the appropriate balance of stakeholder involvement, i.e. the inclusion of payers, providers and patients. Experience from low and middle income countries shows that insufficiently involving key groups is likely to lead to resistance and to problems with plan implementation (Green, 2007). However, excessive stakeholder involvement is also likely to slow down the planning process and to reduce the likelihood that planning leads to sizable changes to existing practices, including "difficult decisions", such as reducing the number of hospitals. We argue that while it is essential to achieve a high degree of consensus, understanding and shared interest in the planning process and implementation, i.e. strong stakeholder commitment, it may be important to strike a balance between insufficient and excessive stakeholder involvement (Boyne, 2001; Green, 2007; Phillips and Moutinho, 2000). We propose:

*A balanced involvement and commitment of all relevant stakeholders is likely to lead to more effective planning.*

#### *Consistency of strategic and operational planning approaches*

This criterion concerns the extent to which strategic goals are translated into operational objectives and thus outline actionable and measurable items (Boyne and Gould-Williams, 2003; Phillips and Moutinho, 2000). It further relates to the degree to which actionable items are being derived from overarching goals (e.g. the degree to which a goal such as "increasing life expectancy" leads to actionable items such as number of beds per population). Arguably, actionable items are more likely to be put into practice if they are aligned with incentives and/or sanctions. Incorporating actionable objectives is also vital for planners to be able to measure progress against objectives. We hypothesise:

*More closely integrated strategic goals and operational objectives are conducive to more coherent planning and thus to more effective healthcare planning.*

### 3.2.3 Intelligence

#### *Availability of high quality data*

Effective planning rests on the ability to analyse the current situation and to anticipate future demand for and supply of healthcare (Green, 2007). Thus, there is a need for a sound information base, including high quality data on population health, service utilisation, the distribution and type of healthcare facilities, the availability of health professionals and patients' and citizens' satisfaction with existing health services. It is essential that planning builds on an assessment of the healthcare needs of the population and takes future changes of these needs into account (Box 3.2). Likewise, planners should be aware of the existing healthcare provision infrastructure and its implications and complexities, to avoid the risk of planning becoming a theoretical exercise only. We propose:

*Healthcare planning is likely to be more effective if planning rests on a solid information base, including data on population healthcare needs and the existing infrastructure of healthcare provision.*

**Box 3.2 Health needs assessment**

Health needs assessment is a systematic method of identifying unmet health and healthcare needs (Wright et al., 1998). Need in healthcare has traditionally been defined as the ability to benefit, with Bradshaw (1972) distinguishing the need for health (felt need), the need for health care (normative need), and expressed need (demand), i.e. felt need turned into action through seeking medical help. This is in contrast to supply, namely the actual healthcare provided.

Health needs assessment involves epidemiological and qualitative approaches to determining priorities. Analysts distinguish three main approaches to health needs assessment. The epidemiological approach describes need in relation to specific health problems, using indicators of incidence and prevalence in a given population alongside indicators of effectiveness and cost-effectiveness of services (Williams and Wright, 1998). The comparative approach contrasts services received by the population in one area with those elsewhere. The corporate approach is based on the demands, wishes and alternative perspectives of interested parties (professional, political, public views).

### *Availability of appropriate analytical tools*

Effective planning also requires the ability to analyse current supply and demand of healthcare and to project future healthcare needs, and thus requires up-to-date and advanced analytical tools (Boyd and Reuning-Elliott, 1998; Phillips and Moutinho, 2000; Ramanujam et al, 1986). Although a comprehensive overview of analytical techniques for healthcare planning is not yet available[3] several methods are considered to be reliable and valid, such as epidemiological change projections (Layte, 2009). There is a wide range of forecasting methods which follow alternative logics and require different data, including scenario planning and quantitative modelling (Box 3.3). Planning thus should aim to collate future healthcare needs with potential future supply. We hypothesise:

*Healthcare planning is likely to be more effective if appropriate and up-to-date analytical tools are employed to support the situational analysis and the development of future scenarios.*

**Box 3.3 Projecting the impact of demographic change on the demand for and delivery of healthcare in Ireland**

Against the background of the challenges posed by demographic change and increasing budgetary pressure, the Health Research Board and Health Services Executive in the Republic of Ireland commissioned a multi-year research project which would set out projections of demand and supply of health services until 2021 and develop recommendations for addressing the likely gaps between supply and demand (Layte, 2009).

This research involved projecting demographic trends between 2006 and 2021, which formed the basis for estimating detailed healthcare demand for the same period by county, age group, gender, area of healthcare spending, such as acute public hospitals, primary care, outpatient services, pharmaceuticals, and long-term and social care.

In addition to estimating demand, the forecasting exercise also projected the supply of healthcare services based on current trends in human resources, service reconfiguration (e.g. integrated healthcare provision) and planned investments.

[3] Such overviews exist, for example, in education and labour market planning; see Neugart and Schömann (2002) and Richardson and Tan (2007).

Through collating projected demand and supply it was possible to identify the likely future gaps at a detailed level. This approach made it possible to model explicitly the relationships and interdependencies among healthcare sectors, policy and epidemiological variables. Finally recommendations were formulated based on the findings of this research.

#### *Availability of adequate analytical and administrative capacity*

While the availability of a sound information base and analytical tools are important components of effective planning, for these to be used to a high standard and to feed into the planning process will require sufficient support and resources (Boyne, 2001; Phillips and Moutinho, 2000; Ramanujam et al., 1986). Lack of analytical or administrative capacity can create bottlenecks that undermine the effectiveness of the planning process and the commitment of its participants. Capacities include financial resourcing and the skills required to undertake analytical tasks that inform planning and to manage the planning process. Again, this criterion is likely to relate differently to different systems of healthcare governance, reflecting for example variation in the type and number of actors responsible for planning. We hypothesise:

*An adequate level of analytical and administrative capacity is required to support effective planning.*

#### *Continuous monitoring and evaluation*

Finally, and in line with the stages of the planning process as proposed by Green (2007) and Thomas (2003), this criterion captures the extent to which progress against the goals of a plan are continuously monitored based on appropriate and meaningful data and the extent to which information is fed back into planning and steering processes (Boyne, 2001; Ramanujam et al., 1986). Monitoring and evaluation are crucial to demonstrate progress against goals and objectives. Indicators reflecting goal attainment as specified in advance play an important role in the monitoring process, as they allow for measuring achievements and detecting gaps in performance. They should also be used to inform the future development of goals and adjustments to the strategies of how to achieve them. We propose:

*Systematic monitoring and evaluation is conducive to more effective planning.*

### 3.2.4 Towards a framework for assessing healthcare planning

The proposed set of criteria is intended to form a framework for assessing the factors that support effective healthcare planning. Table 3.1 summarises the groups of criteria described in the preceding sections.

As indicated above, most criteria depend on and interact with the fulfilment of other criteria. For example, providing "intelligence" through appropriate analysis crucially rests on the assumption that sufficient high quality data are available for analysis and analysts are equipped with appropriate skills and resources to makes sense of them. Likewise, devising actionable steps from overarching objectives is unlikely to lead to success if the stakeholders that are involved in implementing the plan are or cannot be held responsible for following them and if objectives are in conflict with other policies and arrangements.

**Table 3.1 Summary of assessment criteria and criteria groups**

| Theme | Criteria |
|---|---|
| Vision | Alignment of planning goals with health system goals |
| | Comprehensiveness of the planning approach |
| | Planning horizon |
| Governance | Clear responsibilities and lines of accountability |
| | Appropriate sanctions and incentives |
| | Balanced stakeholder involvement and commitment |
| | Consistency of strategic and operational planning approaches |
| Intelligence | Availability of high quality data |
| | Availability of appropriate analytical tools |
| | Availability of adequate analytical and administrative capacity |
| | Continuous monitoring and evaluation |

While the association between criteria is intuitively obvious and supported by the planning experience in four countries (see appendices), it is not possible, on the basis of our analysis, to verify the potential links and interdependencies of criteria towards the development of a "map" that outlines the relative strengths and hierarchy of relationships; formal testing would require further testing and analysis, using a wider range of countries and experiences.

We recognise that the set of criteria identified here does not consider the potential impact of factors that are external to the healthcare planning process, such as the economic context, developments in international migration of healthcare professionals or the impact of demographic change on the labour market as outlined in Chapter 2. These are likely to influence both the demand and supply side of healthcare and thus are likely to affect planning. However, the relevance of these for the planning process will vary for different system contexts, yet one of the key principles of the assessment framework guiding our work is that it should be applicable in diverse political, economic, social and health contexts. Therefore, while the identification of macro-factors is important, the evaluation of their precise relationship to and impact on the planning process, in the form of a consistent set of criteria for assessing healthcare planning, warrants further investigation, requiring a larger set of countries to be studied, which however lies outside the work presented in this report.

The next chapter illustrates how the framework can aid an assessment of healthcare planning in a selected number of countries.

# CHAPTER 4 Assessing international approaches to healthcare planning

The aim of this chapter is twofold: (1) to provide supporting evidence for the assessment framework developed in Chapter 3 (i.e. validation) and (2) to illustrate the framework with examples from selected countries (i.e. demonstration). We here focus on the components of healthcare planning in four countries; a detailed overview of planning in each of the four countries included here, including references, is provided in the appendices.

In our discussion of the findings we follow the structure of the assessment framework described in Chapter 3, followed by a short summary of key observations.

## 4.1 Vision

### 4.1.1 Alignment of planning goals with health system goals

Each of the four countries analysed in this report employs some form of explicit goal setting in line with overarching health system goals to inform planning. However, the scope and level of specificity of goals guiding planning varies among countries, reflecting the overall approach to healthcare planning, its comprehensiveness and the tools employed.

For example, in Germany the overarching goal for the hospital sector is defined by the federal Hospital Financing Act of 1972, which stipulates that each federal state (*Land*) has to ensure that hospital care meets the needs of the population at affordable cost while respecting provider plurality and securing the financial sustainability of all hospitals included in a regional hospital plan, so setting the context for planning of hospital care. In contrast, the goals of planning for ambulatory care are less well defined; however, the regional distribution of ambulatory care physicians has to meet certain stipulations regarding nationally defined quotas of practising physicians. While these quotas aim to set limits for supply, the link to an overarching goal (e.g. to ensure an adequate supply of ambulatory care doctors to meet the health needs of the population) is not made explicit. It is also not clear how quotas which are based on historic figures are expected to meet future demand.

Austria and Ontario both set planning goals at the national and provincial levels, respectively. These goals serve as guidance for actors as well as for the development of operational plans. For example, the overarching goal of the 2008 Austrian national healthcare plan is:

> To secure responsive, high quality, effective, efficient, and equal healthcare provision in all regions regarding all relevant areas of health and social care. (ÖBIG, 2008: 1)

The cross-sectoral national goal is further specified according to healthcare sectors covered by the plan: inpatient care, outpatient care, rehabilitation and the interface to long-term care.

In Ontario, the Ministry of Health and Long-Term Care is established as the system steward responsible for defining the overall strategic framework for provincial planning, aimed at improving the overall health of Ontarians.

In New Zealand, the approach of healthcare planning through district health boards is currently under review, with efforts under way to change the decision-making structure in planning (e.g. through the creation of a central National Health Board) with the aim to prepare for major health service reconfiguration. While the government did set health system goals, it was recognised that decision making at district level was less effective in achieving these goals, especially in relation to major health systems change.

Explicit goal setting appears to be an indispensable part of healthcare planning according to our case studies as they are part of planning in each country. Goals are typically formulated in general terms implying that actors broadly support them. However, their general nature, frequently referring to overarching objectives such as ensuring high quality services that are affordable and equitable, and the means by which these objectives will be arrived at through planning, differs. Thus in both Austria and Germany healthcare planning is viewed as a means to control and possibly reduce supply while Ontario and New Zealand are facing the opposite challenge.

### 4.1.2 Comprehensiveness of the planning approach

#### Functional areas

In Austria, Ontario and New Zealand, one of the most characteristic policy changes in recent years appears to be their move towards a more integrated approach to planning of different functional areas of healthcare such as ambulatory or primary care and hospital or secondary care. The extent to which this move has been successfully translated into practice varies however. Thus while in Germany an integrated approach to planning of ambulatory and hospital care is seen as desirable consensus on how this should be done in practice has not yet been reached. Apart from some innovative projects on integrated care (*Integrierte Versorgung*), for which the government provided a framework enabling health insurance funds to designate financial resources for selective contracting between 2004 and 2009, planning of these two sectors has remained separate.

Austria has moved towards planning health services in a more integrated fashion following the 2005 health reform. In its second instalment, the 2008 Austrian national healthcare plan covers inpatient care, outpatient care, rehabilitation[4] and the interface to long-term care. Key informants in Austria highlighted this characteristic of this approach to planning as one of its key strengths. The "integrated" plan provides a framework for healthcare plans developed and implemented at the regional (*Land*) level. Integrated planning is however

[4] Presented as a document that is separate from the national healthcare plan.

not fully implemented because of the lack of sufficient data on services provided in the outpatient care sector, among other things. Thus, for the time being, the integrated plan contains a detailed service provision plan for the acute inpatient sector while planning of care provided by office-based doctors outside hospital has so far been restricted to an assessment of the status quo only, i.e. a description of the current levels of service provision.

In Ontario, 14 local health integration networks (LHINs) are responsible for the development of integrated health service plans for their specific geographical area according to locally defined priorities and in line with provincial priorities, covering hospitals, community-care access centres, home care, long-term care and mental health.

In New Zealand, current thinking indicates a move from a previously distinct approach to planning different inputs into healthcare production to a more integrated approach that combines healthcare planning models with the planning of capital for facilities and information technology, and workforce planning. The new approach also aims to integrate planning for primary, secondary, tertiary and community care.

#### Geographical areas

Key informants in all four countries indicated that geographical and administrative divisions are a key challenge in planning.

Regional planning approaches in federal systems of Germany, Austria and Canada mean that geographical coverage of planning is highly fragmented. In Germany, regional planning of ambulatory care is complicated by the fact that neither the central nor regional governments are in charge of regulating the regional and local distribution of physicians' practices. Instead, the self-regulating bodies, in this case the association of social health insurance physicians, have been given the responsibility to guarantee the availability of services provided by office-based doctors outside hospital to all those publicly insured in all areas.

In Canada, provinces and territories are largely independent in planning and organising healthcare, and we here examined Ontario only. However, regional planning is influenced by national and supra-national developments, for example, in relation to workforce migration. Planning for underprovided rural and remote areas is also seen as a continuous challenge.

These challenges are also echoed in New Zealand and, to a certain extent, in Germany and Austria. For example, while New Zealand has an administratively less fragmented healthcare system, planning at district level was considered to be insufficiently integrated with regional or national objectives and inter-district coordination was weak. Therefore, New Zealand is currently planning to centralise some of the planning functions from district to national level. Similarly, Austria has also begun to plan for larger geographical units. This is however constrained by the constitutionally guaranteed autonomy of *Länder* (states).

### 4.1.3 Planning horizon

Countries reviewed here use different time horizons for healthcare planning. New Zealand is currently moving to expand the timeframe from five to ten years to twenty years for

long-term strategic plans, reflecting concerns about the time required to prepare for future healthcare needs through health service configuration. However, the approach will also involve short-term planning, such as annual district plans.

Similarly, Ontario employs a variety of time horizons for different types of plans and healthcare sectors. Typically, the provincial Ministry of Health develops long-term scenarios over a ten- to twenty-year time period with local health integration networks developing three-year plans that set out local priorities for their region while consistent with the overall provincial strategy.

In contrast, in Germany and Austria the emphasis seems to be on shorter-term time frames. For example, the hospital plan of the German *Land* of North-Rhine Westphalia, devised for a period of ten years and setting the overall direction, has been updated in two-year intervals, and there is an intention to move to a shorter planning horizon of three years to allow for more frequent updates of detailed quantitative plans (e.g. using bed numbers to define hospital capacity).

In Austria, planning at the federal level is carried out biannually and *Länder* also develop their planning documents every two years. The 2009 Rehabilitation Plan employs the two-year time horizon while also providing plans for 2015 and 2020. This shorter time horizon is generally to accommodate changes in for example technology and/or service configuration.

In this context it is noteworthy that planning for contingencies, for example for emergencies such as pandemic influenza, does not feature greatly in either Austria or Germany as a component of healthcare planning. Relevant provisions are made separately. This reflects the fact that health systems that are characterised by a certain degree of overcapacity in certain areas such as hospital care are unlikely to see a need to plan specifically for eventualities that require supply in excess of the usual capacity.

In Ontario and New Zealand, in contrast, flexibility in planning to accommodate the unforeseen may be more important as health authorities strive to square healthcare needs with existing budgets and resources, including a persistent shortage of healthcare personnel, thus increasing the vulnerability of the system to unplanned excess demand. However, case studies were not conclusive with regard to approaches to accounting for flexibility in planning.

## 4.2 Governance

### 4.2.1 Clear responsibilities and lines of accountability

In countries reviewed here, responsibilities for the implementation of plans are typically clearly assigned. Countries have a clear hierarchy and division of labour over who is responsible for providing input into planning, devising plans and implementation.

In Austria and Germany, responsibilities for planning are set out in the relevant legislation. For example, in Germany, *Länder* are the key responsible actors in planning of hospital care. In the federal state of North-Rhine Westphalia, Germany, the government has delegated the implementation of the plan to lower tier authorities (such as district

governments) and, eventually, hospitals and regional associations of statutory health insurance funds. In Austria, the federal government is responsible for national framework planning while *Land* governments and social partners are responsible for developing their respective detailed plans and for implementation.

In Canada, provinces and territories have a similarly decisive role, with Ontario delegating many of the planning functions to regional bodies, the local health integration networks (LHINs), and the respective responsibilities are set out in accountability agreements.

In New Zealand, under current regulation, district health boards are required to seek approval for district health plans from the National Ministry of Health and have to operate within a framework of accountability set by the national government. The ministry can replace board executives if it finds a board under-performing.

### 4.2.2 Appropriate sanctions and incentives

The evidence gathered through country case studies does not permit clear conclusions as to the use of sanctions and incentives, which are often devised separately from planning, in relation to implementation.

Implementation appears to be easier to enforce in healthcare systems in which planning is linked to resource allocation, such as in Ontario and New Zealand. Thus, because planning is directly related to funding, lower level authorities and/or providers are likely to be made accountable for the way they spend resources and have to demonstrate that they contributed to achieving the objectives set by the centre. In New Zealand, district health boards are required to report regularly on progress towards achieving the targets and objectives set by the government. Likewise, in Ontario, planning is linked to performance management.

In Germany, effective implementation relies on legislation and administrative rules. Here, litigation can play a decisive role for individuals or organisations to enforce their objections against plans. In Austria, the implementation of healthcare plans greatly depends on the *Länder* that are responsible for implementation and enforcement of the plan, and for a large proportion of funding. Although there is a possibility to impose sanctions on those *Länder* that do not implement the plan, these have not been applied in practice.

Administrative and legal rules are less relevant for the planning context in Ontario and New Zealand where, as noted above, strong reliance is placed on performance management and accountability frameworks.

### 4.2.3 Balanced stakeholder involvement and commitment

Approaches to involving stakeholders in planning processes and to securing commitment differ greatly across countries.

In Germany, hospital planning involves a wide range of actors, with legislation requiring *Länder* governments to involve all relevant stakeholders, including associations representing the various tiers of the administrative system at local, district and regional level and representatives of regional associations of hospitals, the regional associations of statutory social health insurance funds, the regional association of social health insurance physicians, the Physicians' Chamber and representatives of private health insurers. In the case of the *Land* North-Rhine Westphalia, 21 actors are involved in planning, and they are

represented on a planning committee. However, despite the large number of actors involved and the largely consensual way of decision making, the role of the final arbiter remains with the government of the *Land*.

Similar to Germany, healthcare planning in Austria is rooted in consensual decision making. This is exemplified by the Federal Health Commission, which is formed by representatives of the federal government, social insurance institutions, the *Länder* and local authorities, hospitals, patients and the Austrian Physicians' Chamber. The consensual approach to planning, and health system governance more generally, has however meant that fundamental changes to the healthcare system are unlikely; instead, change so far has been mainly incremental.

The creation of local health integration networks (LHINs) in Ontario was at least partly intended to give a stronger voice to stakeholders, especially patients, in healthcare planning. Changes to planning in New Zealand are expected to emphasise the role of clinical networks and local communities in determining the future configuration of health services.

### 4.2.4 Consistency of strategic and operational planning approaches

All four countries studied here translate strategic goals into operational objectives although these are represented in different ways. Thus countries differ in relation to the type of objectives used, the interdependence of objectives at different levels, and how the translation of overarching goals into specific objectives was arrived at. Types of objectives are defined according to the tiers of the healthcare system (e.g. national, regional), functional areas and time horizons.

Approaches examined here can be seen to be organised on a spectrum defined by the level of detail and specificity of national or regional guidance. At the one end of the spectrum, national documents (or in the case of Ontario regional documents) determine the overarching strategy so providing regional or local planners with an overall direction for regional or local decision making that takes account of regional and local need. For example, the Ontario Ministry of Health and Long-term Care sets out the goals and principles for the LHINs, which are responsible for devising local health service integration plans, within specific geographical areas. Thus, LHINs have considerable discretion in adjusting provincial goals to local priorities. However, lack of a published overarching provincial strategy has meant that service plans developed by LHINs had to be (re-)adjusted to meet priorities subsequently set at provincial level.

In New Zealand, the government currently sets broad objectives and targets that have to be met by district health boards. The planning hierarchy is thus directly aligned to frameworks that ensure accountability of lower level planning bodies. This approach appears to be more common in countries in which planning is linked to resource allocation.

At the other end of the spectrum, the national document sets specific and often quantitative goals, directly determining the objectives for actors. In Austria, for example, the structural healthcare plan at national level both outlines the healthcare goals for the entire system and defines detailed service volumes for acute inpatient care for each region. As *Länder* are expected to translate the national plan into a regional plan there appears to

be little freedom in the ability to deviate from the national plan and to set *Land*-specific priorities.

Planning in Germany occupies a form of middle ground as it relates to planning of the hospital sector. Planning at *Länder* level is broadly informed by national legislation. However, within this framework, *Länder* governments, in consultation with regional stakeholders, have substantial decision-making space. *Länder* in turn can decide whether they give local actors more scope for decision making. In North-Rhine Westphalia, for example, planning of hospital services is expected to become less detailed in certain areas, so providing a higher degree of freedom for local decision making, based on negotiations of regional associations of sickness funds and individual hospitals. In the ambulatory care sector strategic objectives such as ensuring an adequate distribution of ambulatory physicians are only weakly linked to operational objectives (i.e. physician quotas), which are derived from historic data only.

## 4.3 Intelligence

### 4.3.1 Availability of high quality data

All countries engage in some form of routine data collection on healthcare supply (e.g. the number of hospitals), availability of human resources (e.g. number of doctors and nurses) and utilisation while aiming at improving breadth and depth of data collection. However, the nature and scope of data available to inform planning varies among countries.

In Germany, hospital planning largely relies on routinely collected hospital data, such as the number of doctors and hospital beds available. In the ambulatory care sector, quotas are set for the maximum number of office-based doctors based on historic supply, implying some monitoring of the number of ambulatory physicians per area. However, population health data do not feed into the planning process and are not collected for this purpose.

Planning in Austria draws on a range of indicators and data although at present these pertain to the hospital sector only. Thus, the national healthcare plan can draw on detailed data on service volumes in the acute inpatient sector while planning of outpatient care provided by office-based doctors outside hospital has so far had to rely on data of supply only. However, data harmonisation and aggregation is being carried out in order to obtain a national database for outpatient care supply and demand.

In New Zealand, district health boards are required to collect demographic and epidemiological data to assess the health needs of the population resident in their area. While the approach of data collection was well established, there was evidence that health needs assessments were underused to inform the organisation of healthcare provision.

In Ontario, planning tools rest on data pertaining to financing, number of consultations, the evidence available on clinical outcomes, and inputs (e.g. the number of beds, doctors and nurses).

### 4.3.2 Availability of appropriate analytical tools

Countries use a wide range of analytical tools with approaches constantly evolving and larger revisions currently under way, yet the level of sophistication of analytical tools varies considerably among countries.

In Germany, hospital planning mainly relies on bed numbers (e.g. using the Hill-Burton Formula in North-Rhine Westphalia). In the ambulatory care sector, quotas are set for the maximum number of office-based doctors, based on historic supply. As noted above, these approaches do not take changes of population healthcare needs into account (the Hill-Burton Formula includes bed occupancy, indicating changes in utilisation only). More complex analytical tools, such as the mapping of geographical distances of a given population to doctors' offices, are currently being developed. However, it is unclear how these approaches will be used to inform the planning process.

Austria uses a range of planning tools, supported by a set of indicators and data although, as noted above, at present these pertain to the hospital sector only. Techniques have moved from bed numbers to service volumes. Here, one of the main perceived challenges is to develop a sound methodology to link the assessment of healthcare needs with the appropriate level of supply.

Similar to Austria, Ontario has moved from planning bed numbers per hospital and office-based general practitioners per given area towards planning for service volumes. Current planning approaches vary among sectors according to the needs of the planning problem.

In New Zealand, a new generation of analytical tools is currently being developed. Plans involve the development of analytical tools in support of a strategy for major service configuration, involving the development of new care models to shift care from the hospital to the community. A role delineation model is used to align new models of service provision with facilities, health personnel and other services required. Current work also involves the development of more sophisticated modelling of future healthcare needs.

Analytical tools to assess population healthcare needs and future scenarios of supply and demand rely on a range of reliable, good quality data. Country case studies indicate that the use of healthcare needs assessments is only likely to be successful if supported by information and the political will to use results to inform planning, provided of course that high quality data are available to permit such assessments to be undertaken in the first place.

### 4.3.3 Availability of adequate analytical and administrative capacity

The extent to which administrative capacity for healthcare planning can be considered "adequate" is difficult to assess for the countries under review. Based on findings from the literature and perceptions of key informants, it is reasonable to assume that analytical capacity and administrative support systems are reasonably well established in Germany, Austria and Ontario. However, to enable firm conclusions supporting this assertion to be drawn would require detailed assessment of staff and resource time set aside by countries to support the planning process. Such detailed analysis was beyond the remit of this research.

In the case of New Zealand, experience suggests that some smaller district health boards are facing capacity constraints which can put strategic planning at risk, although it was also stated that district health boards had made substantial progress in undertaking analysis and

applying planning tools. Engagement with local communities, patients and clinicians also involves a substantial amount of administration, which needs to be sufficiently resourced if it is to be effective.

#### 4.3.4 Continuous monitoring and evaluation

While, as noted above, countries studied here collect routine data on a range of variables relevant to planning, the extent to which these are used for systematic monitoring varies among countries, as does the nature and specificity of data collected for this purpose. Countries also differ in the extent to which these data are analysed and used to inform and refine planning. However, the exact differences of systems have yet to be explored.

In North-Rhine Westphalia, Germany, the *Land* Ministry of Health routinely reviews data on hospital utilisation to identify oversupply and undersupply. The ministry also relies on information from stakeholders to flag up problems in service provision. However, these problems reflect stakeholders' interests and the degree to which they can be judged to provide an objective assessment of a given problem is debatable.

In Austria, the federal government, health insurance associations and professional self-governing bodies collect data on healthcare provision regularly. Some of these datasets are used in the biannual updates of the national plan.

In New Zealand, continuous monitoring is a key component of district health boards' reporting obligations to the national government.

## 4.4 Summary

This chapter aimed to provide supporting evidence for our framework for assessing healthcare planning in a range of countries. In the space available, it was only possible to provide "snapshots" of whether and how different systems are addressing the various components considered to be conducive to effective planning and operationalised by the set of criteria developed here. Given the complexity and diversity of health systems, any attempt to analyse governance functions such as healthcare planning in a comparative manner by disaggregating them into key defining components will inevitably have to remain limited because of the many interdependencies of different components, and their relationship with the wider governance framework within and outside the health system, the nature and scope of which is likely to differ among countries. While detailed county reports which we provide in the appendices to this report shed further light on the complexity of these relationships, it is equally clear that further work is required that explores other system contexts, in particular those where planning does not feature as a key governance function (as for example in the Netherlands). However, at the same time the evidence collated here provides a useful starting point to begin to unpack some of these complex relationships.

Table 4.1 provides a summary of our findings of potential links and associations between effective planning and the assessment criteria as stipulated in Chapter 3 and further explored in the preceding sections. The summary is informed by the descriptive evidence presented in earlier sections and the country reports presented in the appendices. It

highlights that the assessment criteria identified here cannot be interpreted in isolation and that the nature of their relationship differs among countries. A key observation is that countries reviewed here have only begun working towards several of the assessment criteria identified here and therefore provide limited insight into whether the approaches taken indeed enhance the effectiveness of healthcare planning in a given setting.

**Table 4.1 Summary of findings**

| | **Vision** |
|---|---|
| *Alignment of planning goals with health system goals* | Explicit goal setting appears to be an indispensable part of healthcare planning according to our case studies as they are part of planning in each country. The scope and level of specificity of goals guiding planning varies among countries. This reflects the overall approach to healthcare planning, its comprehensiveness and the tools employed.<br><br>Setting planning goals explicitly and in line with health system goals is likely to contribute to effective healthcare planning by providing a platform for actors to discuss and negotiate. However, goals are typically formulated in general terms implying that actors broadly support them. While systems might strive for similar overarching goals, the means by which these are being arrived at through healthcare planning differ. |
| *Comprehensiveness of planning approach* | Healthcare planning is expected to be more effective where a whole system perspective is taken. While Austria, Ontario (Canada) and New Zealand have begun moving towards a more integrated approach to planning of different functional areas of healthcare, in Germany such an approach is still to be put into practice.<br><br>Administrative and geographical divisions pose a key challenge to planning in all four countries, with geographical coverage of planning highly fragmented in federal systems (Austria, Germany, Ontario. Austria and New Zealand are moving towards centralising some planning functions as a means to enhance coordination among regions. |
| *Planning horizon* | There is no single optimal length and combination of planning time horizons emerging from our research. Our findings seem to suggest that strategic planning over the long term may be more common in those systems where the government allocates funding so providing a road map for the overall direction of the system (Ontario, New Zealand). Austria and Germany tend to employ shorter time horizons with planning documents, while spanning a longer time frame frequently updated to account for changes in service provision.<br><br>Flexibility of planning to accommodate unexpected events and/or emergencies seems to be more prominent in systems with limited excess capacity (Ontario, New Zealand) while those with levels of overcapacity in certain areas are less likely to view contingency planning as a necessary component of healthcare planning (Austria, Germany). |

**Table 4.1 Summary of findings *(continued)***

| Governance | |
|---|---|
| *Clear responsibilities and lines of accountability* | Assigning clear responsibilities to actors in line with set goals and objectives is expected to be conducive to effective planning and all countries reviewed here have systems in place that clearly assign responsibilities for the implementation on plans. In Austria and Germany, responsibilities are set out by legislation. Ontario and New Zealand operate on the basis of accountability frameworks that set out the responsibilities of regional or local actors vis-à-vis the provincial or central government. However, assigning responsibilities is only an intermediary step towards effective implementation. |
| *Appropriate sanctions and incentives* | Assuring that plans are put into practice will depend on relevant incentives and sanctions. From the evidence of four countries presented here it seems likely that aligning resource allocation with planning is one effective way to make healthcare plans influence actor behaviour (Ontario and New Zealand). Both Ontario and New Zealand rely on performance management and accountability frameworks to ensure implementation of plans. Such mechanisms appear to be less easily applicable in systems where legislation and regulation is used as the main means to guide implementation and responsibilities explicitly devolved and/or delegated from central government to a range of actors (Austria, Germany). |
| *Balanced stakeholder involvement and commitment* | Integrating stakeholders into planning and obtaining their support for implementation can be seen as a key to implementation and so constituting a concern in all countries under review. All four countries seek to involve a wide range of actors with formalised involvement pursued by those with a tradition of consensual decision making (Austria, Germany). These tend to rely on organised interests while the involvement of citizens or local communities does not appear to feature greatly. The optimal balance of stakeholders to be involved remains difficult to ascertain; involvement of a wide range of interests may lead to incremental change. |
| *Consistency of strategic and operational planning approaches* | The translation of overarching goals into operational objectives is an important element of healthcare planning. However, the degree to which this is accomplished will be defined by a given healthcare context and the needs of that system. Countries differ in relation to the type of objectives used, the interdependence of objectives at different levels, and how the translation of overarching goals into specific objectives was arrived at.<br>In line with our observations on the planning horizon, defining an overall direction of the system at central level that is translated into operational plans at local level that take account of local circumstances appears to be more common in those systems where the government allocates funding (Ontario, New Zealand). It also seems to emerge that defining specific goals and objectives for local actors at national or regional level may not necessarily be conducive for planning that takes account of local need with for example Germany (federal state of North-Rhine Westphalia) moving towards a less prescriptive approach to planning hospital care. |

**Table 4.1 Summary of findings *(continued)***

| | **Intelligence** |
|---|---|
| *Availability of high quality data* | Data availability and the unit of planning have a great impact not only on analytical tools, but in particular on the level of detail and validity of planning as an instrument. All countries reviewed here engage in some form of routine data collection on supply and utilisation of healthcare services, while aiming at improving breadth and depth of data collection. The nature and scope of data available to inform planning varies among countries. A key challenge remains the collection of data that enable assessment of population healthcare needs. |
| *Availability of appropriate analytical tools* | Planning is more likely to be effective if it can draw on analytical tools that enable assessment of current and future population healthcare needs, and the exploration of alternative scenarios with the help of forecasting techniques. A key challenge to this is the availability of adequate data that would allow for the assessment of needs. This is particularly the case in systems which draw to a considerable degree on measures of supply to inform planning (Austria, Germany), whereas in New Zealand the starting point for planning has been a health needs assessment.<br>Moreover, country case studies indicate that the use of healthcare needs assessments is likely to be only successful if supported by political will to use results to inform planning. It is important to recognise that putting adequate systems in place will take time and require considerable investment. |
| *Availability of adequate analytical and administrative capacity* | Under-resourcing of administrative capacity is likely to restrict strategic thinking and adequate planning. Planning units may fail to develop long-term vision while focusing on meeting short-term objectives. However, the evidence to support this assertion on the basis of findings from country case studies is not strong. It may be assumed that analytical capacity and administrative support systems are reasonably well established in all countries although limited evidence suggests that smaller planning units may face capacity constraints if not sufficiently supported by the centre, in particular where increasing emphasis is placed on local decision making with increased stakeholder involvement, including the local community (Ontario, New Zealand). |
| *Continuous monitoring and evaluation* | Continuous monitoring and evaluation is a considered and indispensible element of healthcare planning. Countries reviewed here collect routine data but the extent to which these are used for systematic monitoring varies, as does the nature and specificity of data collected for this purpose.<br>Again in line with other observations reported here it seems that systems in which the government allocates funding are more likely to employ more systematic approaches to monitoring and evaluation as part of performance management and accountability frameworks to ensure implementation of plans (Ontario, New Zealand). |

# CHAPTER 5 Conclusions

This report set out to develop a framework for assessing healthcare planning approaches. The framework comprises a set of criteria, which is structured in line with the definition of healthcare planning guiding this work and which interprets planning as an explicit process of defining objectives and goals and devising strategies for meeting these objectives (Lawrence, 2006). The assessment criteria focus on planning as a process, typically involving several bodies responsible for health system governance. The framework aims to provide a tool for analysts and decision makers to enable them to assess whether the approach of planning taken in a given country supports its goals and how the approach can be improved in future. It thus allows for the analysis of strengths and weaknesses, guided by a set of criteria.

The assessment framework is based on a review of the planning literature, further informed by analysis of four countries (Germany, Austria, Canada (Ontario) and New Zealand). The body of literature is diverse in the sense that it derives from different disciplines, including management theory and practice, development studies, and health systems planning. There is a lack of sound empirical evidence reflecting on recent approaches to healthcare planning at system level in the context of high income countries, in particular as it relates to systematic comparative approaches. This absence is notable, given that the system context for planning has changed substantially during the last two decades, with the increasing prominence of markets and competition in a number of countries and efforts towards (de-)centralisation of healthcare governance.

The analysis presented here aimed to validate assessment criteria as identified from the literature empirically through an in-depth analysis of four countries, using a comparative case study approach. Countries were selected to provide a range of different approaches, as well as different types of health systems. It may be argued that the selection of countries influenced the validation of criteria. Further application to a larger number of countries would therefore be desirable. However it is important to note that even with a larger number of countries, the number of observations (i.e. countries or regions) will remain relatively lower than the range of defining characteristics of healthcare planning. This poses a methodological challenge in that such an approach cannot reliably capture the impact of single elements of a planning system on outcomes.

At the conceptual level, given the complexity and diversity of countries' health systems, it will be difficult to identify "best practice" because of the challenges of separating the effect of planning from other contextual factors (e.g. the effect of federalism on the distribution of responsibilities) and of linking individual elements of planning to outcomes. Healthcare

planning takes place within the wider context of health system governance determined by a range of institutional, political and cultural factors which have an effect, directly or indirectly, on planning and its outcomes. However, because of multiple interdependencies among variables, attribution of outcomes to specific healthcare planning activities is problematic using a comparative approach. In the absence of a comparison group, ideally with the same system characteristics, to establish the counterfactual, it is difficult to arrive at any judgement about what approach works best and in what circumstances (Boston, 2000). Given these limitations, "good" or "interesting" practices could be identified, i.e. those institutions and mechanisms which appear to be effective in doing what they are designed to do.

It is also important to note that, as the assessment framework has been developed to be applicable in different country contexts it emphasises commonalities rather than differences. This naturally results in the relative neglect of idiosyncratic elements, which also may impact on the effectiveness of a chosen planning approach. One of the key challenges associated with a framework that specifically focuses on assessment approaches to healthcare planning will be its limited applicability to systems contexts that employ alternative forms of steering or governing healthcare systems. Thus, the framework developed here does not allow conclusions to be derived on whether healthcare planning performs better than alternative forms of health system steering such as markets and target setting. It is worth noting that some countries which do not explicitly employ healthcare planning produce world class health outcomes, e.g. the Netherlands.

By implication of the above, application of this assessment framework requires careful judgement as well as consideration of contextual factors such as the role of the wider governance structure for planning. It is important to note that understanding the role and power of actors is essential for effective steering and planning. Powerful stakeholder interests can undermine the most effective planning approach if there are no mechanisms in place that allow for consensus building in planning and that establish clear lines of accountability for implementation. The most sophisticated planning tool is likely to be of little value if it is not supported by an appropriate governance structure.

Planning is also affected by a wider socio-economic context. Broader political goals, such as economic sustainability, have to be considered and to be weighed against the goals of healthcare planning. Given that different groups (e.g. providers, payers, patients) are affected by planning in different ways, a transparent, evidence-based and goal-oriented approach is desirable.

The framework represents a first step towards developing a tool for assessing healthcare planning in high income countries. As noted above, we recommend further validation through applying the framework to a wider range of countries so as to enable further development into a tool that provides analytical support and clearer guidance for decision makers.

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# APPENDICES

# Appendix A: Germany

## Background

The German healthcare system is largely funded through statutory health insurance (SHI) contributions from employers and employees. About 10% of the population is covered by substitutive private health insurance (PKV, 2010). Responsibility for health system governance is shared by federal, 16 state (*Land*) and local authorities. The regulation of hospitals, for example, falls under the remit of the *Länder*. At federal, regional or local level, many tasks have been delegated to corporatist actors. Responsibility for overseeing ambulatory care, for example, has been delegated to regional physicians associations.

Hospitals are owned and operated by a variety of public (32%), private for-profit (30%) and charitable (38%) organisations (2007) (Statistisches Bundesamt, 2008). Hospitals are financed through a mechanism described as "dual financing" (see below). Hospital services are reimbursed through social and private health insurance through activity-based funding using diagnosis-related groups (G-DRGs). Activity-based funding has been gradually phased in since 2003, when it was first introduced voluntarily; it became mandatory for hospitals in 2004. Long-term investment in the hospital sector is through the *Land* governments for all hospitals included in a *Land* hospital plan (see below).[5]

Ambulatory care is mainly provided by office-based primary and specialist care physicians who have been granted a monopoly to provide care outside hospital; a number of exceptions (for highly specialised services such as for rare conditions) have been introduced only recently (SGB V, para 116b). Most (78%) ambulatory physicians work in single practice (KBV, 2010). Ambulatory care is largely reimbursed on a fee for service basis, using a "uniform value scale" (EBM) that is centrally negotiated by the Federal Association of Statutory Health Insurance Physicians (SHI physicians) and the National Association of Statutory Health Insurance Funds.

## The process of planning

In Germany, most planning of healthcare has been devolved to the regional level (Ettelt et al., 2008). Ambulatory and hospital care are planned separately, with different processes and actors involved in each. Planning of ambulatory care is almost entirely the result of negotiations between regional corporatist actors, namely regional associations of social

[5] Long-term investments are defined as investments in hospital buildings, maintenance and restructuring as well as investments in equipment (used for more than three years). Operational costs and short-term investments of under three years are born by health insurers.

health insurance funds and of SHI physicians. Hospital planning, in contrast, is a responsibility of the *Land* governments, which share this task with regional and local authorities as well as regional associations of statutory health insurance funds, private insurers and hospitals.

As a consequence of decentralised planning, there is no process of goal setting for planning at national level. However, even at *Land* level there appears to be no explicit process of goal setting or determining the future direction of the healthcare organisation and delivery. Planning of ambulatory and hospital care tends to be based on supply-side factors, with the existing capacity and/or infrastructure taken as the basis for planning (GER 1).[6] In both sectors, planning does not involve assessing and/or projecting the actual healthcare needs of the population (GER 1, GER 2, GER 3). Thus, the definition of "need" is limited to the use of crude population numbers only, without adjusting for age, sex, socio-economic status or health status. Although there are proposals to use data on the disease burden such as mortality data to inform hospital planning, this has not been realised to date (GER 3).

### Planning hospital care

Federal legislation provides that hospital planning is a responsibility of the *Länder*; hospital planning approaches thus vary by state. According to the federal Hospital Financing Act of 1972 each *Land* has to ensure that hospital care meets the needs of the population at affordable costs while respecting provider plurality and to secure the financial sustainability of all hospitals included in a regional hospital plan. The 1972 act also introduced the "dual financing" principle in the acute hospital sector; that is, investment costs are financed at the state and federal level (through taxation) while operating costs are paid for by the social health insurance funds or private patients (who are typically reimbursed by private health insurers). The 1972 act was most recently amended by the 2007 Hospital Configuration Act (*Krankenhausgestaltungsgesetz*), with state-specific hospital legislation subsequently adjusted accordingly.

*Land* governments are required to develop regional legislation for the hospital sector and to devise a hospital plan that includes all hospitals in a *Land*. Inclusion in the hospital plan entitles hospitals to reimbursement for services delivered to patients that are insured through social health insurance and to receive financial support for capital investments, allocated by the *Land* government (Ettelt et al., 2008). We here describe hospital planning in North-Rhine Westphalia (NRW), the *Land* with the largest population; however, approaches vary among the *Länder*.

In NRW, the Ministry of Health calculates the total number of beds for each medical specialty (e.g. cardiology; ear, nose and throat; gynaecology) and sub-specialty, using a set formula (Hill-Burton Formula, see below). The resulting total number is distributed across five districts (*Regierungsbezirke*). Based on these numbers, district governments (*Bezirksregierung*) enter into negotiations with the regional associations of statutory health insurance funds and hospitals in their area. Regional associations of social health insurance funds (SHI associations) and of hospitals then jointly develop a regional plan (*regionales Planungskonzept*) taking account of the existing infrastructure. These plans then have to be

[6] The abbreviation "GER #" refers to information provided by key informants.

approved by the district governments and submitted to the ministry for final approval. If SHI associations and hospitals are unable to agree on a plan, they submit separate proposals to the district government, which combines them into a joint plan for further review by the ministry. The ministry then takes the final decision (GER 3). Once approved by the NRW Ministry of Health, the district government formally notifies those hospitals whether they have been included in the hospital plan (*Planungsbescheid*), detailing targets about the type of services to be provided.

In North-Rhine Westphalia, the most recent hospital plan was devised in 2001; updates of the 2001 plan were published at two-year intervals. A new plan will be agreed in 2010 (GER 3).

Hospitals that are not included in the 2001 NRW Hospital Plan can form agreements with the regional SHI associations (*Versorgungsverträge*). These contracts require approval by the Ministry of Health (GER 3).

*Länder* typically do not plan volumes of hospital services. However, in 2004 the Joint Federal Committee (*Gemeinsamer Bundesausschuss*, G-BA)[7] introduced mandatory minimum volume targets for a number of services as a means of quality assurance (Gemeinsamer Bundesausschuss, 2007). These targets have to be met by hospitals if they wish to qualify for reimbursement through social health insurance. Services under this regulation generally comprise highly complex elective procedures such as organ transplants, knee-joint replacements and surgery for certain cancers. Hospitals failing to meet the volume target in one year will be prohibited from providing that same service in the following year. However, hospitals may apply for an exception if they can demonstrate that a particular service is otherwise underprovided in a specified geographical area; implementation is reportedly slow (Geraedts, 2010).

As noted above, hospitals included in a *Land* hospital plan are entitled to receive funding for capital investments from the respective state government. Until recently, hospitals had to apply for capital funding by making an individual business case. The 2007 Hospital Configuration Act will abolish this procedure from 2012, introducing a fixed annual allowance (*pauschale Investitionsförderung*) for each hospital. The act stipulates that the size of the allowance is to be based on the performance of the hospital and the complexity and/or severity of its caseload, although specific indicators have yet to be devised. The move towards a fixed allowance is intended to allow hospitals to plan capital investments more flexibly without being required to seek approval from the *Land* government (GER 3).

### Planning ambulatory care

Ambulatory care is only planned to the extent that maximum numbers of office-based physicians that practise within the social health insurance system are set per region. Planning of ambulatory care currently includes 16 specialties, with the most recent addition being psychotherapists for children and adolescents (GER 1).

[7] The Joint Federal Committee is the highest decision-making body of the German self-governance system. It is composed of the federal-level associations of social health insurance (SHI) funds, SHI physicians and hospitals, and patient representatives who have an advisory role only.

Apart from setting maximum numbers in the ambulatory sector, there is little planning in relation to the current or future availability of health professionals (GER 2).

### Workforce planning

Workforce planning is largely restricted to regulating access of students to medical education through setting a *numerus clausus* by the *Land* governments (which only affects a proportion of places, with the remainder allocated by universities). Some *Länder* also define the number of nurses and other allied health professionals to be trained by hospitals and affiliated institutions that are included in the relevant hospital plan. North-Rhine Westphalia, for example, regulates the number of training positions for twelve health-affiliated occupations (e.g. nurses, physiotherapists, midwives, speech therapists, laboratory assistants) (Ettelt et al., 2006). Other professions and service areas, such as pharmacies, physiotherapists and occupational therapists (*Ergotherapeuten*), are not subject to planning (GER 1).

### Planning for integration of care

With rural areas increasingly perceived to be threatened by shortage of office-based physicians in ambulatory care, there is rising awareness at both federal and *Land* level of the limitations of the current sectoral planning approach (GER 1, GER 2, GER 4). Options for bringing together planning for ambulatory and hospital care are considered in view of future legislative reforms; however, consensus on how this should be done in practice remains to be reached (see Box 'First National Cancer Plan').

#### First National Cancer Plan

\National Cancer Plan, initiated in June 2008 by the Federal Ministry of Health, in co-operation with the German Cancer Society (*Deutsche Krebsgesellschaft*), the German Cancer Aid (*Deutsche Krebshilfe*) and the Collaboration of German Tumour Centres (*Arbeitsgemeinschaft Deutscher Tumorzentren*) (BMG, 2010). The plan was developed in collaboration with a wide range of healthcare actors, including the *Land* governments, statutory social health insurance funds, social pension funds, health and social care provider associations, research institutes, patient organisations and the Federal Ministry of Education and Research.

The integrating element of planning here is the creation of cross-sectoral working groups bringing together the different actors in line with the four priorities for future activities as set out by the plan: (1) improving early diagnosis, (2) improving oncological care and quality assurance, (3) ensuring efficiency of treatment (particularly relating to drugs) and (4) enhancing patient information and patient orientation. The aim of the working groups is to determine development goals for each area, identify and prioritise potential for improvement and develop recommendations that are to be integrated into existing frameworks for cancer treatment (e.g. legislation; reimbursement schedules; clinical guidelines). In future, the national cancer plan aims to include further priorities, such as primary prevention and environmental and occupational health protection (BMG, 2010).

The plan is non-binding for actors. Rather than defining goals itself, it sets out a process for decision making about the future direction of cancer care. Both the development and implementation of the plan are highly consensual and participative (GER 2).

Key challenges include the current governance arrangements in relation to planning, with *Land* governments taking a decisive role in hospital planning in their region but having little influence on planning in the ambulatory care sector. Likewise, office-based doctors, or their respective representative associations, have little influence on the range of services provided in hospital. There is thus a risk of the development of a duplicate stream of services where these are provided in hospital and the ambulatory sector, as can be the case for some outpatient services provided by hospitals.

### Involvement of stakeholders

As noted previously, different sets of actors are involved in hospital and ambulatory care planning.

Legislation stipulates that the *Land* governments are responsible for hospital planning. *Land* governments are required to involve all relevant stakeholders, including associations representing the various tiers of the administrative system at local (*Städtetag*), district (*Landkreistag*) and regional (*Städte- und Gemeindebund*) level, and representatives of regional associations of hospitals, the regional associations of statutory social health insurance funds, the regional association of SHI physicians, the Physicians' Chamber and representatives of private health insurers. Different from other *Länder*, the *Land* NRW has an additional administrative tier, the regional councils (*Landschaftsverbände*), which, among other things, are responsible for selected areas of health and social welfare and are involved in the planning of mental health hospitals. The 21 actors involved in planning in NRW are represented in a planning committee (*Planungsausschuss*). However, despite the large number of actors involved and the largely consensual way of decision making, the role of the final arbiter is with the government of the *Land* (GER 3).

In the ambulatory care sector, federal law stipulates that the regional associations of SHI physicians and the regional social health insurance associations develop plans that regulate the number of SHI-affiliated office-based physicians in each region (*Bedarfsplan zur Sicherstellung der vertragsärztlichen Versorgung*) (SGB V, para 99). *Land* ministries are involved through consultation, but their role in ambulatory care planning is minor, although they have legal responsibility to supervise regional associations of both statutory health insurance funds and SHI physicians (GER 1).

## Planning tools

In the hospital sector, *Länder* use a variety of approaches and tools of planning. However, there is little systematic information on the variety of the approaches available, making it difficult to compare and assess different approaches.

Federal legislation stipulates that the hospital plan sets out a framework for hospital planning (*Rahmenvorgaben*) and develops models for regional planning concepts (*regionale Planungskonzepte*). These concepts define the principles of planning and the criteria for healthcare services provided in each area, including their geographic distribution, type and number of specialties, and quality of services (GER 3). In the *Land* of North-Rhine Westphalia, principles include, for example, adequacy, efficiency, effectiveness, accessibility, quality and plurality of providers (KHGG NRW, 2007).

Planning concepts developed in NRW use the so-called Hill-Burton Formula for calculating bed capacity in each specialty (population × admission rate × average length of stay × 100 divided by occupancy rate × 100 × 365) (Ettelt et al., 2006). The calculations are based on routine hospital statistics, which describe the current state of hospital care provided. The occupancy rate is normatively set by the Ministry of Health (GER 3). There are efforts to move away from bed capacity planning only, in NRW, although it was noted that bed numbers will continue to play a role in hospital planning in future (GER 3).

In NRW, a new hospital plan is to be developed in 2010. In contrast to previous plans, the new plan is not expected to include guidelines for distribution of sub-specialties. In future, sub-specialties are thus likely to be subject to negotiation between association of social health insurance funds and hospitals only, with the aim to strengthen competition between hospitals and to allow more flexible responses to regional needs (GER 3).

The new plan is expected to cover the next three years (until 2013) (GER 3). It was argued that there is a tendency to plan within a shorter timeframe only, which is perceived to allow for more reliable and flexible planning, given that longer-term arrangements would bind all actors to an administrative procedure for a longer period of time (GER 3, GER 4). The plan is also intended to reduce the number of hospital beds in NRW by 10,000 (from currently about 110,000) in the years to come.

The main planning tool in ambulatory care is the setting of quota levels to regulate the maximum number of office-based physicians per region. These are informed by a directive issued by the Federal Joint Committee, prepared by its planning sub-committee (*Unterausschuss Bedarfsplanung*) and approved by the Federal Ministry of Health (GER 1). Thus, in contrast to hospital planning, planning of ambulatory care draws more explicitly on federal level input.

Maximum numbers only apply to physicians wishing to establish a practice that qualifies for SHI reimbursement, for which they have to apply for a licence from the regional association of SHI physicians. Doctors who treat private patients only do not require a licence and may establish a practice wherever they choose.

Quota levels are typically based on 1990 supply figures. Some adjustments are made to account for changes in physician specialisation groups. For example, the quota for family physicians is based on 2000 supply figures.[8]

The Federal Association of SHI Physicians has developed an analytical tool that maps the existing distribution of physicians per area for each specialty. This tool also allows for the modelling of future changes in the number and distribution of physicians in ambulatory care. However, it does not include data on healthcare needs or population health status (e.g. standardised mortality rates per area), as there is a lack of appropriate data and concerns about data protection (GER 1).

[8] To increase the number of family physicians, internal and paediatric specialists were allowed also to practise as family physicians. Since 2002, family medicine has again become a separate discipline, thus requiring a new calculation of the rate of family physicians per population. The 2000 supply figures were chosen to account for the higher number of family physicians, compared with 1990.

Overall, the approach to planning of ambulatory care in Germany was designed to control the supply of office-based SHI physicians rather than addressing actual population health need, with a particular focus on minimising over-supply, with some commentators regarding the maximum numbers as fairly generous (GER 1). Current regulation appears to be less well equipped to address a perceived under-supply of physicians in some regions (GER 1, GER 2). A number of incentives to attract physicians to practise in underprovided areas have been introduced, such as financial subsidies for the purchase of equipment and practices or higher reimbursement for services provided in rural areas, with more changes currently considered (e.g. to improve the image of family physicians in medical education) (GER 1). It is yet to be seen if these incentives are sufficient to address the problem adequately.

A main challenge remains the absence of an assessment of healthcare needs as the basis for planning of ambulatory and hospital care, with both dominated by supply-side approaches. As mentioned above, permission to establish an ambulatory practice depends on a supply quota, taking 1990 capacity as a baseline. Regional hospital planning, in contrast, is largely influenced by political negotiation between providers and (health or administrative) authorities at city, district or *Land* level. Existing approaches are largely geared to maintain existing capacity and structures, with changes only being introduced incrementally following lengthy negotiations between stakeholders (GER 1).

## Implementation and monitoring

In the hospital sector, plans are implemented through an administrative procedure, involving negotiations between the authorities at the various administrative tiers of the system, payers and hospitals. There is no explicit mechanism of monitoring. Selected routine data are collected at regional level by the *Land* statistical offices and nationally through the hospital statistics of the Federal Office of Statistics, such as number of beds per specialty and population and occupancy rates (Statistisches Bundesamt, 2009). In North-Rhine Westphalia, the Ministry of Health and district governments routinely review these data to identify potential bottlenecks or oversupply in hospital care provision (e.g. occupancy rate). However, it was noted that problems of care provision are typically flagged up by stakeholders involved in implementation, i.e. hospitals and health insurance funds, long before they are visible from routine statistics (GER 3). However, the government in NRW does not perform a formal evaluation of the implementation of the plan.

There are also official statistics that monitor the number of office-based doctors per specialty in each region, collected by the associations of SHI physicians (Statistisches Bundesamt, 2009).

A trend to litigation is a further challenge to planning (GER 1, GER 2, GER 4). In recent years, an increasing number of court cases have taken place, in which doctors challenged a decision denying them to practise in the area of their choice or hospitals objected to the exclusion of a service from the hospital plan (GER 1, GER 2, GER 4). Litigation is facilitated by the fact that plaintiffs, in the first instance, are exempt from the costs of a case, a rule that was meant to strengthen the rights of citizens vis-à-vis authorities. Yet the excessive use of this avenue tends to undermine planning, often reversing uncomfortable decisions that aim to address over-provision.

Hospital closures, in particular, tend to be highly disputed and politicised, with regional and local politicians often being involved with individual hospitals (e.g. as members of hospital boards), thus seeking to influence decisions on behalf of their local or regional electorate (GER 4).

The debate is further clouded by the fact that the benefit of closures or exclusions in costs savings to social insurance is not clear, largely because of the absence of reliable data (GER 1).

## Outcomes of planning

In the absence of formal monitoring and evaluation evidence of the outcomes of planning is sparse.

It was argued that the approaches to planning hospital and ambulatory care is effective in providing access to healthcare in most regions, as measured by patients' and citizens' satisfaction with access to care (GER 1). However, it was also noted that the existing approach is more successful in distributing over-supply than in reducing excess capacity or addressing under-supply in rural or deprived areas.

With planning being dependent on agreement of a large number of stakeholders (representing different and sometimes opposing interests), decision making is likely to be incremental only.

# Appendix B: Austria

## Background

The Austrian healthcare system is largely funded through social health insurance (SHI) contributions from employers and employees. About 80% of the population is covered by regional SHI funds, with the remainder covered by occupational funds that operate nationwide (Hofmarcher, 2009). Statutory social health insurance in Austria is granted on the basis of occupation and residence; insured members do not have the option to choose among funds. SHI contributions account for just under 50% of total health expenditure, with taxation accounting for another 32% (2007); the remaining 20% are funded through out-of-pocket payments and private insurance (OECD, 2009).

Responsibility for health system governance is shared by federal and nine state (*Land*) governments and corporatist actors (social health insurance and health professionals' associations). According to the Federal Constitution, almost all areas of the healthcare system are the responsibility of the federal government. An exception is the hospital sector where the federal government is only responsible for enacting basic law. Legislation on implementation and enforcement is the responsibility of the *Länder* (Hofmarcher and Rack, 2006).

Hospitals are owned and operated by a variety of public (49%), private for-profit (39%) and private not-for-profit organisations (12.5%) (2006) (Bundesministerium für Gesundheit, Familie und Jugend, 2008). Hospitals are funded from a variety of sources, with financing compartmentalised in an agreement between the federal government and the *Länder* to regulate fiscal equilisation across federal states and municipalities (Hofmarcher and Rack, 2006). Since 1997, about 45% of the running costs of hospitals is through activity-based funding using a modified version of diagnosis-related groups, the performance-oriented hospital financing system (LKF) (Wild, 2009). Capital investment is mainly decided on and financed by the owners and/or hospital operators (Hofmarcher and Rack, 2006).

The delivery of outpatient care is organised in three "pillars": office-based primary and specialist care physicians; outpatient clinics (*Ambulatorien*), which are run by social health insurance or private practice; and hospital outpatient departments (*Spitalsambulanzen*). Outpatient care provided by office-based doctors is largely reimbursed on a fee for service basis, using payment schemes based on public services or private law and supplemented by bonuses defined by the *Land* (Hofmarcher and Rack, 2006).

## The planning process

Healthcare planning is organised according to the administrative tiers of the healthcare system. The federal government is responsible for national framework planning, i.e. defining national goals, developing plans for planning zones (*Versorgungzonen*), planning regions (*Versorgungsregionen*) and healthcare sectors (*Bereiche*), and for integrating the separate planning exercises for these zones, regions and sectors. *Land* governments and social partners are responsible for developing their respective detailed plans and for implementation.

The Austrian Federal Institute for Health (*Österreichisches Bundesinstitut für Gesundheitswesen*; ÖBIG),[9] carries out research and planning activities for the Austrian federal government. However, decision making on federal planning is with the Federal Health Commission (*Bundesgesundheitskommission*; BGK), the executive agency of the Federal Health Agency (*Bundesgesundheitsagentur*), which brings together representatives of the federal government, social insurance institutions, the *Länder* and local authorities, hospitals, patients and the Austrian Physicians Chamber (Hofmarcher and Rack, 2006).[10] The *Länder* are responsible for devising regional plans in accordance with the national plan and to implement the regional plans.

The overall approach to healthcare planning in Austria was modified by the 2005 healthcare reform, which aimed at improving coordination of planning, control and financing of the entire healthcare system (Hofmarcher and Rack, 2006). The 2006 national healthcare plan (*Österreichischer Struktruplan Gesundheit*; ÖSG) was developed, replacing the previous Austrian Hospitals and Major Equipment Plan (ÖKAP/GGP), which had been introduced in 1997 and updated and extended since (1999, 2001, 2003).

The ÖSG forms the basis for integrated planning in the Austrian healthcare system. Its overarching goal is to "secure responsive, high quality, effective, efficient, and equal healthcare provision in all regions regarding all relevant areas of health and social care" (ÖBIG, 2008: 1.) by setting out a framework for detailed plans at *Land* level. The ÖSG includes planning of the range of services offered in acute inpatient care, along with a description of the current structure of care provision in the non-acute inpatient sector, in the outpatient sector and in the rehabilitation sector, as well as at the interface with long-term care (Hofmarcher and Rack, 2006). Binding structural quality criteria constitute an integral part of the planning statements within the framework of service provision planning.

The increasingly integrated approach to planning offered by the ÖSG is perceived as one of its key strengths (AUS 1, AUS 3, AUS 4).[11] Integrated planning is however not fully

[9] ÖBIG was established in 1973 and in 2006 was integrated in *Gesundheit Österreich GmbH* (GÖG), the newly established national research and planning institute for healthcare.

[10] The Federal Health Agency (*Bundesgesundheitsagentur*) was established in 2005 as a fund under public law and as a separate legal entity. Among other things, the Agency is responsible for developing the framework for planning of health service provision in all sectors, and for the development and advancement of performance-orientated reimbursement systems in all healthcare sectors.

[11] The abbreviation "AUS #" refers to information provided by key informants.

realised because of the lack of sufficient data on services provided in the outpatient care sector, among other things (AUS 2). The direction of future development is towards strengthening integration among healthcare sectors (ÖBIG, 2008) and developing quantitative estimates for ambulatory care (AUS 2). The latest ÖSG (2008) contains a detailed service provision plan for the acute inpatient sector while planning of outpatient care provided by office-based doctors outside hospital has so far been restricted to an assessment of the status quo only, i.e. a description of the current levels of service provision. Thus, while detailed integrated planning across the different sectors has not yet been achieved, the ÖSG, for the first time, provides comprehensive and comparable information about the existing healthcare structures across all of Austria.

While rehabilitation is included in the Austria approach to integrated healthcare planning it is presented in a separate planning document outside ÖSG. Planning rehabilitation is carried out by ÖBIG Research and Planning Association (*ÖBIG Forschungs- und Planungsgesellschaft*; ÖBIG FP) on behalf of the Confederation of Social Security Institutions (*Hauptverband der österreichen Sozialversicherungsträger*; HVSV) (ÖBIG FP, 2008). This planning exercise is under development in order to better align it with the ÖSG (AUS 2).

The national healthcare plan provides a framework for a total of 32 healthcare regions, which are assigned to four healthcare zones. Each of these planning zones encompasses a number of *Länder*, in one case separating a *Land* to two planning zones (ÖBIG, 2008):

- Planning Zone West: Tirol Vorarlberg;
- Planning Zone North: Salzburg, Upper Austria;
- Planning Zone East: North and Middle Burgenland, Lower Austria, Vienna; and
- Planning Zone South: South Burgenland, Styria, Kärnten.

The framework plan provides the basis for the regional plans (*Regionale Strukturplänen Gesundheit*; *RSG*), which are prepared and implemented by the *Länder*. In this way the federal framework integrates planning at a geographic level, which at the same time allows for detailed planning at the level of the *Land*. RSGs are enacted by state health platforms (*Landesgesundheitsplattformen*; LGP), which correspond to the Federal Health Commission at the federal level. RSGs have to follow the description of the current situation and planned supply as described in the national healthcare plan (ÖSG); however, as the ÖSG is currently limited to providing detailed figures for acute inpatient care long-term care only, *Länder* will have to provide additional forecasts and plans for those sectors not covered by the national plan such as outpatient care provided by doctors outside hospital (Mathis et al., 2009). In addition, some regional plans incorporate the rehabilitation plan (e.g. ÖBIG, 2005).

Federal planning is carried out biannually with the first ÖSG introduced in 2006 followed by the 2008 ÖSG as noted above. The 2010 ÖSG is under development. Accordingly, *Länder* also develop their planning documents every two years. Detailed quantitative estimates are provided for a two-year timeframe for acute inpatient care (ÖBIG, 2008). *Land* plans follow the same approach. The 2009 Rehabilitation Plan also employs the two-year time horizon (2009–2010) while also providing plans for 2015 and 2020 (ÖBIG FP, 2008).

## Involvement of stakeholders

Healthcare planning in Austria is strongly rooted in consensual decision making. The central components are the Federal Health Commission at the federal level and their regional equivalent, the state health platforms. The involvement of *Land* authorities and social insurance institutions in implementation assures that their representatives' views are also reflected in the planning process. However, the involvement of a comparatively large number of actors and the consensus orientation of the Austrian healthcare planning approach suggests a more incremental adjustment of healthcare provision rather than more fundamental changes to the organisation of healthcare services (AUS 1, AUS 3).

As planning and financing of hospital care and outpatient care follow different paths the involvement of stakeholders in planning of the respective sectors also differs. The federal government does not contribute to financing of outpatient care and because of the lack of sufficiently detailed data, outpatient care is mainly planned at the *Land* level.

## Planning tools

In Austria, the national healthcare plan describes overarching healthcare goals for the entire system, while providing a detailed description of each healthcare sector and outlining detailed service volume plans for each region in the hospital sector (ÖBIG, 2008; ÖBIG FP, 2008).

The ÖSG operates on three key analytical tools: planning matrix (*Planungsmatrix*), provision matrix (*Versorgungsmatrix*) and performance matrix (*Leistungsmatrix*); in addition, it also defines quality criteria and minimum volume for key categories of care provision in the hospital sector (ÖBIG, 2008). Thus, the planning matrix provides an overview of all healthcare sectors covered by the ÖSG by presenting data on structural indicators such as number of beds and number of doctors, as well as process data such as length of stay in hospital. The provision matrix breaks these figures down further into diagnosis related groups; it also defines the planned provision. The performance matrix defines quality criteria and minimum service volume per diagnosis related group (ÖBIG, 2008). The planning tool does not incorporate assessment of population health and healthcare needs however. Building planning on population-based healthcare needs assessment is one of the key future directions of development (ÖBIG, 2008; AUS 1; AUS 2).

As noted above, for acute inpatient care, planning is based on service volumes, as planning is moving away from input measures such as bed numbers. In outpatient care no planning unit is defined as quantitative assessment is not yet part of planning. The prospective unit of planning is likely to be consultation rate (AUS 2); the corresponding data are being collected by social insurance institutions and will have to be harmonised.

The rehabilitation plan employs a simulation model which takes into account, for example, the level of demand for rehabilitation services, the degree to which this is being met and average waiting times (AUS 2). Data are broken down according to indication groups (ÖBIG FP, 2008).

There are a number of challenges relating to the data underlying these analytical techniques. In outpatient care data collection and harmonising data of different social

insurance institutions is under way, but remains complex. Data timeliness presents challenges for the development of real time assessments and the development of relevant databases constitutes one of the main directions of further advancement of planning (AUS 2).

## Implementation and monitoring

In Austria, the implementation of healthcare plans greatly depends on *Land* and social insurance institutions, which are responsible for implementation and enforcement of the plan and a large proportion of funding (Fülöp et al., 2008). As noted above the national healthcare plan provides a framework for *Land*-level planning and must be respected by *Länder*. There is the possibility to impose sanctions on *Länder* that do not follow the ÖSG in their regional planning: the federal government can withhold its funding from the *Land* in question until the regional plan conforms to the national plan. However, as the federal government contributes financially only to inpatient care and not to outpatient care this mechanism is only effective in the case of hospital planning. Sanctions have not yet been used in practice (AUS 1).

In outpatient care, a key to implementation rests with organised interests of office-based doctors (AUS 4). Self-governance of office-based doctors plays a crucial role in defining service provision, which leaves few levers to hold them to account and to enforce action, except perhaps for litigation. In the absence of formal sanctions, incentives may be particularly relevant. However, financial rewards are less effective in reducing than in stimulating additional activity. Moreover, the lack of good quality data on the service provision of office-based doctors also hampers effective implementation.

In Austria, the federal government, social insurance institutions and professional self-governing bodies collect data on healthcare provision regularly. Some of these datasets are used in the biannual updates of the national healthcare plan. However, as noted above, the timeliness of data provides a challenge.

There is an emphasis on ongoing monitoring and evaluation of implementation, which constitutes the basis for the subsequent year's planning. The monitoring system focuses on evaluating consistency between the national framework plan and regional plans, the actual performance of all healthcare service providers with the planned provision, detailed figures on hospital stays and planned stays, and quality criteria, among others (ÖBIG, 2008).

# Appendix C: Ontario (Canada)

## Background

The healthcare system in Canada is decentralised and includes 13 single-payer universal schemes in each territory or province. These (Medicare) schemes cover health services in each territory or province as defined by the federal Canada Health Act 1984, and are predominantly financed from general federal and provincial taxation (Ettelt et al., 2008). The federal government is responsible for protecting the health and security of Canadians by setting standards for the Medicare system; it also has key responsibilities in the public health domain.

Hospital services and physician's public healthcare services are insured under the Canada Health Act and funded by provincial governments. Provision of services is mainly through private non-profit and public providers. Physicians practise privately and are paid on a fee-for-service basis; physician remuneration is negotiated by provincial governments with provincial medical associations (Jiwani and Dubois, 2008). Provinces also fund and administer the public prescription drugs programme for older people, low-income earners and other subgroups, accounting for about half of the costs of prescription drugs annually.

Canadian provinces and territories are diverse in their approach to healthcare planning. In most provinces, health services are organised, primarily, by regional health authorities (RHAs), which coordinate and deliver services to a defined geographical population (Jiwani and Dubois, 2008). We here describe the example of Ontario, which began regionalising healthcare organisation and financing only recently.

In Ontario 70% of healthcare expenditures are paid for by the public purse, with 30% paid out of pocket or from private insurance (Lomas and Brown, 2009). In 2006 Ontario introduced a system of 14 local health integration networks (LHINs), which were made responsible for planning, integrating and allocating funding for local health services, including hospitals, community-care access centres, home care, long-term care and mental health, within specific geographical areas (Ettelt et al., 2008). In contrast to RHAs in other provinces, LHINs are not service providers. Rather, they determine, in partnership with providers and community members, health priorities for the areas they serve (Ministry of Health and Long-Term Care, 2010).

With the regionalisation of planning and funding responsibilities to LHINs, the Ontario Ministry of Health and Long-Term Care has adopted a stewardship role, away from a more traditional operational role (Lomas and Brown, 2009). The role of the ministry is to set provincial priorities, develop policy and ensure accountability to provincial priorities by

the local health integration networks (LHINs). The ministry has however retained responsibility for some areas, including physicians, public health, ambulances services and provincial networks and programmes. A 2008 review of the effectiveness of the transition and devolution of authority to LHINs has been evaluated as having made positive progress with few problems (Ministry of Health and Long-Term Care, 2008).

## The planning process

In Ontario responsibility for health planning is shared between the Ministry of Health and Long-Term Care and local health integration networks. Different elements of planning are conducted in different ways.

The overall approach to planning involves the Ministry of Health and Long-Term Care setting strategic directions for provincial healthcare while LHINs are tasked with developing local priorities that are aligned with provincial priorities (Ministry of Health and Long-Term Care, 2008). More specifically, the ministry is required to develop a provincial strategic plan to help guiding the healthcare system while LHINs are required to develop integrated health service plans for their geographical region. Local plans determine priorities for a period of three years, and require the involvement of the local community in determining these priorities. At the same time, local plans have to be consistent with provincial priorities. This requirement created some difficulties when LHINs were asked to develop the plans in the second year of their operation while the provincial strategic plan was yet to be published (Ministry of Health and Long-Term Care, 2008). This has meant that LHINs had to develop plans without explicit provincial guidance with the consequence that those LHINs that had not foreseen subsequent provincial strategies announced by the ministry faced the challenge to align local and provincial priorities.

As noted above, the Ministry of Health and Long-Term Care has retained overall responsibility for primary care and therefore responsibility for planning of primary care. In contrast, as LHINs are responsible for hospitals, hospital planning takes place at LHIN level. This can create some challenges in aligning provincial and regional or local goals with for example the provincial ministry determining the number of doctors required across Ontario while individual hospitals retain autonomy over the actual number of staff they employ.

### Workforce planning

There is no national strategy for physicians and workforce planning remains a challenge for provinces. Workforce planning is undertaken by the Ontario Ministry of Health and Long-Term Care. The focus is on doctors but also increasingly involves other practitioners, including non-traditional roles such as homeopaths. Within workforce planning there are elements of short-term planning (with annual reviews) and long-term planning (over five to ten years).

Workforce planning is informed by input from other actors outside government, including professional and regulatory bodies as well as colleges and universities which deliver the training. Workforce planning takes into account forecasts for the future, for example recruiting the right number and mix of professionals required, and ensuring that they are geographically dispersed across the appropriate areas.

There has been ongoing debate and discussion within Ontario as to the number of physicians required (Ettelt et al., 2006). Projections dating to the 1980s predicted an oversupply of doctors and as a consequence the number of places at medical schools was reduced by 10%. Yet, the prediction did not materialise, resulting in a shortage of physicians. In response to this a new medical school was established and the number of medical students was increased (ONT 2).[12]

In Ontario, the number of physicians fluctuates, and although trends are being monitored, movement into and out of the province is difficult to predict. For example, there had been an unexpected rise in physicians from other countries coming to Canada, as a result of changes in US immigration policy (ONT 2). Immigration to Ontario from other parts of the world poses a challenge, however, as certification and acceptance of foreign degrees is time consuming and thus effectively restricts influx of trained professionals even in understaffed professions.

Challenges to workforce planning in Ontario (as elsewhere) are also posed by rapid changes in technology. For example, workforce predictions for cardiology had to be scaled down because of new developments such as angioplasty, reducing the need for relevant staff. As a result, Ontario faces a new challenge of unemployed cardiologists, a situation which would have been unheard of previously.

### Geography

In all aspects of planning, but particularly in relation to workforce planning, the geography of Ontario plays a crucial role with a large proportion of the population concentrated in major cities such as Toronto.

Media and public attention often focuses on the lack of family doctors (ONT 2). This is seen as a problem not only in the urban and more remote areas, but also in some urban areas (such as downtown Toronto). However, one of the key challenges faced by planners is the definition of the optimal unit of planning for family doctors, with an upper limit imposed by applying a physician per population ratio. To address potential under-staffing in more rural areas, additional support is provided for foreign workers who are re-certified and willing to practise in the more remote northern parts of the province rather than the main cities. Such arrangements may be informal, however. In addition, a medical school has been established in the north of Ontario to recruit and retain professionals who work in the north.

## Planning tools

As noted above, each LHIN is responsible for developing an integrated health service plan setting out local priorities. For example the priorities of Toronto LHIN include reducing emergency room waiting times (Toronto Central LHIN, 2010).

In all areas, the unit of planning depends on the nature of the area being planned. The unit of planning typically referred to in primary and hospital care is that patients should have access to a doctor within 24–48 hours.

[12] The abbreviation "ONT #" refers to information provided by key informants.

Planning is often based on units for which data are available such as volume of consultations, clinical outcomes (although data are limited) and, to a small extent, bed volumes. Although the number of beds has traditionally been the unit of planning for hospital care this measure is increasingly viewed as not helpful as over 50% of people receiving hospital care in Ontario are day cases. Although the view that "everyone still thinks in terms of beds" remains (ONT 2), the term "seats" is beginning to be used rather than "beds" so as to acknowledge the high proportion of day cases.

The time horizon for planning varies, with short, medium and long-term planning in place. There are moves to build evaluation into this process, which traditionally has not been undertaken well. Needs assessment is conducted as part of the planning process.

Long-term planning is conducted two to three times a year and is focused on specific topic areas such as individual responsibility for health or care of neurological diseases (ONT 2). The process involves a large number of stakeholders inside and outside government who are consulted on a range of scenarios and identify robust themes across all the possible futures. The usual horizon is for a period of 10–20 years with mid-point markers in the plan (e.g. every two, three or four years).

## Implementation and monitoring

The system currently does not use incentives or sanctions very well and although there are moves to address this in the near future, there is an acknowledged need to improve performance management throughout the planning system.

Within the ministry and externally there is a view that the front end of planning is conducted well, yet the evaluation process is not effective and there is a need for greater evaluation. In the field of workforce planning there is a perceived weakness: that feedback and monitoring of the system of planning and delivery is ineffective. This is supported by a report from the Institute for Clinical Evaluative Services (2006), which noted how health information could improve health system performance evaluation by the creation of measures such as a complete and comprehensive primary care database. There are moves within the Ontario ministry to address this weakness across all areas (ONT 2).

Alongside these considerations there is also a move in Ontario to support the increased use of evidence as part of the new stewardship role of the Ministry of Health and Long-Term Care and in 2008/9 the ministry funded 17 external research centres to generate research of value to the ministry (Lomas and Brown, 2009). The use of evidence has been an important factor to create a policy shift away from those who designate geographical areas as "underserved" and in need of more physicians. This move was prompted by findings from surveys suggesting that residents in designated underserved areas did not perceive the need for additional physicians (Lomas and Brown, 2009).

Overall, there is a strong focus on monitoring and evaluation as an important way forward. Financial pressures are a consideration and decisions of where funding should go can be complex. Obtaining more information, through monitoring and evaluation, could lead to professionals being more informed about how to direct funding.

# Appendix D: New Zealand

## Background

Healthcare in New Zealand is largely financed through general taxation, supplemented by mandatory social insurance for accidents and injuries and private payments. Since 2000, with the introduction of the New Zealand Health and Disability Act, responsibility for the organisation of publicly funded health services has been shared between the Ministry of Health and 21 district health boards (DHBs).

DHBs are responsible for allocating resources and purchasing publicly funded health and long-term care services for the population within their region. The majority of their board members are elected by popular vote. DHBs are accountable to the Ministry of Health for meeting objectives set out in a range of government strategies and are required to report progress regularly against a set of performance targets and other accountability requirements (Ministry of Health, 2007).

Healthcare provision is both public and private. DHBs own and operate most public acute and mental health hospitals and a range of community-based services, but also purchase some (mostly elective) services from private hospitals, and long-stay residential and community-based services from NGOs. DHBs pay for primary care services via primary health organisations (PHOs). PHOs were established in 2002 as non-statutory, not-for-profit, intermediary bodies between DHBs and individual practitioners and practices, following the introduction of a new primary health care strategy. PHOs bring together doctors, nurses and other health professionals providing care in the community, through either employed staff or affiliated provider organisations and individual general practices (Ministry of Health, 2010). Enrolment is voluntary for patients. There are currently 82 PHOs, covering almost the entire population (Smith, 2009), although the government is currently encouraging the merger of the smaller PHOs.

Concerns about the future direction of healthcare provision, financial sustainability, shortcomings in coordinating services between DHBs and a shortage of healthcare workers have recently triggered a number of changes, affecting the approach to healthcare planning. These were reinforced by a change in government in October 2008 and a new commitment by the incoming government to create more efficient and accessible public health services (National Party, 2007).

In 2009 the Ministry of Health commissioned a ministerial review group to review the performance, quality and future sustainability of the New Zealand health system. In its report "Meeting the challenge" the group recommended to (re-)centralise some of the

planning and purchasing functions and to create a new body, the National Health Board, to oversee and guide planning at district and supra-district levels (Ministerial Review Group, 2009). The group also advised the integration of different aspects of planning that had so far been undertaken separately and the development of a joint approach for health services, workforce, technology and capital planning across the entire public system (Ministerial Review Group, 2009).

Thus, healthcare planning in New Zealand is currently undergoing substantial review and reconfiguration (NZ 1)[13] and many of the details of planning are still to be decided. In what follows, the current approach to planning will be described and an outline given of the future direction of travel.

## Current planning processes

Until now, healthcare planning was mostly undertaken at district level, with little direct involvement of the centre other than in producing high level policy direction. DHBs were required to produce a five-year strategic plan, annual operational plans and regular progress reports against their annual plans, as part of their accountability requirements towards the Ministry of Health (Ettelt et al., 2008). The role of the ministry has been generally restricted to funding DHBs via a population-based formula and reviewing district plans on behalf of the Minister. DHBs also produced an annual statement of intent, outlining activities of each DHB aimed at improving population health, measured against performance targets. However, most planning activities were aimed at complying with national requirements and less attention was given to preparing for future challenges associated with changing healthcare needs and, in particular, anticipated future shortages of financial and human resources (NZ 2).

A separate process applied to major capital investments, outlined in Guidelines for Capital Investment (Ministry of Health, 2003). Each DHB was required to develop a strategic asset financing plan and a strategic asset management plan, which had to be submitted to the Ministry of Health for approval. DHBs were also required to ask the ministry for approval of investments in excess of certain thresholds (e.g. NZD 10 million or 20% of total assets of a DHB). Different thresholds applied for different types of investment, such as facilities or information and communication technology (Ministry of Health, 2003).

Thus, much emphasis was given to capital planning, which largely supported the expansion of the hospital infrastructure within districts. Primary and community care was less prominent in planning, apart from broader statements of intent towards shifting care into the community at central level and some strategic consideration of this by DHBs (e.g. the Primary Health Care Strategy of 2001). Also, DHBs have only limited scope to influence primary healthcare providers who largely operate in private practices.

Another shortcoming of district level planning was that it did not require DHBs to plan in cooperation with other DHBs and to develop structures of provision across district boundaries (NZ 1). Although there were a number of regional initiatives, these were voluntary and largely focused on coordinating a few clinical services between districts (NZ

[13] The abbreviation "NZ #" refers to information provided by key informants.

2). Capital planning was also not linked to health workforce planning, despite a widespread recognition of an accelerating shortage of skilled health personnel (NZ 2).[14] Since 2005 DHBs have worked increasingly collaboratively to develop a joint strategy for workforce planning. It is, however, unclear how this strategy has influenced action at district and national level.

## Future planning processes

Current thinking at the Ministry of Health as to how the planning process will change in future involves a move towards stronger integration of planning of inputs (workforce, capital, information technology), processes (care models and configuration) and sectors (primary, secondary, tertiary, community and long-term care) (NZ 1, NZ 2).

The following suggestions are currently under consideration to develop a more comprehensive approach to planning:

- To integrate the planning of secondary and tertiary care with planning for primary, community and long-term care, to facilitate the configuration of health services provision and to support the creation of new healthcare models (such as integrated family health centres) (Ministry of Health, 2009a). The ministry has selected nine proposals ("business cases") for district and regional initiatives for future care configuration, led by PHOs and involving health professionals, PHOs and DHBs. Implementation of these nine initiatives will begin in July 2010, and is perceived to be a major catalyst for the development of multi-disciplinary teams in primary care, and new primary or secondary clinical roles and relationships.
- To align planning processes for health services, capital, information technology and workforce planning; to develop one integrated long-term national plan that guides regional and district level planning; and to direct future investments to new models of care over a horizon of 20 years (Ministry of Health, 2009a).

As previously stated, since 2001, planning was largely undertaken at district levels, with the role of the ministry limited to maintaining oversight and approving district plans and business cases. DHBs were required to involve local interests in the development of plans, including providers, patients and the public.

As mentioned above, there were few initiatives to coordinate planning between DHBs. This was largely through a mechanism of conflict resolution between DHBs in cases in which a decision by one board had resource implications for another board that the other board was unwilling to accept (District Health Boards, 2006). This process would follow an annual decision-making cycle and involve both regional forums (e.g. regional chief executive groups) and national organisations (NZ 1). In the absence of a regional governance structure, these mechanisms have however been criticised as being insufficient for addressing the need for better coordinated healthcare planning.

[14] The shortage of healthcare personnel is considered to be at least partly a result of out-migration and the fact that salaries for medical doctors are below the average of OECD countries (Ministry of Health, 2009b).

With the creation of the National Health Board in 2010, a new body has very recently been given oversight of both service and capacity planning and funding at national level. The board's roles are: (1) funding DHBs, (2) fostering DHB collaboration, including through dispute resolution, (3) planning and funding a set of designated "national services", and (4) planning and funding workforce, capital and information technology development.

The NHB advises both the Minister of Health and the Director-General of Health, and is placed under the auspices of the Ministry of Health and is supported by ministry staff. Its first chairman was appointed in October 2009 (Beehive, 2009); the majority of its members are clinicians.

Additional national entities that are currently being established include the Quality and Safety Commission, and the Shared Services Agency (which will centralise a range of functions including procurement and transactional processing to increase sector efficiency).

Regional planning is likely to involve the development of medium-term regional plans, replacing current district strategic plans (NZ 2). There are no plans to create new bodies at regional level. Instead, legislation is currently in preparation that will require chief executives and chairs of DHBs to act collaboratively to develop regional plans (NZ 2). Regional plans would then be binding for all DHBs within the region covered by the plan.

## Planning tools

A variety of analytical and planning tools were used in planning, although specific approaches varied between districts (NZ 2).

DHBs were required to undertake a health needs assessment of the population resident in their district to inform strategic planning, using demographic and epidemiological data, including indicators on current utilisation and health inequalities (NZ 2). This process was to some extent centrally supported through standardised data collection (NZ 1). However, it was argued that the assessment of healthcare needs was in danger of becoming an 'academic exercise' with little impact on actual planning outputs such as the configuration of services (NZ 2). A study based on 2001–03 data shows that health needs assessments had little impact on strategic planning in some DHBs, largely as a result of their broad scope and there being little institutional linkage between health needs assessments, prioritisation and planning (Coster *et al.*, 2009).

DHBs typically planned volumes of activities; however, approaches were not always systematic and largely focused on secondary and tertiary services (NZ 2). Bed modelling was used to plan the number of beds per medical specialty. However, models used were not nationally harmonised, with the effect that different DHBs used different models. It is anticipated that bed planning will be maintained, although determined by a more standardised, national approach (NZ 1), and completed by a range of other nationally consistent service and capacity planning tools.

Changes will also be made to the period of planning, which will shift from currently five to ten years of strategic planning at district level to a 20-year planning horizon, planned at national level (NZ 2). This expansion of the planning period is deliberate and aims to align future investments into human resources, healthcare facilities and the development of new

models of care, which, it is argued, can only be properly undertaken over a longer period of time (NZ 2).

Work is currently being undertaken to develop tools to project the impact of variables, such as human resource availability, the effect of new technologies, constraints of financial resources, and the rising needs of an aging and mobile population on future demand and supply of healthcare. Although it is acknowledged that projections will be subject to the impact of unforeseen events, the intention is to develop strategies that are flexible enough to cope with future developments, including changes to healthcare provision.

A role delineation model has been developed for the purpose of supporting health services, capital and workforce planning, based on a review of models used elsewhere.[15] The model allows for consistent description of health service configuration, taking account of different levels of complexity, service co-dependency and human resource and infrastructure needs. The model distinguishes seven service categories, including emergency medicine, medical services, oncology and haematology, surgery, maternity and neonatal services, paediatric specialty services, and older adults and specialist rehabilitation (Haggerty, 2009). Within each category there are six levels of complexity, with the lowest provided at community level and the highest in centres providing complex tertiary care. The model includes clinical support services such as pathology, pharmacy and diagnostic imaging and considers requirements for sub-specialties that are needed to provide more complex treatment, for example, in medicine, surgery and paediatrics.

To date this tool has been used to describe current configuration of services. Work is under way to test its sensitivity in describing less complex services (levels 1–3), and to consider its potential use as a future planning tool. Service and workforce guidelines produced by professional bodies such as the royal colleges will also be key planning tools, together with more sophisticated use of geo-spatial mapping.

## Implementation and monitoring

As noted above, current approaches to planning have been largely focused on compliance with national accountability requirements. Once approved by the ministry, district annual reports were binding on DHBs, as were national performance targets (e.g. to reduce the waiting time for radiation therapy for cancer to four weeks by December 2010) (Ministry of Health, 2009b). Progress against these objectives was monitored by the Ministry of Health through regular reporting mechanisms.

The ministry has the authority to sanction underperforming DHBs and to replace the board or individual board members (French et al., 2001). Thus, boards have a strong incentive to perform well against financial and clinical targets. The government intends to strengthen the DHB accountability framework.

## Outcomes of planning

[15] A role delineation model has been used in New South Wales (Australia) for several years (NSW Health Department, 2002).

A range of commentators identified flaws in the DHB model, particularly in the fragmentation of planning and service delivery. A consensus emerged among influential stakeholders across the healthcare system that the model was not fit for purpose (NZ 2). This view was reflected in the policies of the incoming government in 2008, which had a relatively well-developed health policy (National Party, 2007). The 2009 review concluded that the current approach was insufficiently equipped to deal with problems resulting from staff shortages, issues of quality of care in some services areas (addressed as "vulnerable services"), long-term financial pressures and rising demand (Ministerial Review Group, 2009).

The newly proposed approach to planning attempts to reduce barriers in shifting of care between DHBs, primary and secondary care, and health professional groups. Key aspects include NHB promotion of new models of care, and strengthening the role of the centre and the regions in planning and organising care.

Changes to the planning approach should be interpreted in the context of health system change. In 2008 the incoming government had promised not to engage in "radical" structural health system reform. However, in response to the future challenges the government has instituted changes that lead to review of current forms of health service provision and current governance structure. By centralising some of the planning functions, the ability of the centre in driving health system change will be strengthened. At the same time, the government is strongly emphasising clinician-led change, through clinical governance and clinical network structures. Development of more sophisticated planning approaches (including use of consistent planning tools) that enlist the support and advocacy of clinical leaders is intended to create stronger support from stakeholders at regional and district levels, which will be required to be able to change the structure of healthcare provision (e.g. to rebalance hospital and community based provision). The legal obligation on DHBs to consult affected parties before instituting significant change will continue, and hence engagement of health professionals and communities in change processes will be a key aspect of future planning.

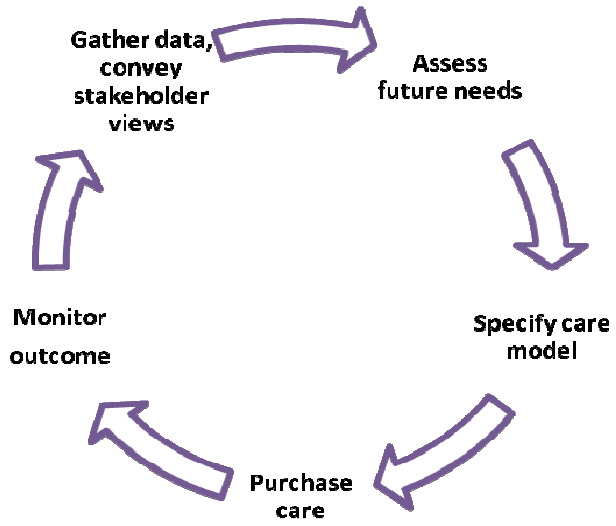
# Appendix E: Topic guide

## Health services planning – international approaches

*Interview topic guide*

**"Health services planning" here relates to planning of hospital care, ambulatory/primary care, capital investments and/or healthcare workforce.**

1. **Please describe a typical approach to health services planning in your country using an example of your choice.**
   Please consider the actors of planning, the unit of planning, and the key stages of the planning process such as setting overarching objectives, analytical tools used for forecasting, and the "end-product" (i.e. planning documents).
2. **How is the plan put into practice?**
   Please consider the assignment of responsibilities, the incentives and sanctions, flexibility of implementation, monitoring and evaluation.
3. **Compared to the example you have just described, how does planning work in other areas of health service planning?**
   If it is different, please discuss the main differences along the above lines.
4. **How is planning of different parts in the healthcare sector linked?**
   Please think about the current approach for establishing a more integrated system of care and its main challenges.
5. **If you think about planning in terms of the healthcare planning cycle depicted below, where, in your view, are the key challenges towards planning in your country?**




6. How effective is the current approach to planning of health services in your country?
7. What do you think is the future direction of planning of health services in your country?
8. Are there any documents which you think we should look at?