



Reducing hospital beds

**What are the lessons
to be learned?**

by

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For many people, the hospital has come to symbolize the modern health care system. Yet in many countries, the role of the acute hospital is changing, with an emphasis on outpatient diagnosis and treatment as well as alternatives to long-term hospital care, leading to reductions in numbers of hospital beds. International comparisons that show large variations in hospital bed numbers, combined with the knowledge that hospitals are relatively expensive, often create political pressure to reduce hospital capacities. As a result, there is considerable interest in how countries that have reduced hospital capacity have done so, and what impact such changes have had on different stakeholders.

This policy brief looks at how hospital bed capacity has changed in Europe during the past decade and at possible explanations for these changes. However, it is first necessary to consider briefly some underlying issues.

What is meant by hospital bed capacity?

This misleadingly simple question raises many further questions. First, what is a hospital bed? This seemingly straightforward question is actually almost impossible to answer. Though hospital bed numbers are frequently used as a measure of the capacity of a health care system, a bed is merely an item of furniture on which a patient can lie. For a bed to make any meaningful contribution to a health care facility's ability to treat someone, it must be accompanied by an appropriate hospital infrastructure, including trained professional and managerial staff, equipment and pharmaceuticals. Furthermore, there are many different types of hospital bed, reflecting differences in the kind of patient they are designed to accommodate. A bed for a patient undergoing rehabilitation after a stroke is very different from a bed for a patient with multiple organ failure, who requires ventilation, dialysis and circulatory support. To complicate the matter, there are many pieces of furniture within hospitals that appear to be beds but are not included in hospital bed numbers. They include beds for patients' relatives (frequently accompanying children), cots for normal newborn

infants and beds for patients having ambulatory surgery. Similarly, there are some items of furniture that do not appear to be beds but may be counted as such, including chairs in which patients undergo dialysis.

Second, what is a hospital? This question addresses the nature of the interface between health care and social care. Traditionally, many so-called acute hospitals have provided long-term nursing care for significant numbers of patients. While many of these patients are now cared for in alternative facilities, such as nursing homes, the level of alternative care provided by different countries varies substantially and is unrelated to the age structure of their respective populations.(2) In some countries, facilities once labelled hospitals have been redesignated nursing facilities, as happened in Belgium in 1982.(3) Such changes affect the accuracy of comparing bed numbers over time (are apparent reductions simply redesignations?) and among countries (are the same types of facilities included?).

Because of the problems created by the shifting interface between hospital and social care, this policy brief will concentrate on what are commonly referred to as acute hospital beds. There also exists an extensive specialist literature on reductions in long-term psychiatric beds that could be the subject of a policy brief in its own right.

It should be noted that, even when using this more restricted definition, international comparisons are still fraught with problems, reflecting differences in how hospital care is organized in different countries. As Table 1 shows, countries vary considerably in what they include in the acute bed numbers they report to international organizations. In particular, some countries exclude entire sectors, such as private, military or prison health care, from their statistics.

Which European countries have reduced hospital bed capacity most?

Clearly, when answering this question, the many caveats noted above must be borne in mind. However, figures reported to the World Health Organization show that, since 1990, hospital bed numbers in some countries have fallen dramatically (see Fig. 1, page 4).

In absolute terms, the greatest reductions occurred in some of the countries that had the largest concentrations of beds in 1990. These countries include former republics of the Union of Soviet Socialist Republics (USSR), particularly those in the Caucasus and central Asia that faced the greatest economic hardships during the 1990s. However, in relative terms, large changes also occurred in Finland and Sweden (47% and 45%, respectively). Most of the other countries in western Europe experienced reductions of between 10% and 20%. Of course, these figures only measure one aspect of hospital activity; some countries, such as the Netherlands, made only small reductions in bed numbers while making large reductions in bed occupancy. A more detailed analysis of international trends in hospital activity from the mid-1980s to the mid-1990s was undertaken by Hensher, Edwards and Stokes (6).

Were these changes the result of health care reforms?

Once again, this question raises another one. Even if closures were a result of health care reform, was bed reduction the aim of the reform, or was it an unintended consequence? Or did it occur for other reasons?

As ever, the situation varies. In both Sweden and Finland, a substantial part of the reductions can be attributed to decisions to transfer parts of the health care system to the social

Table 1. Definition of acute hospital beds in selected countries

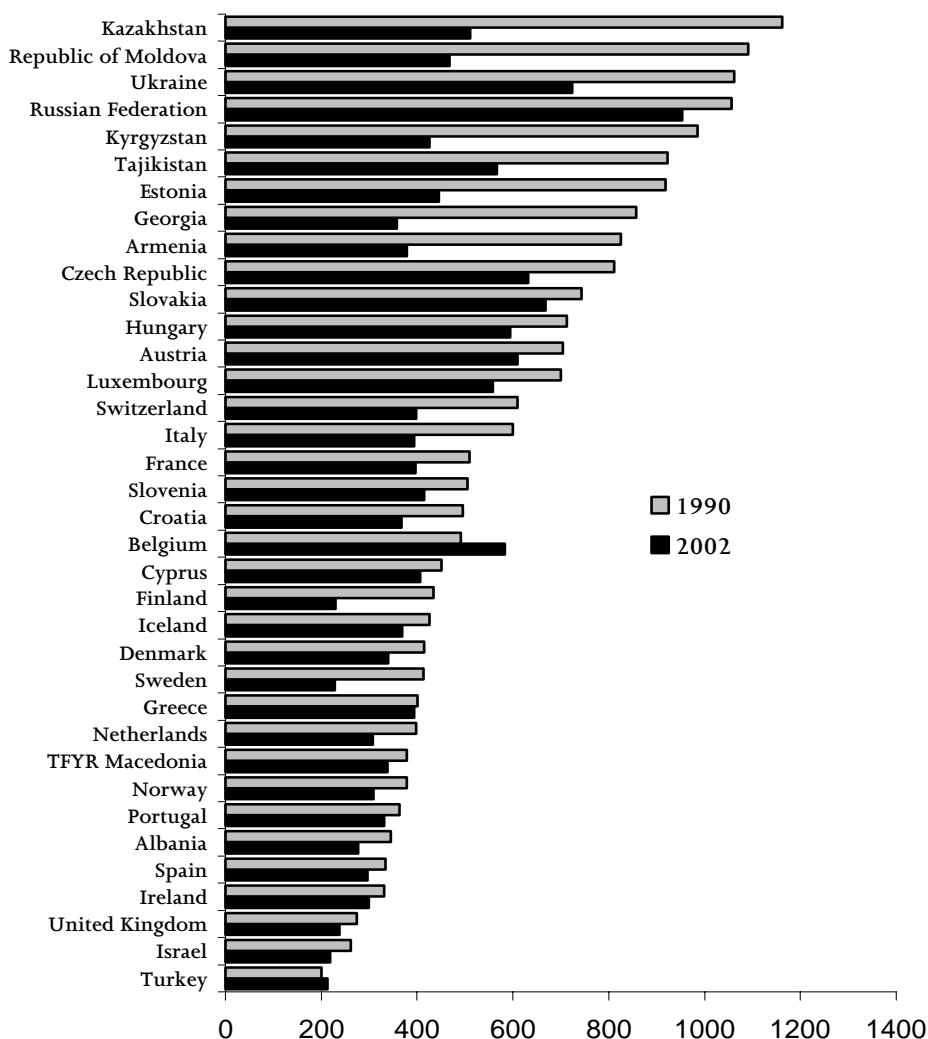
Country	Type of beds included	Day care beds included?
Austria	Beds in hospitals where average length of stay is 18 days or less	Some
Belgium	Beds in general hospitals that do not provide chronic disease care, geriatric services or other specialty care	No
Czech Republic	All beds in general hospitals (including psychiatric beds)	No
Denmark	Beds in hospitals, excluding departments with average lengths of stay longer than 18 days (except for in psychiatric hospitals, where all beds are counted)	No
Finland	Beds in inpatient wards of general and specialized hospitals and health centres	No
Germany	Beds other than psychiatric and long-term beds	No
Iceland	Internal medicine and surgery beds in main hospitals and beds in mixed facilities in small hospitals; numbers calculated from bed-days, assuming a 90% occupancy rate	No
Ireland	Inpatient days and day beds in publicly funded acute hospitals, defined as hospitals where average length of stay is generally less than 30 days; includes voluntary (non-profit-making) hospitals and health board hospitals	Yes
Italy	Includes inpatient beds in psychiatric hospitals and in psychiatric wards of other hospitals	No
Netherlands	Beds in inpatient wards of hospitals with specialized services, excluding psychiatric hospitals; includes cots for normal neonates and day care beds	Yes
Norway	General and specialized inpatient hospital beds	Varies
Portugal	Beds in general hospitals, maternity hospitals, other specialized hospitals and health centres	No
Spain	Beds in general hospitals, maternity hospitals, other specialized hospitals and health centres	No
Sweden	Beds for short-term care in facilities run by county councils and independent communities, in which short-term care includes medical short-term, surgical short-term, miscellaneous medical/surgical, admission department and intensive care	No
Turkey	Beds in public hospitals, health centres, maternity hospitals, cardiovascular and thoracic surgical centres and orthopaedic surgery hospitals	Yes
United Kingdom	National Health Service acute medical, surgical and maternity beds, excluding those in Northern Ireland	Varies

Source: Extracted from OECD health data 2003 (4) and national documents.

sector. In Sweden, this was the aim of the 1992 Ädel Reform, in which the municipalities assumed responsibility for the care of many long-term patients.(7) It led to both the redesignation of existing facilities and a programme to construct more appropriate long-term facilities outside the hospital sector. However, simple comparisons of beds in each sector can also be misleading, as the

example of Denmark shows. Construction of new nursing homes there stopped in 1987, and subsequent investment has focused on sheltered housing and social and nursing support to individuals living in their own homes.(8) As a consequence, bed reductions in the Danish hospital sector have not been accompanied by bed increases in the social sector, because care is now provided in dif-

Fig. 1. Acute hospital beds per 100 000 population, 1990 and 2002 (or latest available year)



Source: European health for all database, WHO Regional Office for Europe, 2004 (5).

ferent ways. In England, a detailed analysis of changing patterns of hospital activity (9) identified many different contributing factors, in which a reduction in acute hospital stays was counterbalanced by a major expansion of beds in private nursing homes, so that total bed numbers increased slightly.

In Kazakhstan, by contrast, the reduction in beds was unplanned and largely a consequence of the withdrawal of funding from the republic's many small rural hospitals. Three-quarters of these hospitals, which were underused and able to provide only very basic health care, closed between 1991 and 1997.(10)

In Estonia, the reduction was also partly due to the closure of small, poorly equipped hospitals, although in this case it was a result of an explicit policy to introduce a system of accreditation, which these hospitals failed, in 1994.(11) In the Republic of Moldova, local governments reconfigured many small hospitals as primary care facilities.(12) In Albania, change arose initially as a consequence of the near collapse of the health care system during the widespread civil disorder of the early 1990s. The unrest led many health care workers to flee rural areas, where they had been working in small, dilapidated rural hospitals.(13) Subsequently, with assistance from a large World Bank loan, many of these facilities were closed and others were converted to primary care facilities. However, further progress since 1994 has been slow, in part because it has been impossible to achieve consensus on which Albanian facilities to invest in and which to close.

A further question arises when considering the impact of reforms on bed closures. Have the reforms that have sought to reduce bed capacity succeeded, and if not, why not? The answer is rather mixed. Some west-

ern European countries have been too successful in reducing acute bed numbers and now find that they face shortages. For example, Ireland (14), Denmark, the United Kingdom (15) and Australia (16) have all faced growing waiting lists or other difficulties in admitting acutely ill patients to hospital, and they are now attempting to expand bed numbers. The situation in the United Kingdom is complicated, not least because of the different approaches in each of the four constituent countries (England, Scotland, Wales and Northern Ireland). Expansion was threatened by the introduction of a new system for financing capital developments, in which higher costs meant that new hospitals were smaller than the ones they were replacing (17), while hoped-for improvements in efficiency (measured as patient throughput) were not being realized (18). This difficulty is being addressed in England by the creation of new, stand-alone facilities for non-urgent surgery.

Elsewhere, change has been more difficult to achieve. A review of experiences in western Europe (19) found that achieving reductions in capacity (whether measured in beds or hospitals) was most difficult where facilities were owned and managed by different organizations. The move towards greater autonomy for hospitals seen in many countries can be expected to make change difficult, as the institution's interests take precedence of the wider health system's. Change was most likely to succeed in countries like France (20) and Spain (21), where health care delivery was considered from a regional perspective, taking account of the overall pattern of hospitals and other health care facilities, and where change was accompanied by sustained investment in alternative facilities.

In contrast, some countries in central and

eastern Europe with historically high levels of hospital provision have faced difficulty in reducing capacity. In Hungary, for example, a succession of reduction efforts had only limited success. They included the use of financial incentives based on diagnosis-related groups (DRGs), central designation of bed-reduction targets for individual hospitals, and a regional initiative to develop substitutes for hospital care and increase hospital efficiency.(22) In Poland, where there was very little change in the number of beds until the late 1990s, a decrease of 13 033 acute beds between 1998 and 2000 (5.6% of the total) was partly compensated for by an increase of 5200 long-term beds.(23) A review of experiences with hospital system restructuring in central and eastern Europe (24) identified a series of challenges that were rarely addressed adequately. These included a failure to take account of the specific context within which reform was taking place, an over-reliance on market mechanisms to bring about change, insufficient recognition of the wide range of stakeholders involved, a failure to ensure that incentives and policies were aligned, and a lack of appropriate human resources to implement reforms.

The research evidence

Despite the importance of the hospital to the health care system, there is remarkably little published research on the reconfiguration of hospital systems, and most of what exists is from Canada or the United States. This reflects several factors. First, as has been noted elsewhere (25), the concentration of such research in a very few countries reflects in part the willingness of funding agencies there to support organizational research in the health sector. Second, evaluative research requires well-developed systems for collecting rou-

tine data, ideally on a population basis. Except in Scandinavia, few countries in Europe have such systems.

Although the United States has been the setting for much of the published research on hospitals, Europe's ability to draw lessons from the American experience is limited, except in certain narrowly defined areas such as the impact on health care staff, because much of the American research reflects issues that arise from the particular characteristics of the market-oriented United States health care system. Consequently, from a European perspective, the most important source of information is Canada, where not only have there been major reductions in hospital capacity, but where, uniquely, these changes have also been studied in great detail.

Before addressing the main question of what lessons can be learned from countries where acute hospital beds have been significantly reduced, it may be useful to reflect briefly on two questions concerning the need for hospital beds.

How many beds are needed?

This is probably the most frequently asked question about hospitals. It is also one that has no easy answer, except that it depends on a variety of factors, some of which the health care system cannot easily change, such as the disease patterns and social structure of the population being served.(26) Other factors are more easily altered, such as the efficiency of diagnosis and treatment (27) and the provision of alternatives to hospital care (28). There are many models that seek to take account of these numerous factors.(29, 30, 31) These models can be valuable means to test differing assumptions, but they require extensive data that are often unavailable (32),

and given the many complex feedback systems involved, prediction is difficult.

What impact does an ageing population have on bed requirements?

It is widely assumed that an ageing population will increase the need for acute hospital beds. This assumption may not be justified. Although ageing has led to increased utilization in many countries, the increase is largely attributable to growing numbers of people with chronic diseases, particularly cognitive decline, for which acute care is ineffective, while alternatives, especially nursing care, are more appropriate.(33) The well-known relationship between age and the need for acute care is actually a reflection of the increase in need with proximity to death, with individuals requiring the greatest resources in the year that they die. Consequently, the effects of an ageing population are minor.(34)

How can the need for hospital beds be reduced?

The most effective, if difficult, way to reduce the need for hospital beds is to enhance the health of the population. In the short term, however, two broad categories of intervention may be effective: preventing admission and facilitating rapid discharge. The evidence concerning the effectiveness of particular interventions has been reviewed by Hensher et al. (35). In brief, inappropriate emergency admissions are most easily avoided by establishing a variety of systems, including medical observation units, to direct patients to more appropriate settings. Non-urgent admissions may be prevented by shifting from inpatient to ambulatory diagnosis and treatment. However, the greatest gains are likely to come from policies designed to facili-

tate earlier discharge. They require the creation of a wide range of alternatives to hospital care, including nursing homes and intensive interventions in the home. However, the authors concluded that most interventions intended as alternatives to hospital care actually complement it, so that the total volume of activity increases. Furthermore, many interventions designed to support patients in the community either are no cheaper or are more expensive than hospital care.

A Cochrane Review of the effectiveness of discharge planning (36) found some evidence that it may reduce the length of hospital stays, and may in some cases reduce readmissions. However, although few of the studies had conducted formal economic analyses, there was no evidence that discharge planning reduced health care costs. Another review comparing hospital-at-home schemes with conventional inpatient care (37) concluded that, while such schemes can reduce the number of acute bed days, they prolonged the overall period of care and provided no cost savings.

A growing number of evaluations have examined packaged care in which patients with common conditions are actively managed according to protocols, supported by system redesign to ensure coordination among the various inputs required.(38, 39) These packages do appear to reduce lengths of stay or costs.

The impact of acute bed reductions on health care access and utilization

Empirical research on the impact of reduced bed numbers on utilization at a population level is almost exclusively from Canada. Between 1991 and 1993, almost 10% of acute hospital beds in Winnipeg, Manitoba, were

eliminated. A study of this process (40) concluded that access to hospital was not adversely affected, since it led to increases in ambulatory surgery and earlier discharges. Quality of care (as measured by mortality within three months of admission), readmission rates (within 30 days of discharge), and increased contact with physicians (within 30 days of discharge) did not change, nor did the health status of the Winnipeg population, as measured by premature mortality.

A follow-up study (41) was undertaken in 1995/1996. It confirmed the decrease in inpatient care along with an increase in ambulatory surgery, earlier discharges and a marked expansion in nursing home capacity. There were large increases in some common procedures, including cardiac surgery and cataract extraction. As in the earlier study, quality of care (as measured by mortality and readmission rates) was unaffected by bed closures. The study looked in detail at two vulnerable groups, the elderly and those with low incomes. For both, access and quality of care remained unchanged.

Another Canadian study (42) examined the impact that a 30% bed reduction in “short-stay units” had on utilization by the elderly in British Columbia. The province’s sophisticated system of record linkage was used to generate two cohorts of people who were older than 65 in 1986 and 1993, respectively, before and after the major change in bed numbers. Overall changes in health care use were small, suggesting that the repercussions of the cuts in acute care services for the elderly had been minimal. For those in full-time care, the later cohort experienced higher age-adjusted death rates, suggesting that long-term stays were being reserved for a sicker group of elderly people than in the past.

In contrast, a long-term programme of bed reductions in England had a major impact on the health care system’s ability to admit patients in emergencies.(43) Problems were greatest in winter, coinciding with peaks in respiratory illness, giving rise to the term “winter pressures”. One detailed study of an English hospital in the mid-1980s (44) showed how closures of a relatively small number of medical and surgical beds immediately increased the probability that the hospital couldn’t admit acutely ill patients. One reason why the United Kingdom has been especially vulnerable to such problems has been its long standing pursuit of hospital “efficiency”, which it interpreted as bed occupancy rates of 90% or more – even though mathematical modelling demonstrates that occupancy rates in excess of 85% greatly increase the risk of periodic bed crises and failures to admit acutely ill patients (45).

What impact do bed reductions have on care for the dying?

Given the extensive use of hospital beds by dying patients, have bed reductions adversely affected the care provided to this group of people? A study undertaken in Alberta, Canada, in the 1990s (46) found that a reduction of 50% in acute beds was associated with an 18.5% reduction in the number of deaths occurring in hospital and an 83.3% reduction in the length of final stay. These trends were partially reversed when bed numbers began to rise again. Over half of all patients who died during their last admission received only nursing care, without any diagnostic or therapeutic procedures. The authors concluded that bed availability influenced admission rates and average length of stay, but not treatment decisions affecting seriously ill and dying patients.

Do bed closures reduce costs?

Research from the United Kingdom during the 1980s suggested that, because of the cost of alternative care, only about 20% of the cost savings anticipated from bed reductions was actually realized.(47) Several studies from North America have found that, contrary to expectations, decreases in hospital capacity increased the cost of hospital care per patient treated. In one case it was because closure of a small hospital meant that patients were treated in more expensive teaching hospitals.(48) In a second, reductions in beds led to reductions in admissions but increased the average lengths of stay even more.(49) The result was a higher cost per case. Similarly, in California in the 1980s, a reduction of 11% in admissions was associated with a 22% increase in costs per case.(50) These studies highlight an important point: the first few days of an admission are the most resource intensive, after which costs per day are often small. Consequently, reductions in length of stay due to faster discharges often yield only minor savings, unless they lead to closures of entire facilities. They do, however, have a substantial effect on the mix of patients that remain, so that the staff workload per case will increase due to the higher proportion of patients in the immediate, and more resource-intensive, post-admission period.

What impact do reductions in hospital capacity have on remaining staff members?

There is extensive evidence that reductions in hospital capacity affect remaining staff members adversely (51, 52), especially those transferred to other facilities (53). Such negative effects are often exacerbated by poor communication within the organization and

increased workload.(54) However, with care, hospital employees can be successfully relocated and experience more job satisfaction and less burnout.(55)

What impact does the closure of a small rural hospital have?

Across the world, a combination of factors is threatening the survival of small hospitals in rural areas. In 1993, funding for acute inpatient care was withdrawn from 52 small rural hospitals in Saskatchewan, each with fewer than eight beds.(56) Most were subsequently converted to primary health care centres. Although it was widely feared that the closures would affect inhabitants' health, this fear was not borne out by reports from residents of the communities concerned. Although some communities did face problems with health care delivery, others adapted well. Critical success factors included strong community leadership, development of acceptable alternative services, and local support for the creation of innovative solutions. The authors who studied the situation concluded that very small hospitals with few facilities contributed little to rural health care. A better model was based on creative approaches to primary care delivery and quality emergency services, supported by effective communication with the public about the intended and actual changes.

In contrast, a study from the United States (57) found greater negative effects. Problems included difficulty recruiting and retaining physicians, concern about the loss of a local emergency room, and increased travel times to hospital. Problems increased with distance from the nearest hospital. Health professionals regarded increased travel times as having the greatest effect on vulnerable popu-

lations, such as the elderly, the disabled and the poor, although these groups were also viewed as disadvantaged in areas where hospitals remained open. The major access barriers for vulnerable populations were obtaining transportation and enduring the rigours of travel. The authors concluded that improvements in transportation were needed, not only in communities where hospitals closed, but also where rural hospitals remained open.

However, such fears were not borne out by a study that quantified patient flows following rural hospital closures and conversions in Texas between 1985 and 1990 (58). It found little detrimental effect on access to hospital services, although in a few cases there was reduced availability of hospital beds and physicians. As in Saskatchewan, development of alternative health care facilities served to maintain access to health services in isolated rural areas.

Given the hospital's role as symbol of civic status and contributor to the local economy, it is clear that the impact of a hospital closure is not limited to its staff and patients.(59) A study from the United States (60) surveyed mayors of rural towns in which the only hospital had closed between 1980 and 1988 and not reopened. The typical hospital in this study had 31 beds, with an average daily occupancy of 12 patients, half of whom lived at least 32 kilometres from another hospital. Of 132 hospital buildings that closed, only 38% remained completely unused, most having been converted to another type of health care facility such as ambulatory clinic, nursing home or emergency room. More than 75% of the mayors felt that access to medical care had deteriorated in their communities after hospital closure, with a disproportionate impact on the elder-

ly and poor. More than 90% felt that closure had substantially impaired their communities' economies.

A common theme in these examples has been the conversion of hospitals to alternative health care facilities, which is seen as a way to maintain medical services in rural areas. Another Texas study looking at hospitals that closed between 1985 and 1990 (61) found that alternative health care conversions were more likely where the local economy was healthier and where there were fewer existing alternative health services. Government-operated hospitals that closed were less likely to convert than private non-profit-making providers.

Gaps in the evidence

Almost all countries recognize the need to restructure health care delivery to reflect changing health needs, and they also recognize that such changes are usually controversial and would benefit from appropriate evidence. Yet there has been remarkably little published evaluative research in the countries of Europe and central Asia on the consequences of such changes, although it is possible that some findings exist as unpublished, inaccessible reports.

There are several reasons for the apparent lack of evidence. One is that, in most of Europe, as opposed to North America, there is a lack of primary research on health service delivery and organization, reflecting both an absence of funding and limited research capacity. A rare exception is found in the United Kingdom. A second reason is that few countries have actually undertaken major reductions in hospital capacity, and when they have, as in some of the newly independent states of the former USSR, it has been done in response to crisis. Third, few countries in

Europe have the sophisticated systems of population-based data on health care utilization that exist in Canada.

One gap is especially obvious. Other than evaluations of specific initiatives to provide alternative care, such as hospital-at-home schemes, there is very little information on the impact of bed reductions on the burden borne by patients' families and other unpaid caregivers.

Finally, it should be recognized that this type of research is extremely difficult, even in the best circumstances. Methodological limitations include difficulties in quantifying the burden of care transferred to lay caregivers, and in attributing causes and effects due to a lack of controls.(62) Consequently, as Edwards and Harrison have shown (63), many hospital restructuring policies are based on fallacies and misunderstandings.

Applicability

The evidence presented in this brief is extremely context dependent. Most obviously, the consequences of a reduction in hospital beds will depend on the initial hospital supply in relation to need. For example, as noted earlier, even relatively small reductions in beds can have a considerable impact on access to care where capacity is already constrained. This is likely to explain the different results seen in Canada and the United Kingdom. Context is also extremely dynamic. Changes in supply of one type of health care provision are often compensated for by changes in others. For instance, reductions in acute beds in several countries have been associated with increases in nursing home beds. However, it is not always easy to determine which caused which, and indeed the relationship is often likely to be two-way.

A particular problem is the almost complete lack of evidence from the previously Communist countries of central and eastern Europe and the former USSR. Any generalization of findings from North America to these countries must be undertaken with extreme caution. Some insights can be gathered from hospital restructuring reports in the central Asian republics. A modelling exercise undertaken in Kyrgyzstan suggested that it would be possible to reduce beds in Bishkek, the capital, by 52% over 10 years using a combination of more intensive use of beds, modest reductions in length of stay, shifts to outpatient care and a graduated closure of some of the 26 separate hospitals that were serving the city's 700 000 people.(64) Similarly, a project using data on the utilization of rural hospitals in Kazakhstan (65) found that it was possible to make substantial reductions in beds, leading to the elimination of a third of the beds in one rayon (district), in part through the closure of one of the three rural hospitals. The authors identified several issues to address that would allow even greater reductions in hospital capacity and, if appropriately managed, lead to improved quality of care. They included more intensive use of existing beds, many of which are empty for long periods; implementation of care protocols that reduce inappropriately long lengths of stay; withdrawal of numerous ineffective treatments that have persisted from the Soviet period; and a shift to ambulatory care for many common disorders. However, the authors also recognized that there were many regulatory barriers to change.

Conclusions

While the number of acute hospital beds fell in many, but not all, countries during the 1990s, such comparisons are extremely problematic because of differences in counting methods. Moreover, bed numbers are very poor measures of health system capacity, as a bed only contributes to health care if it is supported by an appropriate mix of staff and equipment.

The number of beds needed in a country depends on many factors, including patterns of disease and the availability of alternative care settings. Currently, some countries appear to have excessive hospital capacity, while others are reversing earlier bed reductions. The ability to absorb reductions in acute beds depends on the initial hospital capacity.

A strategy to reduce hospital bed capacity should include policies to reduce inappropriate admissions, make the provision of inpatient care more efficient and facilitate quicker discharges. It will often require the development of alternative facilities and services, and even though bed numbers decrease, the overall cost to the health system might not.

Reductions in capacity often have adverse effects on health care staffs. Such problems can be mitigated by good communication and recognition of the increased workload that accompanies reductions.

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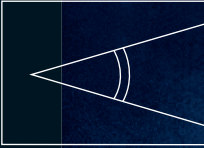
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This policy brief is intended for policy-makers and others addressing the issue of hospitals and their role in health care systems.



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