To HITH or not to HITH: making a decision about establishing hospital in the home

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Abstract

Hospital in the home is increasingly being considered as an alternative for the provision of acute care. This article provides an overview of Hospital in the Home in Australia, discussing some of the issues that should be considered when determining whether to establish or fund hospital in the home programs such as whether efficiency is increased, care is improved and whether patients perceive more choice. These issues are discussed in the context of a transparent funding strategy that is aimed at achieving predefined goals and objectives.

Introduction

Hospital in the Home (HITH) is part of an international trend away from the institutional provision of health care. This trend towards care outside the hospital has occurred largely in countries with developed health care systems over the past two decades. From the 1950s through to the early 1980s, improvements in pharmaceuticals and surgical techniques along with the development of management and organisational techniques have led to the increased use of hospitals and the concomitant growth in the number of hospitals. The availability of effective and efficient care in hospitals, combined with the reluctance to provide care elsewhere, led to the attitude that most health care was best provided within the hospital setting.

In the 1980s and 1990s, many of the factors that produced the earlier emphasis on hospital care have more recently contributed to new ways of delivering acute care, and emphasis has shifted to other settings. Developments in technology combined with a push for economic efficiency have contributed to a move to programs such as Hospital in the Home (HITH). Shifting demographics, more responsiveness to changes in consumer preferences and clinical practice combined with perceived weaknesses of the hospital system such as hospital acquired infections, have led to a growing interest in care in the home.

As a 'technology' HITH has been shown to be at least clinically equivalent to conventional programs (clinically effective) but has not yet been demonstrated to be cost-effective. Although HITH is not yet widespread it has been implemented using a variety of funding and clinical models making assessment of the efficiency of HITH more complex.

This paper reports on a recently completed project undertaken for the Department of Health and Aged Care (Haas et al., 1999). The report documented existing and potential models of HITH in Australia in order to determine which features contribute most to its capacity to provide an acceptable cost-effective and accessible alternative to traditional models of care. The paper outlines the main findings of this report and discusses some of the implications. Section Two of the paper proposes a definition of HITH. Sections Three and Four summarise the current situation with respect to HITH in Australia. In Section Three, the key findings in terms of where, how much and what type of care is delivered in HITH programs, and how HITH is funded are presented. In Section Four, the implications of the different funding arrangements are explored in more detail. Section Five makes an assessment of existing knowledge about the relative cost-effectiveness of HITH versus hospital care, and identifies problems with assessing relative cost-effectiveness. In Section Six, possible funding and delivery arrangements are identified and assessed in terms of the incentives they provide for efficient provision of HITH care.

Definition

An agreed definition is an integral part of being able to describe and evaluate programs such as Hospital in the Home. As yet, there is no widespread agreement on exactly what HITH is, but there does seem to be consensus about the following: that HITH care must be a true substitute for hospital care, be provided in a place of residence, and utilise the services of health care professionals in the delivery of care. That is, without HITH the patient would need to be receiving active care as an inpatient in an acute care facility.

Debate continues about a number of other issues in the definition. One such issue is whether place of residence can include nursing homes, hostels for the aged or hotel-type accommodation near the hospital. In theory, there is no reason why a HITH service should not be available to people living in other than in a family home. Other issues which have been raised with respect to the definition of HITH include who provides the care, how often care should be provided, whether rehabilitation care provided in the home is defined as HITH, and the extent to which HITH must be a substitute for acute care.

A failure to define HITH clearly has implications for resource use. For example, a variety of programs currently exist to provide services such as community care, or care in the home for older people and persons with a disability. Such programs should not be regarded as HITH as they are provided in addition to acute care. While these services may be appropriate for the patient group, the pattern of care is likely to be different than HITH services which are a direct substitute for inpatient care, and they may have a different cost structure from HITH care. However, this should not exclude individuals who are receiving community care from also receiving appropriate HITH care for episodes of acute illness.

HITH in Australia

Information about the provision and operation of HITH in Australia was obtained though surveys and consultations. Each State and Territory health department was surveyed with regard to their funding mechanisms, the results of any evaluations of HITH and contacts for known HITH programs.

Subsequently detailed information on HITH provision was obtained from surveys of Health Departments, Area Health Services (AHS) in NSW, and individual facilities that were identified through a number of sources as providers of HITH care. The sources included Health Departments, Area Health Services, published literature, other programs, and meetings. The survey sought information about a range of aspects of HITH, including the type of program offered, throughput, barriers to provision of HITH, organisational and funding arrangements and policies and procedures.

A total of fifty-two facilities were surveyed in October through November 1998 with forty-three responses received. Of these, thirty-six facilities indicated that they provided a HITH program(s) as defined by the research team. All States and Territories have HITH services, although the degree to which it is an organised program varies considerably. This variation is in part the result of different organisational arrangements for the provision of hospital and community health services within the States and Territories.

Victoria and South Australia have well-established HITH programs, with active policy and funding support for HITH at the State level. Possibly as a result of this, it is in these States that HITH programs are most widespread. Both States fund hospital and HITH services on a casemix basis, but in Victoria there is also (time-limited) incentive funding for the establishment of HITH. In both States, policies and procedures have been developed at the State level covering the provision of HITH and the definition of what is to be funded as HITH care.

In other States and Territories, HITH programs exist to varying degrees. Within the ACT, the HITH funding mechanism is a cost and volume grant provided to hospitals directly from the ACT Department of Health and Community Care. Tasmania has two HITH programs with funding from general hospital funding (casemix based). Queensland and NSW have both established and pilot programs, with a mix of funding arrangements - some are funded from hospitals, AHS or Divisions while others receive specific grants. Western Australia has hospital-funded programs as well as a pilot program run by the Division of General Practice.

Australian HITH programs provide a wide variety of care. The most common care delivered is intravenous and other drug therapies. Other programs provide post-surgical care including complex wound and burn care, specialist care (such as post-cardiac surgery), treatment after stroke or hip surgery, or more general care to a variety of acute patients.

"Ownership" of the HITH program and organisational responsibility for the patient vary across programs. The States/Territories that have adopted a pro-active policy towards the development and implementation of HITH tend to provide hospital-organised programs where patients are classified as inpatients until discharged from HITH. In other States/Territories, community agencies, AHS, and Division(s) of General Practice as well as hospitals may provide HITH. Increased tension and debate over issues of legal and medical responsibility for patients was more often reported by HITH programs operated by community agencies or AHS compared to those operated by hospitals.

Consensus did not exist amongst either the respondents to the surveys or the stakeholders consulted as to whether generalist or specialist programs were preferable, and both types of programs may be appropriate in different settings. Generalist programs must be able to provide care to patients with a wide variety of diagnoses, requiring a broad range of skills and knowledge on the part of staff. Specialist programs provide care to patients from a given clinical stream, requiring specific knowledge and skills relating to the condition. Thus, in a specialist model, the same health care professionals may be involved in providing care throughout the whole episode of care (in hospital and the home).

There was wide agreement across survey respondents that the success of HITH relies on good relationships between referring clinicians and staff providing HITH care. In particular, the referring clinician needs to be confident about the level of skills and qualifications of HITH staff and that adequate arrangements exist for ensuring skills are kept up-to-date. Under current arrangements, hospital-based programs may more easily meet these conditions. However, as HITH programs become more common, and confidence in HITH programs increases more generally this issue may become less of a deterrent for referring patients.

Current funding arrangements in Australia and the provision of HITH

The complexity of health services funding arrangements in Australia has important implications for how HITH operates. In Australia, hospitals and community services are funded from a range of different sources (Commonwealth; State/Territory and private insurers). HITH crosses the boundary between hospital and community care. Whether the resources for HITH are funded by the State/Territory, from private health insurance payments for hospital care, or from Commonwealth funding of community services, the potential exists for costs to be shifted between sectors.

Within hospitals, different funding arrangements apply across States/Territories and publicly and privately provided services, creating different incentives in relation to HITH provision. In particular, the incentives for HITH provision depend on whether there is a global budget for the hospital, some form of casemix funding, or per diem funding for the episode of care, and on whether HITH funding has been identified separately from funding for inpatient care. Hospitals funded on a casemix basis, may use HITH (appropriately or inappropriately) to increase throughput (thus increasing funding received). Globally funded hospitals are unlikely to have such incentives.

Because medical and pharmaceutical services provided in the community are the responsibility of the Commonwealth, a potential cost-shifting issue arises for HITH programs. Payment for these aspects of HITH varies between States/Territories and between programs. In Victoria, HITH is defined as an inpatient substitute and the guidelines for HITH require that each program covers all costs, including payments to doctors in the community and the costs of drugs and supplies (just as if the patient was in the hospital). In other States, HITH programs may shift costs to MBS and PBS when patients are no longer in hospital. In addition, costs may be shifted from hospitals to the patient.

Specific issues arise in relation to HITH care for the elderly. There is an overlap of Commonwealth and State responsibility for care for the aged, although the Commonwealth is responsible for funding residential aged-care in nursing homes and hostels. If HITH care is provided in nursing homes and hostels an admission to hospital may be prevented but the acuity level of these patients and thus the amount of care required may be greater than for other residents of aged care facilities.

Current arrangements for private health insurance in Australia create potential barriers to the provision of HITH. Legislation stipulates that health insurance funds can only pay benefits from hospital tables for admitted patients. Some funds offer HITH services through ancillary tables, but these are not eligible for inclusion in the reinsurance arrangements, reducing the incentive for such arrangements. Thus many privately insured patients only have access to HITH if they are treated by public hospitals for their inpatient stay, and elect to change their status for the HITH component of the care. This may create a disincentive for the public hospital to provide HITH care to private patients. Alternatively, it may result in private patients in public hospitals being discharged and then readmitted as public patients, thus counting one episode of care as two separations. Further, the patients of many private hospitals do not have access to HITH care.

Under current arrangements there are very limited incentives for general practitioners to become involved in HITH care. It is rare for general practitioners to have admitting rights to hospital, except in rural and remote areas. In addition, remuneration arrangements under the Medical Benefits Schedule do not encourage GPs to provide home visits, and hospital funded HITH programs may be reluctant to pay GPs for these services.

Comparing the efficiency of HITH and hospital care

A key conclusion that emerged from the survey of HITH programs in Australia was that it would be extremely difficult to assess the relative cost-effectiveness of HITH and hospital care across programs. Further, the ability for hospital and health service managers to make an assessment of which type of care is likely to be more efficient in their circumstance would be confounded by funding arrangements and other structural factors such as program boundaries.

Where HITH programs have become well established, this may be because they are a more efficient means of providing care. However, it could also be the result of specific funding arrangements (for example, incentive funding). Equally, where HITH has not become well established, this may be because managers have made a valid assessment that the costs of HITH are higher or there may be barriers created by funding arrangements (for example, lack of appropriate arrangements to pay medical practitioners). Because of the range of funding and delivery arrangements in Australia, it is impossible to distinguish which is the case.

From the survey, it was clear that HITH programs were more likely to become established when specific HITH funding was available, but it is difficult to assess whether these programs were more efficient than the alternative. Specific HITH funding may be necessary in the early stages of the program, because of higher establishment costs of a new program. Ongoing incentive funding may hinder an assessment of the true resource costs of each alternative.

The nature of HITH services and funding mechanisms means that relative cost-effectiveness can only be assessed at a local level, with knowledge of throughput, local geographic factors and availability of services. Thus, while appropriately designed evaluative studies are an important component of information for managers in making the decision about HITH and hospital care, they will not, on their own, provide sufficient information.

This was borne out by the results of the literature review of clinical and economic evaluations of HITH undertaken for the Report. There was evidence that HITH is at least clinically equivalent to conventional care (clinical effectiveness) in a number of applications (Shepperd and Iliffe, 1999, Balinsky and Nesbitt, 1989,

Mauceri, 1994, Morales and Von Behren, 1994, Poretz, 1994, Koopman et al., 1996, Ting et al., 1998, Shepperd et al., 1998b, Richards et al., 1998, Caplan et al., 1999). However, it was not possible to make any definitive assessment about the relative cost-effectiveness of HITH (Coast et al., 1998, Donati et al., 1987, Eisenberg and Kitz, 1986, Grayson et al., 1995, Hensher et al., 1996, Hollingworth et al., 1993, Lowenthal et al., 1996, O'Cathain, 1994, Richards and Irving, 1996, Shepperd et al., 1998a).

A key problem in the economic literature was the lack of appropriately designed studies. In addition, the small number of randomised controlled trials of HITH compared with conventional care yielded conflicting results. Of the studies found to be well conducted, two found HITH to be cost saving, one found no significant difference in costs, and another found that HITH was more costly.

A more intractable difficulty in this literature is that once again the studies do not provide valid generalisable conclusions because the relative cost-effectiveness is sensitive to locally specific factors, including health system funding and delivery arrangements, clinical practice, geographical factors and cost structures. As well, the cost structure of HITH in a pilot or trial phase may be very different from that during a full-scale operation.

While there is clearly scope for more well-designed evaluations of HITH to be undertaken in Australia, a more important conclusion from this lack of evidence is that it is essential that policy makers assess prospectively the likely impact of funding arrangements on the provision of HITH. Specifically, it is critical that hospital and health service managers at the local level are able to make a valid prospective assessment of the likely impact of HITH. Consideration needs to be given to possible distortions created by funding arrangements, as is clearly currently the case in Australia.

Potential funding arrangements for HITH

The variation in funding arrangements across States and Territories for health services and between programs, make it challenging to define a single set of appropriate funding arrangements for HITH that will be compatible with other health services funding in all jurisdictions and/or programs. Different funding environments that might be relevant to HITH in Australia are outlined below. These different funding arrangements depend on how the hospital is funded, whether the HITH funding is part of the same program as hospital funding or not, and any specific funding arrangements for HITH.

Models of hospital funding:

Public hospitals in Australia are funded either on the basis of a global capped budget, or on a casemix basis (usually a casemix based built-up budget with some adjustments for throughput, rather than case payment). Private hospitals are generally funded on a per diem basis, although increasingly case payment arrangements are emerging.

Relationship between hospital and HITH funding

HITH funding could be part of a separately identified health services funding program (that is, it could be treated as part of services provided in the community) or it could be identified as a component of a hospital funding program. If HITH is funded within the hospital program, it could be funded at the level of the individual hospital. HITH could be funded as a separate clinical program within the hospital. HITH funding could be provided to the different clinical streams, which would then be responsible for purchasing HITH services.

Funding for HITH services

There may be no separately identified funding for HITH. HITH could be funded through a block grant (to the hospital or to a community agency) which is then responsible for determining how much HITH care will be provided from the grant (although the block grant may be tied to a contract specifying volume). HITH may be funded on a casemix basis (which may or may not be case payment). Within a casemix funded model, the funding per case may be in addition to or some proportion of the inpatient payment for that episode. HITH could be funded on a per diem or per service basis. Within these different funding models for HITH, incentive funding could be provided or not (although incentive funding applies more to the mainstream and casemix models than to the other alternatives).

Given the variation both in attributes of HITH programs, and in that funding environments that may exist, there are potentially a large number of models that could be developed for HITH. In the report, six generic models were constructed and evaluated. The models varied in terms of their ownership (ie. hospital or community), patient classification, method and source of funding, medical remuneration arrangements and which type of staff were employed to provide HITH care.

Each model was evaluated using economic criteria (ie. allocative and technical efficiency, equity and the use of appropriate financial incentives) and non-economic criteria (patient selection, the availability of choice, quality, staff safety, feasibility and impact on carers and the wider community). Full details of this evaluation are available in the Report. However, from a funding perspective, a number of principles were identified which, are useful in distinguishing the most appropriate funding arrangement in the different funding environments identified above.

It may be advisable to provide funding for HITH as part of a hospital-funding stream. Because of historical institutional and funding arrangements, hospital-based models provide less opportunity for cost shifting. Managers of hospital-based program may be more aware of the overall resource implications of HITH becoming additional, rather than substitute care and there may be greater scope for the appropriate resource shifts to occur. However, such funding arrangements should not preclude HITH programs from purchasing care from the community sector, should this be considered appropriate.

Incentives to assess the relative costs of HITH and inpatient care are increased if the responsibility for paying for these services rests within a single administrative unit (ie. a single unit is responsible financially for all of a patient's care). This may be either at the hospital level or at the level of a clinical division where the incentives are likely to be stronger. However, a potential trade-off exists between establishing funding arrangements which encourage the health service manager/provider to assess the relative costs of HITH and inpatient services, and funding arrangements which are more apt to encourage consideration of patient preferences and innovations.

Incentive funding (ie. the provision of additional resources to encourage the establishment or continuation of a program) may be appropriate for HITH programs, but should be time-limited and linked to requirements to evaluate the costs and outcomes of HITH. All HITH programs will incur establishment costs due to set-up costs and higher average costs during an initial low throughput phase. However, mechanisms should be put in place to ensure that resources freed up by HITH will be diverted to HITH in the longer term to provide long term funding once the incentive funding ends.

If funds for HITH are provided as part of the overall hospital or health services budget, it is at this level that decisions should be made about allocating funds for HITH and other acute (ie. inpatient) services. This will provide hospital managers with an incentive to assess the most efficient ways of providing services. If HITH is funded separately from inpatient services within a hospital, there may be incentives for clinical managers to admit patients to HITH to reduce pressure on the budget of a clinical unit. This may result in inappropriate patients being recruited to HITH. However, this could be addressed by ensuring there is a single budget for HITH and inpatient services within a particular clinical stream, or by identifying separate cost-weights for HITH within a casemix funding system. Casemix funding may be introduced with the objectives of promoting appropriate utilisation and managing demand. However, it may also provide the hospital with an incentive to increase throughput. Therefore, without quotas, HITH may raise the overall health system costs if throughput increases across the system.

Alternatively, funding HITH on a per diem basis involves the risk of creating an over servicing incentive. That is within the HITH program length of stay may be extended inappropriately. Similarly, funding services delivered as part of HITH on a fee-for-service basis creates incentives for services to be provided unnecessarily.

It is appropriate to fund HITH on a casemix basis if the hospital or health service is also funded using casemix. Ideally, HITH should be funded as a proportion of the overall episode of care. However, there are difficulties with establishing the appropriate cost-weights for HITH and inpatient components of care, and whether the cost-weight for an episode that involves both should be different from that for a similar episode that is HITH-only or inpatient-only.

Conclusion

In summary, funding for HITH in Australia needs to be compatible with current funding arrangements. However, it should also strive for transparency and efficiency. The key principles are that funding should reflect resource use, follow the patient and be activity based. It is clear that even without active policy and funding support for HITH at the State/Territory (or Commonwealth) level HITH in Australia will expand. What is not clear, however, is whether it will expand to meet the objectives of increased efficiency and better care or more choice for patients. This will be achieved only once a funding strategy is developed that is transparent and aimed at achieving predefined goals and objectives.

The key for any group or individual setting out to establish or fund a HITH program is to understand the relative costs of HITH and its alternatives. Factors that affect this relationship relate to geography, patient throughput, clinical practice and organisational issues. In some areas HITH may have the potential to provide cost-effective care which reduces pressure on hospital beds by increasing throughput, while patients have increased choices and are equally or more satisfied with their care. Alternatively, existing services may already provide appropriate hospital and community care within the resources available and the addition of a HITH program may be totally infeasible; it may simply serve to leave hospital beds empty and stretch staffing capabilities beyond reasonable bounds. Therefore, it is particularly important that in considering the introduction of HITH, service providers, clinical managers and policy makers are able to prospectively identify the range of factors that are likely to affect resource use at the local level.

HITH should be a substitute for acute inpatient hospital services, but in the Australian context, the overlap with hospital and community services is blurred. Thus, HITH may be substituting for a range of different services which would normally be funded from different sources (medical services funded under the MBS and from hospital budgets, pharmaceutical services funded under the PBS and from hospital budgets and nursing services funded from community health and hospital budgets). As yet, there has been no attempt to recognise these different sources of funding and identify the appropriate pool from which HITH should be funded.

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