Royal College of Physicians | Future Hospital

Designing and implementing an acute hospital at home service

This Future Hospital Programme case study describes how a multidisciplinary team at Dorset Country Hospital that includes Dr James Richards and Patricia McCormack created an ‘Acute Hospital @ Home’ service.

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Key recommendations

- Working closely with community teams will help to avoid duplications of other community services.
- Establish robust trust pathways and procedures in order to adhere to administrative guidelines and professional standards.
- A period of 'attitude adjustment' can help instil confidence from hospital staff.
- Communicate clearly with community services in order to provide a seamless episode of care from hospital to community settings.

Local context

Dorset County Hospital is a district general hospital providing acute inpatient and outpatient services. It has approximately 430 inpatient beds, 10 operating theatres, and provides specialist services, including oncology and renal.

The hospital covers a rural population, with a proportion of people living in more remote settings, with long distances to travel to the hospital. There was a hope that aspects of inpatient care could be provided in people's homes.

The challenge

The 'Acute Hospital @ Home' (AH@H) service was designed to provide aspects of inpatient care in the patient's own home. We wanted the service to include:

- nursing assessment and observations
- complex dressings, wound care and surgical drain management
- consultant assessment and access to specialist care
- blood tests
- intravenous antibiotics and diuretics. Antibiotic therapy is adjusted as for ambulatory treatment of infections (eg ceftriaxone for cellulitis, or teicoplanin in the over 75s)
- nebulisers
- physiotherapy
- occupational and speech and language therapy
- input from dieticians from DCH.

Our solution

It was our aim to:

- reduce the number of acute medical admissions
- facilitate earlier discharge
- reduce the length of stay (LOS) in inpatient areas.

We found we could avoid admissions for chronic conditions by providing appropriate home care interventions in the earlier stages of acute episode. Patients who require certain aspects of inpatient care are highlighted on admission or during assessment in ambulatory care, and referred directly to

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AH@H, rather than being admitted to hospital. There is an aim to receive direct referrals from general practice into AH@H in the future.

Outcomes

Initially, the service was a 3 month project funded by the clinical commissioning group (CCG). However, due to the success of the project, it became an established service funded by the Trust. Each patient is given the opportunity to complete the Friends & Family test at the end of their interventions. So far, we have 100% positive results.

Patients have informed us they:

- are better rested
- more comfortable
- are better nourished (simply because they have their preferred diet at their preferred times)
- maintain their usual roles and routines.
- Patients have 1:1 uninterrupted time with the health professionals providing their care. We are currently using the AusTOMS to measure patient outcomes.

Further outcomes included:

- We doubled the key performance indicator for bed days saved for the Trust, with eight bed days saved each day.
- 100% of service users would recommend it.
- At 90% occupancy, the cost to the Trust was less than half that of an inpatient stay. Approximately £87 per day per AH@H patient.
- We expanded the service in terms of opening hours and skills provided.
- We increased the numbers of referrals.

Staffing

Currently we have: one team lead (band 7), one ward sister (band 7), one deputy sister (band 6) and two nurses (band 5); all full time.

We also have: five band 2/3 support staff and one whole time equivalent (WTE) physiotherapist (band 6), 0.8 WTE occupational therapist (band 6), 0.4 WTE speech and language therapist, 0.1 WTE dietitian, 0.2 WTE pharmacist (band 6) and 1.6 WTE admin (band 2).

There are two sessions of consultant time spread across 5 days, and planned junior doctor time in addition to that. We have a vacant band 4 WTE pharmacy technician post which unfortunately has never been filled.

We have reset the therapies time as to begin with we have more dietician time than required. We have increased the registered nurse time as demand for nursing skills has increased with increase in patient numbers.

Three consultants have input to AH@H, one each day attending the multidisciplinary meeting – virtual ward round, reviewing clinical progress, observations, blood tests, drug chart. Home visits are made when required, or if patients require further investigations, they are reviewed in the ambulatory care department.

Methods

Originally it was anticipated we would have frail elderly patients predominately; however, it quickly became apparent that we were able to accept patients from other specialities more quickly and successfully. Frail elderly patients had more care needs than we could provide and the social needs could not be met quickly enough by the social care teams. We now have patients from all adult hospital

wards and outpatient clinics. The most commonly-encountered medical conditions are: cellulitis requiring intravenous antibiotics, exacerbations of chronic obstructive pulmonary disease (COPD) and bronchiectasis, and IV antibiotics for infected joint prostheses and wound infections.

In particular we:

- supported bed management and hospital patient flow
- provided a supportive, multidisciplinary approach to the management of acute exacerbations of chronic conditions within the patient's own home
- controlled/limited the admissions depending on acuity and demand of current inpatients, with a maximum potential of 15 patients at any one time, depending on locality and acuity of patient case load
- ensured the 'ward' follows admission criteria; any variation in the admission criteria needs to be authorised by the lead consultant, eg patients are medically stable, the treatment required can be safely offered in community setting, patients are living in area we can reach, have telephone access to get help in an emergency, skill mix available with the team
- operated the service between 07.30 and 23.00, seven days a week, with access to the admitting medical and surgical team outside these hours
- provided safe, reliable and high quality care to the patients and reducing the need for hospital readmission. Patients are referred to community rehabilitation teams, district nurses and social care as required. We use an electronic discharge summary to advise community teams and general practitioners with regards to discharge diagnoses, management and ongoing care.

Key learning

The service required the establishment of pathways and protocols to deliver acute services in the community setting. Initially there were concerns with regards to duplication of current community services; however, by working closely with community teams, the AH@H service has provided a much-needed bridge between primary and secondary care. Trust pathways and procedures had to be adapted to maintain standards of practice in delivering acute healthcare in a community setting, whilst adhering to administrative guidelines and professional standards.

In addition, we had a period of 'attitude adjustment' with hospital staff. This was achieved through work with staff in each department, looking at conditions that could be managed safely at home; we established links with a member of each department, to facilitate care and feedback any issues that arose. Hospital staff have traditional methods of delivering acute care and so therefore needed to be assured that some patients can be safely and effectively treated away from the traditional setting. This was achieved over time by demonstration and discussion at grand rounds, and attendance at team meetings. We needed to inspire confidence that the service provided a safe and effective way of delivering acute medicine for appropriate patients.

Furthermore, we had to communicate and liaise with the community services and work to provide a seamless episode of care from the hospital to community setting, enhancing the discharge procedures and, in some cases, providing joint visits to handover patients with more complex needs or care plans.

5-year plan

Integrated care is an important element of the Trust's 5-year plan and we are perfectly positioned to enable that transition of healthcare delivery.

- The service has provided aspects of inpatient care to patients who would otherwise have had prolonged admissions for intravenous antibiotics and other forms of treatment. We believe that this reduces the risk of hospital-acquired infection, physical deconditioning, delirium, poor sleep and a number of other factors.

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- The aims of the service have been met and will be sustained to a greater extent as the service continues to expand and develop.
- We are currently looking at the possibility of using balloon pumps to administer antibiotics over a 24 hour period, thus reducing number of visits and increasing capacity.
- If (or when) the service is rolled out to all of West Dorset, the costs savings to the Trust will also be increased.
- Moreover, it enables the hospital beds to be available for the patients who really need to be in hospital, especially at those times when the hospital is under huge demand, such as during winter pressures.
- The service also supports a scheme known as the 'Alternative Offer', whereby patients who could not manage at home with the traditional maximum support package, may – given the enhanced short term therapeutic support package via 'Alternative Offer' – be able to return home instead of being transferred prematurely to long term placement. This is achieved by providing an enhanced package (including five+ visits per day, and roaming night care) for a period of 4 weeks then gradually reducing as patients improve.

Patient feedback

One notable case was a gentleman with Lyme disease with neurological involvement – bilateral facial nerve palsies and right lower limb weakness, leading to both speech disturbance and reduced mobility. This gentleman underwent 5 days of inpatient investigation and management, and a diagnosis was made. He then required 3 weeks of intravenous antibiotics and ongoing physiotherapy and speech and language therapy.

He was referred to the AH@H as we felt that he was an ideal candidate. He required medical input (receiving most of his course of IV antibiotics at home), but also multi-disciplinary management, including physiotherapy and speech and language therapy. He also benefited from the emotional and educational support from nursing and medical staff. He was reviewed regularly by the consultant in charge of AH@H, and also by our visiting neurologist.

Some of the key factors associated with the good patient feedback are:

- being able to sleep in one's own bed
- eating meals at home
- having family and friends close by
- close and regular contact with the same group of nursing, medical and therapy staff (continuity of care).

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