

Reforming emergency care: Primary Care Trust power in action research

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Objectives: A Primary Care Trust (PCT) used its position as lead commissioner in a health economy to search for efficiency gains and to improve the patient journey through accident and emergency (A&E) services in a hard-pressed acute hospital. The project generated an action research approach. As a by-product, we developed a model of the hospital system based on a case study that can be replicated and used to set utilization targets at the micro-level of the hospital organization. This addresses a gap in the literature on hospital utilization that currently focuses on macro-population levels of analysis or simulation models that demand complex data. Primary and secondary care services, in contrast, require a pragmatic model of utilization supported by a few key, readily available data items.

Methods: Mixed quantitative and qualitative methods were adopted in an approach of collaborative enquiry among stakeholders of the health economy. We used the flexible planning tenet of action research that evolved into the subjective meaning tenet by which, to achieve authoritative findings, it was necessary to broaden the line of enquiry to address participants' perceptions.

Results: We have described the current patient flow and a redesigned pathway through A&E services together with targets and action required to reduce admissions, delayed discharges and diagnostic waits in the emergency hospital system. Primary care had a key role in changing the culture, communication and treatment within A&E services.

Conclusion: (i) This study was rapid and sustained a high level of energy and purpose among stakeholders. Action research is an appropriate method to apply to transformational change in the modernization of health-care systems; (ii) Modelling of system dynamics is a critical dimension to the success of whole system change; (iii) Primary care commissioning power is an under-used, but influential, lever for change. At a point when the PCT commissioning structure is under threat, this project exemplifies primary care's ability to engineer change in acute hospital services.

Introduction

Accident and Emergency (A&E) services have, in common with primary care, the role of

assessing whether or not to refer patients into the secondary care system (both inpatient and outpatient). This paper describes a case study in which an acute hospital worked with primary care to diagnose patient flows and used this information to redesign the whole system.

Our work complements the literature on hospital utilization, which generally adopts a

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macro-population level of analysis,¹⁾ by taking the micro-perspective of a specific hospital. We provide an insight into the dynamics of local flows in emergency care in the UK National Health Service (NHS) hospital system. The case study also demonstrates how a line of enquiry was shaped through interaction with participants into a collaborative exercise of action research and explains why, to be credible, it was necessary to widen the scope of the enquiry to address the perceptions of participants.

The outcomes of the study were:

- (a) a descriptive schema of emergency care pathways in a UK general acute hospital, both current and re-engineered;
- (b) exploration of the role of barriers to communication at the interface between primary and secondary care;
- (c) a case study methodology that exploits key sets of readily available data to model hospital capacity, explore the relationship between supply and demand of beds and identify scope for change in utilization; and
- (d) demonstration of the impact that a responsive and energetic piece of enquiry, framed as action research, can have upon local service delivery. This outcome also reflected how a Primary Care Trust (PCT) was able to use its position as lead commissioner in a health economy to search for efficiency gains and to improve the quality of the patient journey through A&E services in a hard-pressed acute hospital.

The context

We worked with a medium-sized district general hospital situated in outer London, which had 420 adult acute beds and 564 beds in total at the time of the study. It faced a recurrent funding deficit of £3 million (influenced by recent structural changes through a nearby hospital closure and disrupted activity and funding flows), and a limited scope for reducing the cost base, reflected by (nationally calculated) reference costs that were lower than the England average (i.e. indices of 87% of the expected or average cost for elective and 93% of the average for non-elective care).

The hospital had a severe problem in discharging patients, exacerbated by recent nursing and residential home closures where 190 beds had been lost in the previous two

years. The A&E department had been struggling to meet targets, and had been classed red in the Department of Health's traffic light system of performance management. There was a particular difficulty in the number of patients sleeping overnight in A&E, averaging 13 patients per night in July 2002.

The study ran from June to September 2002, initiated by the host PCT and then mobilized by all local commissioning and provider agencies in partnership. This was an important feature of the inquiry in that the problems were jointly owned across the primary/secondary care interface, and responsibility to solve them was seen as shared. The work was stimulated by twin financial and quality improvement objectives, which were articulated as (i) to deliver financial savings to achieve recurrent balance by 2006 (the main driver for management); and (ii) to do things better, i.e. deliver service improvements for patients (which was the principal driver for clinicians and social care). The challenge was to combine these seemingly conflicting goals by doing things differently, better and at less cost. This mission was widely embraced.

Methods

Four project groups were formed to undertake the study. This paper draws primarily on the findings of the group dedicated to A&E services and on the summary results of a second group dealing with emergency inpatient admissions provision. (The two other groups, beyond the scope of this paper, covered elective surgery/outpatients and orthopaedics, giving the project comprehensive coverage.)

Each group included representation from primary care general practitioners (GPs), hospital consultants, hospital and community nurses and hospital managers, as well as commissioning agents from Social Services and the two main PCTs. The project team also included a researcher who was active across all groups to steer the process of collaborative enquiry and develop data specifications and analytical frameworks.

Multiple methods of investigation were used, described as (i) tracking the patient journey; (ii) quantitative data analysis; (iii) qualitative data profiling through observation and interviews; and (iv) a literature search of previous relevant studies including those

conducted within the hospital. A methodology for data collection and analysis was not predetermined. Instead, data requirements were allowed to emerge organically from the collaborative enquiry process undertaken by the teams of local professionals and stakeholders who were then enabled to go on to devise solutions.

Although the study was commissioned as a pragmatic management response to performance and financial pressures, its methodology sits within the realm of action research. It typifies the 'flexible planning tenet' identified by Morrison and Lilford² in which there are 'no advance restrictions on the methods of intelligence gathering' (p. 440), and 'the detailed content and direction of a research project are not determined at the outset. These take on a definite shape only as the work progresses and are kept continuously under review' (p. 439). Injection of a researcher to give coherence to the enquiry, in collaboration with practitioner participation, generated an action research approach,³ the fundamental aim of which is to combine change with understanding.⁴

The work programme was compressed into a short time frame which added urgency and energy to the process. The multi-agency, multi-professional composition and autonomy of the project groups meant that the stakeholder participants owned the detailed outputs.

Findings: Diagnostic

The process generated two strands of findings that were diagnostic, providing an analysis and understanding of the current situation:

- The first strand, focused on the A&E Department, tracked the patient journey from point of referral until the point of departure, and considered performance and culture.

- The second strand considered dynamic flows of the whole hospital system.

Strand 1 – the accident and emergency department

GPs, ambulance and hospital A&E staff developed three lines of enquiry: (i) the patient journey; (ii) measures of performance; and (iii) qualitative factors.

Tracking the patient journey

The patient journey was analysed by observational study, interviews and hospital activity data profiling, used to generate a flow chart showing referral and decision events in the patient pathway (Figure 1). We identified four key steps: (a) triage; (b) seeing an A&E doctor; (c) obtaining a specialist opinion; and (d) disposal through admission into hospital or discharge from A&E. It is worth noting that the picture that emerged (of long delays and bottlenecks) was consistent with a review that had been undertaken by internal auditors five years previously. The only change was that waiting times had deteriorated.

(a) *Triage*: Three potential routes were identified into A&E services, described as self-referral, ambulance and GP referral, in which the GP directs the patient to A&E, usually with a letter of referral and, ideally, after alerting the hospital by telephone to the patient's arrival. Each route included a 'triage to queue' stage in which the triage nurse assigns the patient to a queue for the Major or Minor Treatment Areas. Sometimes, due to lapses in communication, GP referrals joined the self-referral queue, adding an extra step to the journey.

An observational study identified that patients were unsupported after triage while waiting to be seen at the next step and that the

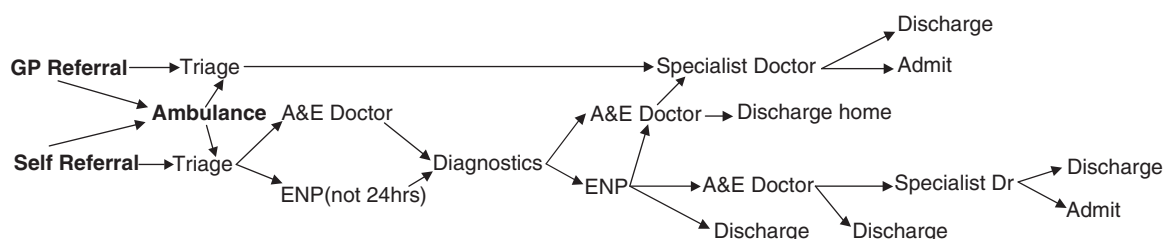


Figure 1 Schema of the patient journey through A&E (ENP = emergency nurse practitioner)

triage nurse had very little clinical autonomy so that patients were referred to the next stage of the A&E process even if admission, specialist assessment or diagnostic tests were obviously essential; the triage nurse also could not redirect or discharge patients even if the condition was clinically trivial. GP assessments were often repeated and duplication of data gathering from patients and of diagnostic tests was common.

During the morning and early afternoon, patients arrived in the A&E department at a faster rate than they left. The flow of arrivals peaked between 1000 and 1100 hours, and the volume of patients in the department continued to rise steadily until 1500 hours, when departures started to equal or exceed arrivals in the department. The disposal rate was determined by waits at each handover step in the process.

(b) *Seeing an A&E doctor*: Patients waited an average of 6 h 38 min to see an A&E doctor. The data, which relied on retrospective recording by Casualty Officers, was treated with some caution, but was, nevertheless, found to be consistent with perceptions. This link in the chain (which appeared twice) represented the longest delay in the system and was stimulated by diagnostic delays, e.g. through limited access to radiology.

(c) *Specialist opinion*: A specialist opinion is required before a patient is admitted to a hospital ward. Patients waited an average of 4 h 23 min at this stage of the process. The finding was corroborated by interviews with senior managers who estimated that patients waited 4–5 h to see a specialist doctor. Further duplication of information gathering was common at this step.

Factors governing the speed of response were availability of medical staff and availability of beds to admit to. Where there was little capacity in the hospital to receive patients, the wards would not be able to 'pull' patients from A&E.

(d) *Disposal*: Admission or discharge: an analysis of first attendances showed that 47% of patients were discharged home, 18% were admitted as inpatients, 5% left without waiting to be seen, 5% were referred back to their GP, 13% were referred to outpatient clinics and 9% were uncoded. Of those that were admitted to adult wards, 43% of adult ward admissions from A&E went to a Medical Assessment Unit. The Surgical Short Stay Unit took 12%,

Intensive Care admitted 3% and the remaining 42% were spread across 20 other medical and surgical wards.

Insufficient available beds, leading to patients sleeping overnight in the A&E department, hampered the 'admit' stage of the process. The poor service provided at this point of treatment was a source of distress to both staff and patients. It became a focus of the study, the timing of which coincided with strict Department of Health targets, which rendered it an overriding management priority to prevent patients from sleeping on a trolley in A&E overnight.

During the study period, on average 13 people stayed each night in A&E, with a peak of 34 sleepers during the month. Of patients staying overnight in A&E, 95% were eventually admitted to the hospital, but 5% were discharged from A&E without occupying a ward. July 2002 marked a peak in recorded trends by showing that 41% of patients admitted from A&E into the hospital were also being maintained overnight in A&E.

Other important influences on the patient journey

The hospital was looking for scope to improve performance. This was revealed by three sets of measurements, including (a) inappropriate admissions; (b) the role of the Medical Assessment Unit; and (c) routine monitoring of waiting times in A&E.

(a) *Inappropriate admission*: An earlier internal study indicated that as many as 19% of emergency admissions were clinically unnecessary. It also found that there was no difference in the length of stay between admissions deemed 'appropriate' and 'inappropriate': both had lengths of stay of 8.5–9.0 days.

(b) *Admission to the Medical Assessment Unit (MAU)*: A MAU within the hospital was originally conceived on the basis of a maximum 48-h stay and an average length of stay (LOS) of one day, within a range of 8–48 h stay. Its purpose had been to receive GP referrals, effectively short-circuiting A&E, and to provide intensive assessment for patients who could subsequently be discharged to the care of a specialist on another, less intensively-staffed ward. The LOS for medical emergencies entering the hospital via the MAU, however, was found to be 13.6 days, although the average length of stay within the ward itself was

estimated as 2.5 days. The qualitative data revealed that 'patients were admitted for assessment and not assessed for admission'. The location of the unit apart from A&E had contributed to its function as an acute inpatient ward rather than as an assessment unit.

(c) *Waiting times from arrival in A&E to disposal*: 'SITREP' data were used to compare the hospital's performance against selected government targets. 'SITREP' is a nationwide reporting mechanism that was introduced in Millennium Winter to provide a rapid Situation Report to the Department of Health and then to the Government. It focuses on emergency care, looks at capacity, demand and performance, and is submitted weekly by Hospital Trusts, PCTs and Strategic Health Authorities (StHAs) throughout the year. It has become a powerful and robust source of data. The SITREP for the six-week period ending 25 August 2002 identified that the hospital experienced a daily average of:

- 46% of A&E attenders spending more than 4 h in A&E from arrival to discharge. This compared with a government-set target maximum of 25% in 2002, graduating to a target of 0% patients waiting more than 4 h by April 2004;
- five patients per day spending more than 4 h on a trolley while waiting for admission. It was the only hospital in the health authority recorded in this category;
- zero patients spending more than 12 h on a trolley awaiting admission. In line with other hospitals, patients were officially admitted to the hospital even though their bed may be located in A&E rather than in a ward. They would be recorded as an overnight sleeper by the department, but would have been transferred to a bed to avoid breaching the government's target of zero patients spending more than 12 h on a trolley. The definition of an appropriate admission environment was due to change in October 2002 to address this common practice. So, apart from quality concerns, the loophole that hid overnight sleepers from official statistics was soon to be closed.

Qualitative themes

In addition to the pathway analysis summarized above, the observational study generated

two qualitative themes, communication and culture. In terms of communication, it was apparent that local GPs did not understand the processes in A&E services and made inefficient use of them. For example, referral letters aimed at getting patients admitted directly to the MAU, which were addressed generically to 'Dear Doctor' rather than a named consultant, were routinely rejected by the medical on-call team and were diverted to A&E for assessment. In these circumstances, instead of being admitted directly to a ward environment, a very sick, elderly patient would be obliged to enter A&E and risk sleeping overnight in the department. Questions were raised about GP actions: 'Has the GP phoned the hospital? Is failure to communicate due to GP laziness or inaccessibility of the hospital consultant or relevant team? Do some GPs use A&E as a source of second opinion?' It was found that patients were led to believe by some GPs that they would be seen as soon as they arrived and that GPs were unaware of rapid access clinic options. It became apparent that the hospital could not assume that GPs understood how best to use the A&E and hospital referral system.

The culture of A&E was observed to be negative towards GPs. A&E had an isolated view of itself and lacked integration with the whole hospital system. This was exacerbated by bed capacity problems within the hospital that meant wards could not pull patients out of A&E. Instead, A&E staff were obliged to try to push patients into the hospital. Staff lacked influence over the patient pathway, e.g. the time taken to see a specialist, or to be admitted to a ward. This induced disempowerment within the A&E department and was felt to be disabling to staff: 'I can do something about the staff in A&E. I can do absolutely nothing about the rest of it. It's the rest of it that's the problem.' A&E staff felt that they were unfairly held to be accountable for problems elsewhere in the hospital and responded by defensiveness towards the prospect of change. Their diagnosis for solving the A&E problem was consistent: 'It's quite simple. There are not enough beds'.

Strand 2 – the whole hospital system: dynamic flows and utilization

This thesis, that lack of beds was the root cause of the department's problems, was tested by an

investigation into the bed capacity of the case study hospital compared with that of other hospitals. The possibility of reducing demand upon beds was investigated with reference to inputs, outputs and processes associated with the hospital system. (The health economy comprised the local study hospital plus three neighbouring hospitals, giving a sector of four acute hospitals.)

Comparison of bed capacity and utilization

Adult acute bed provision was quantified as 17.6 per 10,000 population locally, compared with 20.7 in the sector as a whole. These ratios were 18.2, 19.6 and 29.3 per 10,000 population at its three neighbouring hospitals. This demonstrated that bed capacity was, indeed, the lowest in the sector. Addition of 30 beds into the study hospital stock would raise its provision to 18.6 beds per 10,000 population, ranking it equal with the second lowest out of the four hospitals in the sector.

Emergency admissions were, nevertheless, relatively high at 10 per 10,000 population per week, compared with a sector average of nine and rates of 6, 9 and 13 per 10,000 among the three neighbours.

As a consequence of low bed capacity and high admission or utilization rates, emergency admissions represented a very high percentage of the acute bed stock at 57% (per week), compared with a sector average of 41% and rates of 33, 41 and 44% among the three neighbouring hospitals.

While inpatient utilization was high, exerting pressure on a relatively low bed stock, the number of attendances to A&E was median for the sector at 48 attendances per week per 10,000 population, compared with a sector average of 45 and rates of 39, 50 and 48 among the neighbouring units. The problem lay, therefore, in the proportion of patients being admitted from A&E rather than the overall volume of patients attending the department.

The mismatch between demand and supply of beds was exacerbated by delays in transfer of care for 48 patients at any one time (average beds occupied during July 2002) who were medically fit for discharge from the hospital. It is perhaps no surprise, then, that bed occupancy averaged 99.5% for five weeks up to 18 August 2002. This showed an extreme situation where the hospital was essentially full.

This data, all of which was gathered from the SITREP source, added credence to A&E staff's hypothesis that bed supply was fundamental to the problems in A&E. It did, however, also indicate that scope for change existed in utilization, and this was pursued in the next stage of enquiry.

Diagnosing the scope for change in hospital utilization

Figure 2 shows that during the study period, there were 226 A&E attendances and 46 emergency ward admissions per day with 13 patients sleeping overnight in A&E. Capacity was being squeezed by delays in discharging patients who were medically fit to leave hospital, equivalent to removing 48 beds per day from the admission/treatment system.

Reducing admissions: The review identified scope to reduce the rate of emergency admissions by 25% from 46 to 34 patients per day. This would bring admissions per week to 43% of the bed stock, compared with its current rate of 57%, and closer into line with its neighbours.

Reducing delayed discharges: Out of the 48 beds frozen by delayed discharges, 14 patients (29%) were awaiting nursing or residential home care and the other 34 (71%) were waiting for assessment, funding, non-acute care, a domiciliary package or a placement of their choice. Of the patients, 40% (19/48) awaited assessment by organizations outside the hospital. It was concluded that, with suitable management action, delays in the transfer of care could be eliminated for 34 patients, i.e. all except those awaiting transfer to nursing homes or residential care.

Impact of reducing admission rates and numbers of delayed discharges: A 25% (12/46) reduction in admission rates and a reduction of 34 delayed discharges would reduce daily demand by 46 patients, 13 of whom were overnight sleepers in A&E. This would give a net demand reduction of 33 beds, equal to 5% of the whole hospital bed complement. The hospital would still be virtually full, with occupancy of 95%, but patient flow would be freed up, schematized in Figure 3.

Processes within the hospital – waiting for diagnostics

The collaborative enquiry approach of the group asked the question of delays within the

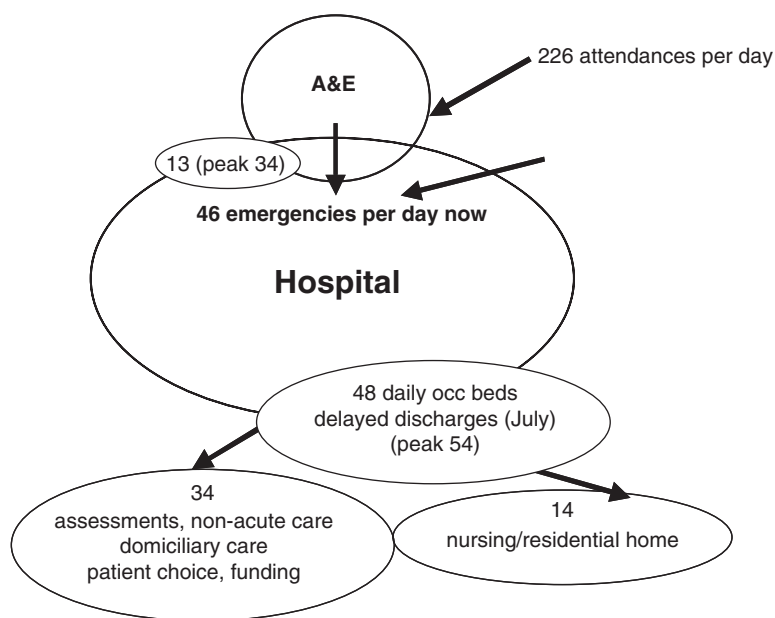


Figure 2 *Current hospital flows*

hospital system associated with the process of medical diagnosis and treatment. This stimulated a census count of patients in hospital beds during a week in August 2002, which showed that 71 out of 399 beds (18% of beds in surgery, orthopaedics and medicine) were occupied daily by patients waiting more than one day for a diagnostic investigation or result, 61 by patients awaiting a test and 10 by those awaiting a result. Most patients were medical, occupying 24% (56/234) specialty beds, compared with 4% of orthopaedic beds and 13% in surgery. Due to imaging, mainly CT and ultrasound, there was 53% (38/71) diagnostic delays and 10 of this 38 were awaiting magnetic imaging resonance (MRI) scans or cardiac arteriograms at other neighbouring hospitals. In addition to imaging, there were delays for a specialist opinion and procedures related to cardiology or scoping.

If diagnostic delays could be removed and the target improvements achieved in admission and discharge, bed occupancy would be reduced by 104 beds (71 + 33), equivalent to 18% of the hospital complement of 564 beds. This would take occupancy to 82%, consistent with the 82% ideal occupancy level identified for capacity planning in the wake of the National Beds Inquiry.⁵

Action/Outcome

The purpose of the diagnostic findings was to inform a programme of action that would effect change through redesign of processes. A two-stage process is required to achieve this^a: firstly to translate action research into proposals for change, which are disseminated and placed alongside competing calls for action within the organizational setting, and secondly to translate these recommendations into action that produces results. The first is within the gift of the stakeholders and researchers. The second depends on executive decisions and investment of resources. This section summarizes the progress of both.

Stage 1: Translating action research into recommendations

A list of proposals was generated, of which (a) most had the aim of reducing admission rates through improvements in A&E based on a redesigned patient pathway (Figure 4) that 'front-loaded' senior clinical time to earlier

^aAction Research into Change/Results covers the first two stages of Lewin's spiral of cycles of planning, acting, observing and reflecting.⁶

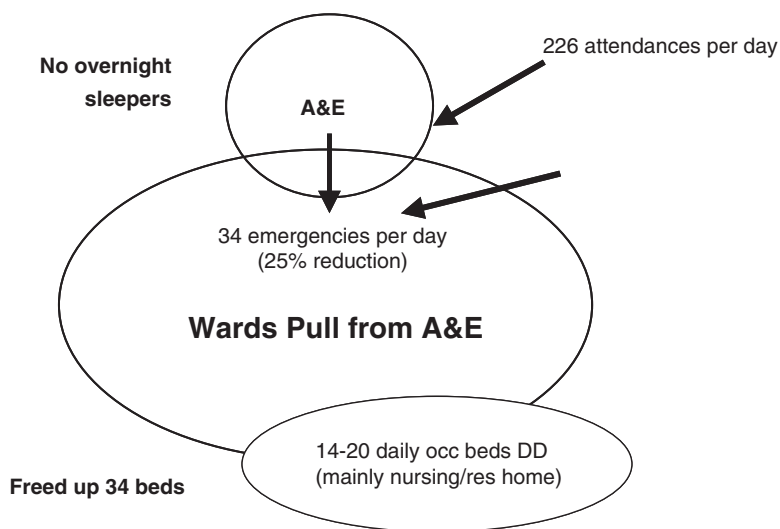


Figure 3 Target hospital flows (DD=delayed discharges)

stages of the process; (b) the most controversial was to relocate the MAU adjacent to A&E, rather than within the main hospital, turning it into a Clinical Decision Unit; (c) a tentative option was to increase the supply of beds; and (d) a strong recommendation was to give investment priority to expansion of diagnostic capacity to reduce internal delays.

Stage 2: Translating recommendations into action

The participative enquiry which yielded these proposals was part of the broader cycle of action research that, conceptually, continues into service change and is evaluated on the basis of such change.^{6,7} Several events intervened in this case study: the chief executives of the host PCT and the study hospital abruptly left their posts during the three-month project period. In the meantime, the structure of the NHS was in flux as primary care organizations were shifting (from Primary Care Groups to PCTs), StHAs were newly established and just settling, while the Regional tier was being dissolved. In the meantime, a new Secretary of State came in to post (as John Reid replaced Alan Milburn), shifting the emphasis of policy, so that the powerful new Modernization Agency, for example, changed trajectory and declined in influence.

The switch of chief executive at the study hospital meant that implementation of this work took place under new project names and initiatives. However, the primary goal of the hospital was successful; it met its A&E targets and, specifically, succeeded in eliminating 4 h waiting times^b. This was achieved through changes to the patient pathway in A&E and establishment of a Clinical Decision Unit under the control of A&E.

What was less widely acknowledged was that this success was achieved in conjunction with the following events:

- the addition of 30 beds, since the Clinical Decision Unit added rather than replaced beds;
- A&E attendances rose by 24% from 226 to 280 per day over the period 2002–04, stimulated by reduction in the primary care out-of-hours service and reduction in the speedier performance of A&E; and
- emergency admissions rose by 30% from 46 to 60 per day, inflated through use of the Clinical Decision Unit which represented a hospital admission, even though patients

^bThe target for 2004 was revised to 98% of all attendances needing to be seen within 4 h. The study hospital achieved this during the period of measurement (June 2004) and was the only one in the sector of four acute hospitals to reach this target.

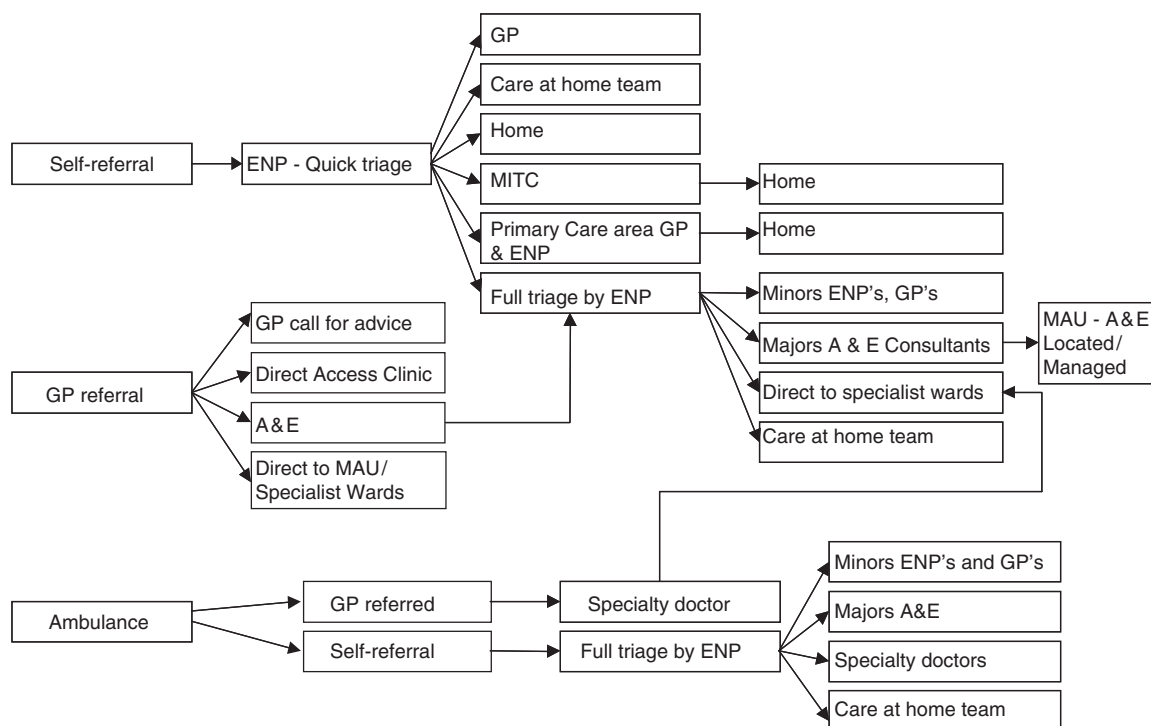


Figure 4 *Proposed patient pathway*

did not necessarily enter the main hospital system (with its associated 9 day average LOS).

Discussion

The study described here initially sought to enhance efficiency and to improve the patient experience in A&E. It was part of a drive nationally for A&E Departments to improve their processes, following adverse media publicity and pressure of public opinion. The motivation of the study was, therefore, to gain understanding in order to solve a problem, rather than to further the goals of science, giving it a post-positivist research angle that is here couched in terms of action research models.

Summarizing the project

Although A&E was the primary focus, it became apparent during the fieldwork that, to address the views of staff delivering the service in A&E, it was necessary to widen the line of

enquiry into the nature of capacity within the whole local health economy. This took the action research approach beyond 'the flexible planning tenet' into 'the subjective meaning tenet' in which perceptions are allowed to shape and influence the project's direction² (p. 439). To state it more plainly, the overwhelming feeling among staff was that their experience of working in a beleaguered department was explained entirely by bed capacity problems, which lay with the rest of the hospital. In order to engage with staff and bend the culture to one that was reflective and capable of embracing change, it was necessary to follow through and investigate their hypothesis.

The subsequent analysis showed that the hospital was indeed operating on a very tight capacity constraint so that any glitch in the system that slowed throughput further down the line, such as a member of staff being absent without cover, was capable of paralyzing the entire admission and discharge process.

A series of proposals was put forward, each of which could make some contribution to demand management of secondary care

resources. From the primary care perspective, this would smooth the patient journey from the point of emergency referral to hospital admission, which, in the case of frail elderly patients, would represent a significant qualitative change that could improve their life chances. Primary care involvement was an essential component in proposals for action.

Two years later, the study hospital is able to claim success in achieving its main target of reducing delays in the system, measured through elimination of the 4 h wait in A&E and elimination of overnight sleepers.

Role of action research

The role of action research in this study can be depicted in terms of:

- the methodology, which combined practitioners with researchers in a naturalistic enquiry; and
- the dissemination, executed through this paper.

The methodology

The methodology sustained a high level of energy and engagement throughout the short intensive period of collaborative enquiry. It generated a rich set of qualitative and quantitative information that was illuminating and afforded the potential for extensive redesign of processes. The advantage of the approach is that it used research skills in tandem with the aims of the organization. Its strength, therefore, lies in the process that fosters change. There are two potential methodological disadvantages, however, which need to be considered. The first relates to the system model design as against, for example, a simulation model. The second relates to control and evaluation.

Design: Action research versus simulation model: systems modelling methodologies are well developed and available within the sphere of operational research (OR).⁸ They involve mapping the system structure and processes and draw on computer simulation models to explore complex behaviour and consequences. This OR approach assures comprehensiveness and an ability to forecast the impact of changes to inputs. It requires, however, a set of skills, information and time that is not available to a hospital organization in a hurry. The level of

complexity and expert knowledge associated with simulation modelling sets it beyond the field of day-to-day action and so excludes the participants who are integral to the action research framework.

Control and evaluation: A further methodological consideration is that when change does occur, it is typical, as in this case study, to measure its impact two years later.⁹ Evaluation is problematic because of the very richness of the original proposed change-set within an environment that is not subject to scientific control. The list of change proposals ranged from the uncontroversial and cost-neutral one of improving communication to the politically charged (in terms of hospital clinical power bases) and expensive proposal of locating a MAU adjacent to A&E. The structure of the proposed action did not lend itself readily to evaluation and, even if the recipe had been simpler, the ingredients at work in the external environment were not. This was highlighted by replacement of two organizational Chief Executives, along with the funding priorities of the local health economy and displacement of organizational memory. However, that typifies the world in which health service research operates. It is not a neat, controlled environment and so, in an atmosphere where pace is essential, collaborative enquiry through action research is a fruitful *modus operandi*.

Dissemination of findings

What is there to disseminate, apart from a discussion of positive versus post-positive enquiry methods? The findings themselves are not trivial, since they fill gaps in our understanding:

- the A&E patient pathway has not previously been documented in this form in academic literature and provides an insight into UK hospital systems;
- the hospital utilization model developed here is a novel use of readily available data. Its simplicity is an advantage in contributing to programmes of demand management; and
- the project provides an example of reflective practice in a hospital, propelled by the PCT commissioning structure. The acute hospital was forced to expose its practice to the primary care sector in a way that was unprecedented in the organization. The

pay-off to the hospital was rapprochement with general practitioners and momentum for change tied into PCT priorities. The benefit to general practitioners was that they were able to exert influence on the shape of emergency services. At a point when the PCT commissioning structure is under threat,¹⁰ this project is a case study in effective mobilization of PCT power. Its success suggests that primary care commissioning power is an under-used, but influential, lever for change.

As a final observation, the study throws into relief the conventional mismatch in timescales between action and research, the consequence of which in policy circles is to promote implementation at the expense of research (exemplified by UK 1991 internal market reforms implemented by the then Secretary of State, Kenneth Clarke^c). The paradigm of action research brings the timescale of the two modes into line. The potential cost in integrity is the absence of detailed evaluation before drawing conclusions. The advantage to the academic community is greater engagement with 'real world' research and opportunities to tap into fieldwork findings that would otherwise be inaccessible. As social science is

notoriously impure, its immunity is already high, and it can tolerate some relaxation of the borders between research and practice.

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^cIn evidence to the House of Commons Select Committee, Kenneth Clarke rebuffed the idea of formal monitoring and evaluation of proposed health service reforms and suggested that to draw on academic advice was to display a degree of weakness (*Health Service Journal*, 1 June 1989).