



**Liverpool  
Public Health  
Observatory**

# **Reducing Emergency Admissions to Hospital -Redesign of services**

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## **LIVERPOOL PUBLIC HEALTH OBSERVATORY**

Liverpool Public Health Observatory was founded in the autumn of 1990 as a research centre providing intelligence for public health for the five primary care trusts (PCTs) on Merseyside: Liverpool, St. Helens and Halton, Knowsley, Sefton and Wirral. It receives its core funding from these PCTs.

The Observatory is situated within the University of Liverpool's Division of Public Health. It is an independent unit. It is not part of the network of regional public health observatories that were established ten years later, in 2000. Copies of this report are available from our website <http://www.liv.ac.uk/PublicHealth/obs>.

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## 1 Introduction

“Reducing inappropriate and unplanned hospital admissions enables services to work at optimum efficiency. This helps to ensure that the patients who truly need these services are seen as quickly as possible.”<sup>1</sup> Approximately 37% of visits to A&E in England are for minor non-emergency attendances. Similarly, of the 7.5m calls per year handled by the ambulance service, 2.2m (29%) are classed as ‘Category C’ calls, which are the lowest category of response required. These are non-emergency calls where the ambulance service is not required to dispatch an ambulance and may choose to resolve the call by referring the caller to an urgent care service.<sup>2</sup> For a PCT, keeping non-emergency incidents away from the ambulance service requires both commissioning of good alternative services and getting the public to access the right one instead of calling 999.<sup>3</sup> Hospital admissions for A&E patients are only deemed appropriate where there are clinical reasons for assessment or treatment that would take longer than four hours.<sup>4</sup>

Providing the right care in the right place at the right time may fail to happen due to:

- Inadequate or insufficient provision of a range of services to meet needs,
- Poor working across organisations that plan and provide services,
- Inflexible and inappropriate referral to and use of services, or
- A combination of these factors.<sup>5</sup>

For all conditions, providing care outside hospital is perceived to: reduce costs (lower salary costs and reduce overheads); be more accessible and responsive; and fill gaps in some specialist provision.<sup>6</sup> However, is outside hospital provision equally effective in terms of patient outcome and cost-effectiveness? Are any savings from reduced hospital care sufficient to meet the costs of care in the community?<sup>7</sup> Does service redesign require a minimal change in staff roles or require individuals with completely new professional roles to be recruited, trained and supported? Do substitutes allow better management of current demand or increase activity? Also are they an additional resource or a substitution?<sup>8</sup> The primary focus should be on how hospital services link with other forms of support to meet the needs of patients particularly the elderly, not on structuring services to minimise the use of hospitals.<sup>5</sup> The following review examines the available research evidence into interventions to reduce emergency hospital admissions and reduce pressure on A&E.

## 2 Interventions

### Primary Care

#### 2.1 Practice-based commissioning

Practice-based commissioning (PBC) allows practices to have an indicative budget to purchase/commission health services for their own practice population. As the price for hospital services are fixed through a national tariff, unlike the former GP fundholding, PBC cannot be used to negotiate better rates. It can be used to

negotiate higher-quality services or develop more efficient ways of using these fixed-price services. Any savings must be invested in other services particularly those closer to home and redesigning better patient pathways.<sup>9</sup> Services closer to home could include: a GP with a special interest; community or practiced-based services which may be led by a nurse or other health professional. The combination of payment by results (PbR) and PBC set up incentives to commission care 'closer to home' at a price that is less than the hospital set tariff for patients who do not require a hospital service. Therefore PBC can be used for health service redesign, where up to five local GP practices (or clusters) together with PCT managers and representatives from other organisations, such as the local hospital or social services form a local improvement team. During the first six months' of implementation of PBC reducing emergency admissions was described as a "big win" through shaping existing health and social care resources to meet proactively the needs of complex patients and to prevent emergency admissions.<sup>10</sup> For example:

One practice in London has reported an estimated £60,000 saving on emergency admissions and a 40% reduction in hospital bed days in over 65's after undertaking a three-month pilot of 'Unique Care', during 2006. The care involved a community matron and a social worker spending seven hours per week each on managing patients over 65 years at high risk of admission.<sup>10 11</sup>

Unique Care is a model that was pioneered in the Castlefields Health Centre in Runcorn. (See Community Matrons) Another quick win is to set up peer review of referrals to ensure that secondary care referrals are used to best effect and to highlight appropriate community pathways that partners may not have been fully aware of.

Other quick strategies around demand include developing "advice only" protocols with hospital consultants, to avoid unnecessary hospital appointments.

PBC can be used to incentivise practices to improve their management of potential high-intensity users in order to reduce strain on A&E.<sup>4</sup> A best practice toolkit on commissioning patient-centred urgent care services can be found under the Practical Advice section at [www.dh.gov.uk/en/healthcare/primarycare/urgentcare/index.htm](http://www.dh.gov.uk/en/healthcare/primarycare/urgentcare/index.htm)

Sixteen Integrated Care Pilots (ICPs) were launched in April 2009, one of which is from a PBC group. The aim is to look beyond traditional boundaries (e.g. primary and secondary care) to explore whether new, integrated models can improve health and care services. These sit alongside PBC to inspire innovation in service development and to encourage stronger partnership between clinicians and those working in local government and social care. ICPs will run for two years and will be evaluated against a set of national and local measures.<sup>12</sup>

## 2.2 Telephone consultation and triage in out of hours call centres

There are still several unanswered questions on quality and safety because of the paucity of evidence in this area.

A recent review in the Netherlands highlights potential shortcomings of telephone based consultations in the context of out-of-hours triage. Strengths of the study include a carefully considered sampling strategy of call centres and the use of

standardised clinical encounters using simulated patients. The study found that the quality of these consultations was consistently poor for all cases and for all centres. Triage management outcomes were appropriate in only 58% of calls, and urgency was underestimated in 41% of cases.<sup>13</sup>

A Cochrane review looked at nine studies to determine if telephone consultation was safe and effective.<sup>14</sup> Approximately half of the calls were handled by telephone only without the need for face to face visit. Telephone consultation appeared to decrease the number of immediate visits to doctors and does not appear to increase visits to emergency departments. However it is unclear whether this is just delaying visits to a later time. Consultation appears to be safe and people were just as satisfied using the telephone as a face-to-face visit.

As serious adverse outcomes are relatively rare, most studies have lacked the power to detect harm to patients.<sup>15</sup> There are still questions about its effectiveness and more research into the use, cost, safety and satisfactory of telephone consultation is needed.

### 2.3 Walk in centres and minor injury units

Nurse led NHS walk-in centres began operating in 2000 and have helped to improve access to emergency care closer to home. NHS walk-in centres were established to allow quick and easy access to a range of NHS services including advice, information and treatment for a range of minor injuries and illness.

Minor Injuries Units (MIUs) are not new, they have existed in the form of Community Hospitals or Minor Casualties for many years.<sup>16</sup> Current health service reforms and the removal of restrictions on nurses' scope of practice have resulted in the establishment of innovative nurse-led units.<sup>17</sup> They previously focused on injuries but have developed further to also deal with minor illness in some cases.<sup>18</sup>

Published research in this area is limited. For walk-in centres from the National Evaluation<sup>19</sup> of the first wave:

- They have improved access for some groups of people – males, young, employed, mobile people in higher income groups but their overall contribution to healthcare is still relatively small.
- Access to healthcare is improved through shorter waits than in A&E or GP surgeries – however this is due to their relatively low usage (A&E, GPs and out-of-hours have 14 times as many consultations). However, consultations are increasing. In 2000/1 average daily visits per centre was 52, by 2005/6 this had increased to just over 100.<sup>20</sup>
- They were found to be highly valued by users.
- The quality of care based on 5 scenarios was found to be better than NHS Direct. Quality of care for postcoital contraception and asthma was significantly better in walk-in centres than in general practices, that for sinusitis and headache was similar in the two settings, and that for chest pain was better in general practice, but not significantly.<sup>21</sup>
- If the centres had not been available about a quarter of centre users said they would have attended an A & E unit.

- Compared to General practice higher cost per consultation and more limited range of services than general practice.
- Have resulted in a slight reduction in emergency consultations, although not statistically significant, in a purposive sample of 10 walk-in centres 12 months before and 12 months after opening. This was compared with virtually no change at 10 comparable control sites.<sup>22</sup>

Other research:

- A controlled before and after study compared eight hospitals with co-located emergency departments (EDs) and walk-in centres with eight matched EDs without walk-in centres. There were few differences in the way services were provided compared with control sites. Overall, there was no evidence of an increase in attendance at sites with walk-in centres, but considerable variability across sites was found. The proportion of patients managed within the 4 hour National Health Service target improved at sites both with and without walk in centres. There was no evidence of any difference in reconsultation rates, costs of care or patient outcomes at sites with or without walk-in centres.<sup>23</sup>

For minor injury units (MIUs):

- People tend to use these units mainly as an alternative to accident and emergency.<sup>24</sup>
- In one study if there had been no MIU 48.1% of patients would have otherwise attended an emergency department.<sup>25</sup>

One MIU has recently closed through lack of use, although it was set up to relieve pressure on emergency admissions at a nearby A&E department. It has been suggested that lessons need to be learned that proper MIUs require an X-ray facility, along with radiology staff and nursing staff who can read the results.<sup>26</sup> Indeed the reason most frequently given, by low priority cases, for attendance at an A&E department was a belief that radiography was necessary.<sup>27</sup> They should also be staffed by experienced emergency nurse practitioners, who can deal with any condition that is presented.<sup>26</sup>

## 2.4 Urgent Care Centres

This is a new development in the UK to take patients who could be treated by primary care physicians away from Emergency Departments as part of GP-led health centres. The model is seen in two main forms: "front door" pre-Emergency Department, where the service is an optional stream for patients attending without an appointment who have a minor injury or illness presentation; and remote services, building - in some cases - on existing community facilities such as a walk-in centre, minor injury unit or community hospital.<sup>28</sup> It is envisaged that working as part of an integrated system of urgent care, UCCs will create opportunities to reduce unnecessary emergency admissions and hospital attendances. The centres will draw together staff and services from a wide range of different elements in the local health community (including primary care, acute hospital services, GP Out of hours services, social care and so on).<sup>29</sup>

One retrospective study compared the workload and staffing of an urgent care centre with 12 senior house officers working in the emergency department of City Hospital during the same time period. Their findings show that primary care physicians saw more patients per hour 3.1 per hour compared to 1.64 per hour for the senior house officers. However, the SHOs saw more urgent cases of triage categories 1-3 than the GPs who saw categories 3-4<sup>1</sup>. No differences were found for the number of investigations carried out. It was concluded that the development of urgent care centres is going to be extremely helpful in reducing the number of patients being seen in the emergency department. However, the cost of seeing a patient by a GP is nearly twice as expensive compared to being seen by a SHO. It is envisaged that changes will have to be made in the payment system of GPs to make this service cost effective in the future.<sup>30</sup>

## 2.5 Primary care in accident and emergency departments

A retrospective 3 months' study analysed the attendances in an emergency department in City Hospital, Birmingham, a large teaching hospital. It was found that GPs were an asset in the emergency department. They saw 2.06 patients per hour, whilst junior doctors saw 1.78. The cost per patient for the primary care physicians (£41) was much higher than those seen by the senior house officers (£15), although they were seeing much more complex cases. However, these findings do not include investigative costs or admissions rates. It is concluded that unless GPs remit is increased to see the patients with trauma as well as more seriously ill patients, it is not going to be cost-effective to employ these physicians in the emergency department.<sup>31</sup>

A prospective controlled intervention study compared the differential rates of intervention and referral between Senior House Officers, registrars and general practitioners for "primary care" patients. It was found that employing general practitioners in accident and emergency departments to manage patients with primary care needs seems to result in reduced rates of investigations, prescriptions, and referrals. This suggested important benefits in terms of resource utilisation.<sup>32</sup>

Another study<sup>33</sup> found similar results, when comparing care provided to non-emergency patients by general practitioners, working as an integral part of an accident and emergency department, with usual A&E staff. General practitioners investigated fewer patients, referred to other hospital services less often, more often referred patients back to their own general practitioners for follow up, admitted fewer

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<sup>1</sup> *National A & E Codes:*

1. Immediate resuscitation: Patients in need of immediate treatment for preservation of life.
2. Very urgent: Seriously ill or injured patients whose lives are not in immediate danger.
3. Urgent: Patients with serious problems, but apparently stable condition.
4. Standard: Standard A&E cases without immediate danger or distress.
5. Non-urgent: Patients whose conditions are not true accidents or emergencies.

patients, and prescribed more often. This study shows that general practitioners working as an integral part of an accident and emergency department manage non-emergency accident and emergency attenders safely and use fewer resources than do the usual accident and emergency staff.

As part of a Health Action Zone initiative in Manchester, a qualitative study described the impacts of having three GPs working as primary care physicians (PCPs) in three Accident and Emergency departments.<sup>34</sup> They were initially employed for two years, with the aim of reducing “inappropriate attendance” at A&E units. PCPs challenged views that patients were presenting inappropriately. Rather it was the current service that was inappropriate. By deploying the GPs in a new role as a PCP, but with the traditional autonomy associated with being a GP this allowed them to develop their role according to local need and the new service evolved to identify and meet the needs of patients more appropriately. “It was clear that the PCPs’ awareness of ‘community’ and locality issues...enabled a whole systems approach to the PCPs’ work ... which moved the initiative towards examining and tackling factors which lay outside the confines of the A&E departments.”<sup>34</sup> They were able to identify localities where access to primary care was difficult for certain groups and suggested initiatives which were taken forward by the HAZ in those areas.

## 2.6 Public information campaigns

Public Information needs to raise awareness of:

- lifestyle issues such as the dangers of heavy drinking;
- where services are situated, how they can be accessed and what they offer.<sup>35</sup> Indeed some services appear to be underused such as walk in centres and minor injuries. Media campaigns, web-based information and the use of social marketing (such as the “Choose Well” campaign) are possible mechanisms by which the public can be enlightened.<sup>36</sup>
- there is a requirement to consult public and patients when new services are being developed.<sup>37</sup> Consultation with the public and patients can steer developments to more closely meet local needs, resulting in better service provision and support at no cost to the NHS.<sup>7</sup> The Department of Health has produced, for commissioners and providers, a step by step guide on the process to implement an effective system of patient and public involvement in urgent care.<sup>38</sup>
- patients as to what types of conditions are appropriate for the emergency department. This is widely advocated and government campaigns are run regularly. However, the effects of patient education have been highly variable, with no studies finding leaflets had an effect. Nevertheless education of those with chronic disease has been more successful. Informing patients to phone for advice before going to the emergency department may reduce attendances.<sup>39</sup>

## Intermediate Care

### 2.7 Three digit number to access non-emergency health care

The Department of Health intends to introduce the service in England which will provide advice and information to the public when they need medical help urgently but the situation is not life-threatening. Existing research suggests that people often find it difficult to know how to access healthcare, who to call or where to go. Ofcom (The Office of Communications) is conducting a consultation exercise on the use of a three-digit number until 20 August 2009. It is proposed that a pilot in three English SHAs will take place during the spring of 2010. Subject to the positive evaluation of these pilots the intention is to fully roll-out the service across England. The three-digit number would, in the longer term, become the single number to access urgent care services, including NHS Direct. Anyone ringing NHS Direct's number would be rerouted to the new service and in time NHS Direct number would be switched off. All services currently provided by NHS Direct would be accessible through the new service.<sup>2</sup> Qualitative research conducted amongst the public has provided favourable support for the service.<sup>40</sup>

The new service will have an easy-to-remember number and three core functions:

- Identify immediate life threatening emergencies and transfer to 999;
- Respond to requests for health or service information;
- Assess the clinical needs of all other callers and, where necessary, route them to a local service provider who is able to meet their needs for a face-to-face consultation.

### 2.8 Emergency Care Practitioners (ECPs)

ECPs tend to be experienced nurses or paramedics working in autonomous but collaborative roles in the out of hospital setting; seeing, treating, releasing (or referring) patients with predominantly minor conditions.<sup>41</sup> Ambulance services have helped to develop the ECP's role to provide more appropriate care in the most appropriate setting at the right time.<sup>42</sup>

A controlled comparative observational study<sup>43</sup> examined care provided to patients by the ECP service (intervention) with the care usually provided in the same health service setting (controls), for similar types of health problem. The evaluation looked at ECP service given in three settings:

1. A 999 urban ambulance trust where usual care consisted of paramedics, technicians and conveyance by ambulances.
2. ECPs working in GP led out-of-hours service.
3. ECPs working in a nurse-led walk-in centre.

The researchers found that after adjusting for age, sex, presenting complaint and service model, some differences in the processes of care between the ECPs and the usual providers in the three settings was observed. Overall, ECPs carried out fewer investigations, provided more treatments and were more likely to discharge patients

home than the usual providers. Patients were satisfied with the care received from ECPs, and this was consistent across the three settings.

Costs information (based only on 999 urban ambulance trust) indicated that ECP care may be cost effective in that model of ECP working. At time of writing (2007) cost savings of approximately £291 per patient were based on lower staff costs at incident, avoided ED attendances and lower use of non-inpatient follow-up services. However, the researchers point out that the validity of this finding and its generalisability to other models of ECP care need to be confirmed in a larger study. It was concluded that ECPs are providing an alternative emergency and unplanned service in the different service settings. They are meeting their objectives in terms of reducing the need for attendance at the emergency department. It was not found that ECP care was less appropriate than the care by usual providers. Patients were satisfied with the care they received from them.<sup>43</sup>

A recent review<sup>41</sup> of the literature has concluded that ECP and paramedic practitioner roles are having an impact on patient care, including an average 25% reduction in the conveyance rate to hospital, improved inter-professional working, immediacy of treatment and referral, and high patient satisfaction. Limited economic data suggests savings of between £31 and £37 per case when ECPs replace standard ambulance responders. However, further work is required to fully understand the patient safety, clinical practice, professional role and financial implications of these new roles.

## 2.9 Hospital at home

Avoidance of admission through provision of hospital care at home is a scheme whereby health care professionals provide active treatment in the patient's home for a condition that would otherwise require inpatient treatment in an acute care hospital. A recent review<sup>44</sup> of hospital at home compared to hospital admissions found: there was no significant difference in mortality at 3 months for patients who received hospital care at home. However, at 6 months, mortality was significantly lower for these patients. Admissions to hospital were greater, but not significantly so, for patients receiving hospital care at home. Patients receiving hospital care at home reported greater satisfaction than those receiving inpatient care. These programs were less expensive than admission to an acute care hospital ward when the analysis was restricted to treatment actually received and when the costs of informal care were excluded. The authors conclude that for selected patients, avoiding admission through provision of hospital care at home yielded similar outcomes to inpatient care, at a similar or lower cost.<sup>44</sup>

## 2.10 Case Management

Case management is the process of planning, co-ordinating, managing and reviewing the care of an individual. Its broad aim is the cost-effective development of efficient ways of co-ordinating services in order to improve quality of life. There is no single model, but the core elements involve case finding or screening, assessment, care planning, implementation, monitoring and review.<sup>45</sup>

### 2.10.1 Evercare/ Community Matrons

The Evercare scheme was established to pilot, between 2003-2005, one approach to case management through the employment of advanced primary nurses to take responsibility for a caseload of patients with complex needs. The Evercare programme was based on a cost-effective scheme in the US which was able to reduce hospital admissions and emergency room (ER) use by about 50%.<sup>46</sup> In England the Evercare pilots focused on enabling older patients with a range of chronic diseases and a history of emergency hospital admissions to live in their own homes. Patients were eligible for involvement if they were age sixty-five or older and had had two or more emergency admissions in the previous year.<sup>47</sup>

An evaluation<sup>48</sup> of the nine programme pilots found that compared with the general population, case management had no significant impact on rates of emergency hospital admission (reduced emergency admissions by 1%), bed days, or mortality among high-risk patients.<sup>48</sup>

The reasons for the low impact on emergency admissions are complex but probably include that patients enrolled in the pilots were older people with a previous history of emergency hospital admissions, and evidence indicates regression to the mean in admissions in this group even in the absence of case management and other interventions. That is admissions rates tend to fall without intervention in the frail elderly.<sup>49</sup> Also, better care coordination may reveal unmet needs rather than resolving them.<sup>50</sup> Furthermore, the US version of Evercare included intensive home nursing care of patients when they became ill which was absent in the UK version.<sup>46</sup> It is advised that wider benefits than reduced admission should be considered when introducing intensive case management.<sup>49</sup>

In 2004 in advance of the Evercare pilots evaluation, the scheme led to the establishment of Community Matrons (CMs) to take over the role, based on the same principles as the Evercare advanced primary nurses.<sup>51</sup> CMs could potentially reduce admission rates if their efforts are focused on patients who have a condition that can be treated outside hospital and the intervention takes place before they enter into a spiral of readmissions. CM ideally should be available 24/7 to deal with a crisis out-of-hours, as support services will be less available then. There needs to be a whole-system view of provision, with CM working with social care, within a network of specialist nurses and with access to secondary care.<sup>52</sup> Further research into the optimum structure of community matron schemes is vital if they are to successfully improve patient care and reduce both hospital admissions and costs to the Health Service.<sup>53</sup>

Nevertheless, in the Central Cornwall PCT they have taken a whole system approach to the management of long-term conditions. Community matrons are working alongside GPs in the EPIC (Elderly Care Project in Cornwall) practices. The GPs and their teams have been able to rapidly access services via the community matron who has a workstation within the practice and access to the patients' records. Practices report far greater co-ordination of care and access to services. They particularly value the monitoring role of their elderly patients. An evaluation has been able to demonstrate in one year a 47% reduction in emergency admissions

of 457 across Cornwall with an overall saving (less the cost of setting up the service in the first place) of £534,878. They have also facilitated 84 early discharges, reduced GP visits in and out of hours, and increased patient satisfaction.<sup>54</sup>

Pioneering work into Community Matrons has also taken place in Castlefields Health Centre, Runcorn. In their “Unique Care” practice-based model a part-time nurse and full-time social worker identified patients 65 years and older at high-risk of hospitalisation for case management. Patients were classed as high risk if they had a high level of hospitalisation, multiple chronic diseases, the use of more than six medications and a poor score in activities in daily living. Over four years, the practice saw a 15% fall in hospital admissions from a baseline in 1999. Accident and emergency attendances and GP home visits fell by 30% and there was a 41% drop in bed days, resulting in £1m savings. This model is claimed to be a better alternative to Evercare.<sup>55</sup> A London practice has successfully piloted this approach resourced from PBC. (See examples of Good Practice)

### 2.10.2 Specialist Workers for Older People

A before and after study has been evaluated on the impact of case management, in the Heart of Birmingham PCT, involving specialist workers for older people (SWOPs).<sup>53</sup> The SWOPs carried out assessments of social and medical needs, produced individual care plans, co-ordinated care and referred to appropriate agencies. The study found there was a non-significant reduction in hospital admissions from 0.91 to -0.67 per patient. This finding is of potential importance because of its cost implications to the PCT. As the follow-up was only carried out for 12 months post service inception, it is possible that further reductions will be seen as the service becomes more established and links with local services become stronger. There were some significant findings: an decrease in GP surgery visits from an average of 2.8 to 2.6 per patient and the number of emergency home visits decreased from an average of 2.8 to 1.1 per patient. These changes in admissions and consultations produced estimated cost savings equivalent to the cost of the SWOPs’ service. However, the savings in nursing costs only relate to those in primary care; any use of intermediate care services will not have been included, so the overall savings may have been overestimated. There were a few hypothesised reasons for the reduction in admissions and emergencies. Case-management may increase people’s understanding of their condition therefore allowing them to anticipate problems and contact their GP to avoid an emergency. SWOPs focuses on a patient’s social needs not just emphasis on medical as in a community matron’s role. Through the multidisciplinary background of SWOP workers (including nursing, housing and social work) they may be more familiar with availability and access to a range of community services available to patients. While case management may potentially reduce hospital admissions, flexibility is necessary to allow for local factors, such as type of existing services, as there is no ideal model of case management which will fit all contexts.<sup>53</sup>

### 2.10.3 Tools that predict future risk of admission.

These computer tools support case management as they identify high risk patients as early as possible to enable interventions to be targeted before substantial

preventable/avoidable expenditures have been incurred and health status has deteriorated further.

PARR1 and PARR2 - Short for “Patients at Risk of Re-hospitalisation” - were developed by the King’s Fund and partners. PARR helps PCTs predict the risk of emergency admission and re-admission to hospital by identifying patients who are at risk of a spiral of emergency admissions.<sup>56</sup> The Combined Predictive Model<sup>57</sup> uses a more powerful combination of hospital and community data to increase predictive power. It has the added benefit of identifying people who have never had an admission. Patients in the moderate risk category have nearly twice as many outpatient attendances, 70% more emergency admissions, and 40% more A&E attendances when compared with the average person in the population. If these patients are identified they could be treated using cheaper, targeted lower intensity interventions.

The High-Impact User manager (HUM) which enables GPs to identify patients who have been high hospital users and assesses how likely they are to be a high user in the future. The resource can help primary care providers to spot which conditions are likely to be particularly amenable to primary care interventions to reduce the financial burden of potentially unnecessary hospital admissions.<sup>58</sup>

EARLI (Emergency Risk Likelihood Index) is especially appropriate for use with older people to predict the likelihood of emergency admission to hospital within the next 12 months for patients who are 75 years or older. This is a validated tool that is cheap and easy to use, consisting of only 6 items, that can be applied in a variety of clinical and community settings. Those identified can then be targeted for preventive interventions to reduce demand on hospital care.<sup>59</sup>

PEONY (Predicting Emergency Admissions Over the Next Year) is an easy-to-use, validated algorithm to predict future emergency admissions in all individuals 40 years or older. The model can be implemented at individual patient level as well as family practice level to target case management.<sup>60</sup>

#### **2.10.4 Ambulatory Care-Sensitive Conditions (ACS)**

ACS conditions are those for which hospitalisation is considered potentially avoidable through preventive care including vaccination and early disease management.

In the NHS nineteen conditions have been identified where community care can avoid the need for hospitalisation. These are: COPD, angina (without major procedure), ENT infections, convulsions and epilepsy, congestive heart failure, asthma, flu and pneumonia (>2 months old), dehydration and gastroenteritis, cellulitis (without major procedure), diabetes with complications, pyelonephritis, iron-deficiency anaemia, perforated/bleeding ulcer, dental conditions, hypertension, gangrene, pelvic inflammatory disease, vaccine-preventable conditions, nutritional deficiencies.<sup>4</sup>

Each PCT should identify which conditions account for a disproportionate level of hospital admissions. PCTs should then inform practices if any of their patients (in

particular those included in the nineteen conditions) are presenting at A&E frequently so their care can be reviewed and improved. The computer-based tools PARR and HUM will easily allow such high presenting patients to be traced. If the PCTs in the highest quartile (for hospital admissions for these conditions) reduced hospital admissions by 25% the NHS would save at least £94 million.<sup>4</sup> As seen in Table 2 below, within the Cheshire and Merseyside PCTs, if these conditions were handled more appropriately within the community the potential savings on emergency admissions for this financial year are estimated to be £44,878,000. This could result in an average saving for each PCT of £5,609,750.

**Table 1: Emergency Admissions for Ambulatory Care Sensitive Conditions in Cheshire and Merseyside PCTs**

Primary Care Trusts	Emergency Admissions for 19 conditions											Improve ment over Q4 07/08
	National Ranking					Relative level of admissions					Productivity Opportunity (£)	
	2007 /08					2007 /08	2008/09					
	Q4	Q1	Q2	Q3	Q4	Q4	Q1	Q2	Q3	Q4	Q4 08-09	
C & E Cheshire	91	103	73	100	105	104.3	103.0	87.7	120.6	117.2	4,701,000	✘
Halton & St Helens	138	115	150	148	151	148.1	145.4	132.7	174.8	171.8	7,356,000	✘
Knowsley	137	150	151	145	143	142.4	145.4	134.4	157.9	143.4	4,371,000	✘
Liverpool	140	152	75	149	152	185.4	171.1	88.4	199.0	180.6	11,711,000	✓
Sefton	126	145	147	115	138	128.3	127.1	125.6	130.1	141.8	5,367,000	✘
Warrington	112	109	108	119	134	115.0	106.9	99.7	135.3	139.0	3,545,000	✘
Western Cheshire		87	98	88	91		96.4	95.6	114.4	111.6	2,506,000	
Wirral	128	133	134	120	118	128.7	119.1	112.1	137.9	127.7	5,321,000	✓
Total/Average						136.0	126.8	109.5	146.25	141.6	44,878,000	

National Ranking Key: No Data Average Poorer Than Average

Source: NHS Better Care, Better Value Indicators

**The relative level of admissions** shows the ratio of actual emergency admissions to the expected level, given the age, sex and need of the population for 19 conditions. These conditions have been identified as ones where community care can avoid the need for hospitalisation. A figure of 100 means the level of admissions is as expected, a figure of 110 means a 10% higher level than expected. In general, the lower the rate of emergency admissions for these conditions the better - both for patients and the NHS. Performance of PCTs in the Top 25% were  $\geq 80.48$ . PCTs with an average level of performance fell into the range of 80.48 - 95.00. PCTs with less than average performance were  $< 95.00$ .

**Productivity opportunity** is based on the number of admissions that would be avoided if all trusts achieved a population standardised rate of admission in line with the top quartile performance (for quarter 1 of that year). This is calculated for each condition separately, so a trust that is top quartile overall but less than top quartile in one condition will still show a productivity opportunity. The opportunity is calculated by summing the HRG cost of each admission that would have been avoided if admission rates had been lower. This is the total figure, not a figure per unit of population, larger PCTs will tend to show a larger opportunity. The savings are expressed as annualised figures by multiplying by four the savings of the quarter measured.

### 2.11 Performance Targets for Emergency Care

National targets for ambulance trusts responding to emergency calls are based on long-established clinical standards, which categorise calls based on their urgency and the threat posed to the life of the patient. Category A calls are emergency calls where the situation is life-threatening; category B calls are defined as serious but not immediately life-threatening. The national targets in England require that 75% of category A calls should result in a response at the scene within eight minutes, and 95% of category A calls should result in an emergency ambulance capable of transporting the patient to arrive at the scene within 19 minutes. Ninety-five per cent of category B calls should be responded to by an ambulance within 19 minutes. In England in 2007/08, 77% of category A calls were responded to within eight minutes.

The key target for Accident and Emergency Departments set by the Department of Health for NHS Trusts in England is the percentage of patients to be seen within four hours. After discussion with the medical profession and consideration that there will always be a minority of patients that cannot be safely treated within four hours, the Government's target has been set that 98% of patients attending A & E should be seen within four hours.<sup>61</sup> Despite the fact that A&E attendances are continuing to rise, for the year ending March 2009 this target has been met, with 98.1% of patients spending four hours or less from arrival in A&E to admission, transfer or discharge.<sup>62</sup> However, it is unclear how long these targets will remain as the new Health Secretary, in his first speech at the NHS Confederation's annual conference, has promised that targets will be dismantled and there will be a "lighter touch to performance management"<sup>63</sup>

#### 2.11.1 Perverse incentives of A&E targets

Using queuing theory, a study has analysed the speed at which A&E departments would need to treat and discharge patients to meet the 98% target, and found this would have to be with an average discharge time of only one hour.<sup>64</sup> Serious cases take more time so the better an A&E does its job the 'worse' it looks against this target. Therefore it creates perverse incentives to somehow "fiddle the figures"<sup>65</sup>

It is claimed that although A&E targets have resulted in significant improvements in completion times, the current target would not have been possible without some form of patient re-designation or re-labelling taking place. Thus the true improvements are somewhat less than headline figures might suggest and it is doubtful that a single target (fitting all A&E and related services) is sustainable.

An example of **re-designation** to meet the target is the introduction of the Acute Assessment Unit or Medical Assessment Unit, which works alongside the Emergency Department but is outside it and therefore exempt from waiting time targets.<sup>64</sup> Furthermore, the research also highlighted that many patients from A&E departments were being discharged at the four hour cut-off mark, suggesting that patients are actually waiting longer than four hours to be treated but are recorded as having been seen within the target period.

This research supports a British Medical Association survey of medical staff<sup>66</sup> which found that:

- A third of doctors believed A&E data was being manipulated to ensure government targets were met;
- 66% of medical staff stated that patients may be moved to inappropriate areas of the hospital to meet waiting targets;
- Over half (58%) reported that patients may be discharged before being adequately assessed or stabilised;
- Hospital doctors blamed a lack of inpatient beds, staff shortages and inappropriate demand from people with minor complaints;
- Additional staff and locums have been brought in to help with increasing demand.

However, there are many patients who may need to spend more than four hours in an emergency department: asthma patients and suspected heart-attack patients need observation and tests that require extra time.

There are some suggestions of “**gaming**”. That is making performance on a target appear better than it is so it can be difficult to distinguish between the following four outcomes<sup>67</sup>:

1. Performance has been exactly as desired in all domains (whether measured or not)
2. The targets have been reached but at the expense of unacceptably poor performance in the domains where performance was not measured. For example - extra staff drafted in and/or operations cancelled for the period over which performance was measured.<sup>67</sup> In the Mid-Staffordshire NHS Foundation Trust to avoid breaching the target doctors were diverted away from seriously ill patients to treat minor problems.<sup>68</sup>
3. Although reported performance against targets seems to be fine, actions have been at variance with the substantive goals behind those targets.<sup>67</sup> For example, patients having to wait in ambulances, so the 4 hour target is not breached.<sup>69 68</sup>
4. Targets have not been met, but this has been concealed by ambiguity in the way data are reported or there is outright fabrication. For instance, the level reported to the Department of Health in 2004-5 for the 4 hour A&E target was 96%, but an independent survey of patients reported only 77%<sup>70</sup>

### 2.11.2 Evidence to support effective implementation of A&E Target

A study using data from all 155 English hospitals between 2003 and 2006, found no evidence for some dysfunctional effects of hitting the four hour A&E target.<sup>71</sup> These researchers conceptualised these dysfunctional consequences as “effort substitution” and “gaming”.

**Effort substitution** was described as “reducing effort on non-measured performance”. To test if there was evidence of effort substitution the researchers used sources of routinely available data:

- Firstly they looked at two indicators of quality of care death rates and return rates for patients presenting in the A&E to see if there had been an increase

in these rates associated with improved A&E waiting times. Death rates were calculated as the ratio of deaths to the number of patients seen in the A&E during a given week. Return rates were assessed from the number of patients returning to the A&E department within 30 days of a previous A&E visit by quarter. The study found no deterioration in the quality of care given to A&E patients in respect of death rates or return rates.

- Secondly, the researchers hypothesised that effort substitution might occur through the transferring of resources such as doctors and nurses from nonemergency activities in other parts of the hospital into A&E. To test this they analysed waiting times for elective orthopaedic and trauma-related surgery (as these were the most-likely case scenarios for resource re-direction), but found no statistically significant increase in the period under investigation.
- Thirdly, they hypothesised that effort substitution might occur by a redistribution of wait times - increasing the percentage of patients treated within 2 hours and an increase in mean wait time. "In other words, a hospital might keep patients who otherwise would have been treated in 30 minutes waiting for nearly 4 hours, in order to devote attention to patients who would otherwise breach the 4-hour threshold."<sup>71</sup> Again they found no evidence for this third hypothesis.

For examples of **gaming** researchers looked for at two sources of data. Firstly, they examined the time series for mean wait-time performance beyond the last week of March 2003 that represented the "sweeps week"<sup>2</sup>. Secondly, they looked for increased admissions into inpatient wards. Researchers did not find evidence of a substantial blip during sweeps week of the percentage of patients waiting less than 4 hours in A & E. Indeed, after the sweeps week although "performance fell by nearly five points in the following week, it remained nearly constant over the next 9 months at a level far above pre-sweeps performance."<sup>71</sup> The researchers failed to find a significant increase in admissions to inpatients.

### 2.11.3 Applying complexity theory to A&E target

Complexity theory is concerned with the behaviour over time of certain kinds of complex systems. It has been concluded that the A&E target fails to take into account the complexity of the problem of reducing waiting times. To address the problem requires consideration of all the interactions in the system - the factors such as lack of available beds, organisation in A&E, patient reasons for attending A&E through possible lack of access to a GP out-of-hours. In applying complexity theory the following questions should be addressed:

- Consider what are the contributing factors to the problem and how many systems are involved?

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<sup>2</sup> In January 2003 the Department of Health announced that the A&E target would be included in the 2003 hospital star ratings and would be measured during one week: "sweeps week" to be announced well in advance. Under the star rating those hospitals that performed well received more money and independence, while those that perform badly faced the prospect of having new managements imposed on them. The star rating system was scrapped in 2005.

- Do you belong to all other systems involved?
- Can you control the behaviour that contributes to the problem?

It requires a more cooperative approach to organisational problems utilising inter-professional working and service user involvement.<sup>72</sup>

## 2.12 Emergency call prioritisation

Analysis by the Health Service Journal has found large variations in the number of non-emergency patients being handled by the ambulance service which suggests the NHS in some areas is failing to meet needs, and wasting money in the process.<sup>3</sup> A research review<sup>73</sup> has shown that, in nine out of ten studies, 30%-52% of ambulance calls do not warrant an emergency response. In the tenth study the lower proportion of inappropriate users (11.3%) was attributed to relatively conservative criteria. It has been concluded<sup>73</sup> that approximately 40% of 999 calls do not require an emergency response therefore evidence supports the need for alternatives to be developed to increase the appropriateness of care, such as:

1. Diversion of non serious 999 calls to a system of nurse advice
2. Ability of ambulance crew to treat people at the scene and then discharge them
3. Use of alternative destinations to emergency department, such as minor injuries clinic or other community services.

Unfortunately the evidence, particularly on safety, of these alternatives is weak.

### 2.12.1 Diversion of non-serious 999 calls to NHS Direct

In a study evaluating diversion of non-serious 999 calls to NHS Direct nurses for further advice and assessment, it was found to be cost-effective for some of these calls. Though, the number of calls that can be managed by this service is only a small proportion of the 999 workload. This represented 13% of Alpha calls and 2.5% of Omega calls that are rated with the lowest level of urgency and category of response. A significant number of referrals, averaging at 66.9%, had to be returned to the referring ambulance service. The calls were more likely returned if the patient was elderly. The authors point out that the high return rate means that the number of cancelled ambulances was also low. However the economic evaluation showed that even a small reduction in ambulance journeys can produce significant cost savings. Also, there is scope to increase the number of passed calls and reduce the return rate if the service was available 24/7 and if better alternatives for care or transport where a 999 ambulance response is not required are put in place. For an ambulance service receiving 200,000 calls a year a potential 15,000 ambulance journeys could be saved.

Nevertheless, the presence of pain and pain severity was reported as a symptom that patients considered inappropriate for referral and which influenced patient satisfaction with the referral service. It is advised that triage systems used to prioritise ambulance calls and decide the urgency of response or type of referral options should consider pain severity to facilitate timely and humane care.<sup>74</sup>

Also it has been demonstrated that diverting emergency calls to NHS Direct can save time for emergency department staff. In one study of 979 callers diverted from an emergency department to NHS Direct, 59% (574) of calls were given health information. Only 1% (6 callers) were directed to 999 and therefore also potentially went to the emergency department, 27% were directed to self-care and 43% advised to contact their GP in varying time scales.<sup>75</sup> The authors advise that it was not possible to assess whether the arrangement had resulted in fewer A&E attendances in comparison with the advice given by A&E staff as the latter had been too busy for their work to be audited. However, 72% of callers assessed by NHS Direct were advised to seek other health care interventions.

### 2.12.2 Diverting non-serious 999 problems to nurses or paramedics

One UK study has looked at diverting non-serious 999 problems to assessment and triage by a nurse or paramedic using a computerised decision-support system. Patients triaged as not requiring an emergency ambulance were less likely to be admitted to an inpatient bed, but even so 30 (9.2%) were admitted. Nurses were more likely than paramedics to assess calls as requiring an alternative response to emergency ambulance dispatch. The authors did advise that the acceptability, reliability and cost consequences required further consideration.<sup>76</sup> The role of paramedics to treat and discharge patients at the scene or the use of alternative destinations has not been adequately studied to confirm its safety in the UK.<sup>39</sup>

### 2.13 Closer to home demonstration sites

This involves delivering specialist care in local settings, (such as primary care centres and community hospitals) moving away from the traditional outpatient model and towards innovative community approaches. It makes use of multidisciplinary teams and, in particular, of GPs with special interests (GPwSI) to provide more convenient and accessible services. Ultimately delivery of services depends on local circumstances and on what is convenient for the majority of patients. It requires those healthcare professionals involved to take on new responsibilities and, in some cases, to develop new skills, such as GPwSI or specialist nurses. An evaluation of NHS closer to home demonstration sites, as an addition to hospital care for patients with less complex conditions in six specialities has found some interesting results.<sup>7</sup> Patient satisfaction was high and they felt they experienced high quality of care in settings that were generally more accessible and convenient. They were located closer to patients' homes, parking was easier and waiting times were reduced. However, it was pointed out that "patients may not be able to judge the technical quality of the care" received. Furthermore, it was recognised that services had been developed ahead of governance arrangements and training. There were concerns raised about the level of training and supervision required for new community practitioners.

The demonstration sites may have a destabilising effect on acute trusts. For instance, they could provide for simpler or less complex patients at a lower cost, as hospital care has a fixed tariff through payment by results. Hospital clinics would be left with more complex and expensive case-mix. Therefore, junior hospital staff may require placement in community settings to gain their full range of clinical experience.<sup>777</sup> There were other economic issues raised that could not be

addressed in the study. For instance, the size of the community services that would be necessary to achieve the economies of scale to provide large, expensive and complex items of equipment.<sup>7</sup>

A review<sup>78</sup> has suggested that transferring hospital services to primary care generally reduces hospital outpatient demand but can have an adverse effect on quality and may not be cheaper because costs are sometimes offset by increases in service-led demand and loss of economies of scale.

Relocating specialists to primary care and establishing joint working between primary and acute care, improves access to care without jeopardising quality. However outpatient demand is not reduced while unit costs tend to increase because economies of scale are lost.<sup>78</sup> Evidence supports the case for centralising in hospital settings some complex, planned procedures. Those hospitals that perform a high volume of that procedure will have better patient outcomes in terms of healthy survival.<sup>79</sup>

It is recommended that

1. The competency of primary based providers is firstly assessed and any necessary educational interventions introduced before services are transferred.
2. Service quality to be audited before and after implementation to detect and address any important decrements to quality.
3. Referral guidelines may be required to prevent the lowering of treatment thresholds as new intermediate care services are introduced
4. Ensure that hospital services are downsized and the resources transferred to primary care rather than redirected to other hospital activities<sup>78</sup>

Strategies to improve the appropriateness of referrals:

1. Referral guidelines are more likely to be effective if:
  - Local secondary care providers are involved in dissemination activities;
  - Structured referral sheets are used;
  - Secondary care management is responsive to changes in primary care behaviour as a result of the guidelines;
  - They reflect local circumstances and address local barriers.
2. Providing a second opinion before referring, or enhancing the services provided before a referral (e.g. access to a physiotherapist) may improve the referral process.<sup>80</sup>

## EXAMPLES OF GOOD PRACTICE

### Liverpool PCT - Unplanned Care Direct

This is a 24 hour nurse-led call centre that has been established to:  
Provide a “one stop” service for GPs in North Mersey for adult unplanned care;  
Support Health and Social care professionals accessing health services;  
Act as an “alert” to pressures in the system.

The goal of the service is to reduce A&E attendances and hospital admissions in order to support the A&E target, to develop an electronic patient information system and to improve the patient’s journey and experience. In 2005/06 it diverted 15% of patients to more appropriate services and in 2006/07 diversions increased to 16.5%.<sup>81</sup>

### Liverpool PCT Primary Care A&E Diversion Scheme

The South Central PBC Consortium and the PCT identified inappropriate accident and emergency (A&E) attendances as a priority issue locally.  
The aim of the initiative was to redirect those patients of South Central PBC Consortium Practices who present at the local A&E department with conditions that can be easily dealt with in primary care. The service commenced in February 2008.  
Patients who are redirected are assessed by an appropriately trained nurse, well experienced in primary care, including minor injuries and ailments. The primary care nurse will identify those patients who should be seen within primary care or require no treatment other than healthcare advice, operating within their scope of competence at all times. Practices where access is deemed ‘difficult’ by patients will be highlighted and work undertaken with those practices to address these issues.

### London Practice – PBC for case management using “Unique Care”

One practice in London has reported an estimated £60,000 saving on emergency admissions after undertaking a three-month pilot in 2006 of ‘Unique Care’, involving a community matron and a social worker spending seven hours per week each on managing patients at high risk of admission and preventing excess bed days.<sup>10 11</sup>

### North West – Choose Well

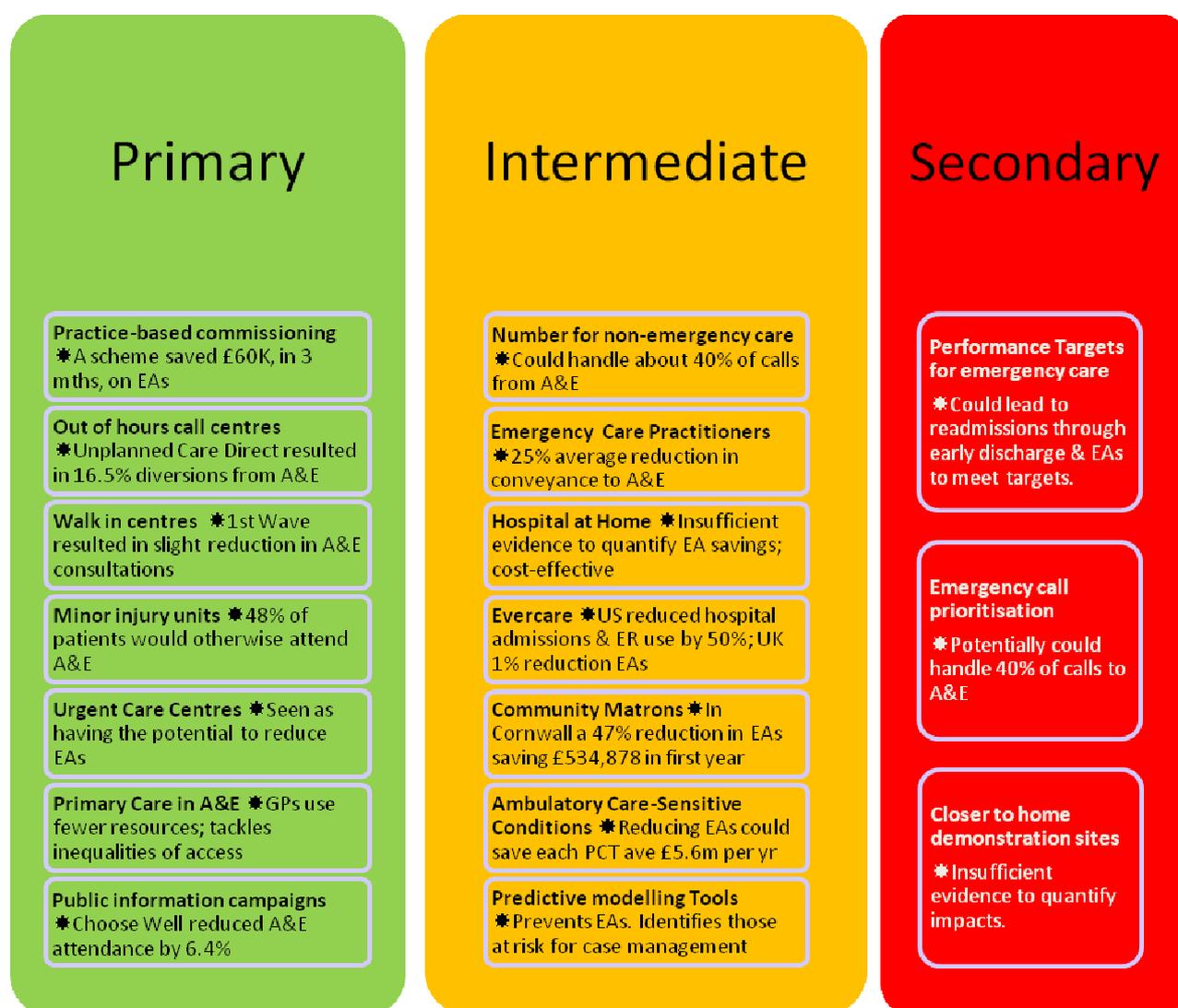
Choose Well is a social marketing programme to support the public’s use of urgent care. It originated in Knowsley in 2005 and has since been shared and developed across Merseyside, in a number of North West PCTs and in pockets across the UK. It aims to: improve public information; show that a range of NHS services are available; help people choose the most appropriate service and get the best treatment; and reduce pressure on emergency services. A colour-coded thermometer graphic is used to indicate the different services available for illnesses and injuries of different levels of seriousness.<sup>82</sup>

In 2007 Choose Well increased the level of awareness amongst the people of Merseyside of the range of NHS services available to them. 94,547 people used NHS Walk in Centres in Merseyside, a rise of 18% from the year before and there was a drop in A&E attendance of 6.4%, compared to the previous winter.<sup>83</sup> For further information: email: [ben.obrien@knowsley.nhs.uk](mailto:ben.obrien@knowsley.nhs.uk) or [ian.davies@knowsley.nhs.uk](mailto:ian.davies@knowsley.nhs.uk) Tel: 0151 443 4909

### 3 Summary of findings

Commentators have advised taking a whole system approach when redesigning services. For instance, while case management may reduce hospital admissions, flexibility is required to allow for local factors, such as type of existing services, as there is no model of case management which will fit all contexts. Ultimately delivery of services depends on local circumstances and on what is convenient for the majority of patients. Figure 1 summarises the interventions and their impacts where known.

Figure 1: Interventions showing impact where known on Emergency Admissions (EAs)



### **Primary Care interventions**

Practice-based commissioning can be used for health service redesign, to provide patient care in the community, thus reducing costs and the burden on emergency services as well as providing more accessible care for patients. In 2006 a London Practice employing a community matron and social worker funded from PBC saved £60K (equivalent to £240K a year) within 3 months on emergency admissions in the over 65s.

Unplanned Care Direct based in Liverpool is a nurse led call centre. The service comprises an innovative team of nurses and call handling staff responsible for facilitating alternatives to hospital admission/A&E attendances by offering appropriate community and outpatient pathways to Health and Social Care professionals across the Merseyside region. In 2006/7 it diverted 16.5% of patients to more appropriate care.

NHS walk in centres during their first wave, were shown to improve access to healthcare through shorter waits than at A&E and GP surgeries and there was a slight reduction in A&E attendances. However, this may have improved as they become more established.

In one study 48.1% of patients said if there had not a Minor Injuries Unit they would have attended the local A&E department. If Minor Injuries Units are to be a viable alternative to A&E they require an X-ray facility, radiology staff and nursing staff who can read results, and staffed by experienced emergency nurse practitioners who can deal with any condition.

Urgent Care Centres are a new development in the UK to take patients who could be treated by primary care physicians away from Emergency Departments. It is envisaged that working as part of an integrated system of urgent care they will create opportunities to reduce unnecessary emergency admissions and hospital attendances.

GPs working within A&E departments have been found to be an asset as they use fewer resources and potentially they can develop their role by applying their knowledge of community and locality issues to suggest initiatives to address inequalities of access to primary care locally.

Public information campaigns for instance, using social marketing such as “Choose Well” on Merseyside has been shown to facilitate the reduction by 6.4% in A&E attendances during one year. There is a requirement to consult public and patients when new services are being developed.<sup>37</sup> Consultation with the public and patients can steer developments to more closely meet local needs, resulting in better service provision and support at no cost to the NHS.

### **Intermediate Care Interventions**

Emergency Care Practitioners tend to be experienced nurses or paramedics working in autonomous but collaborative roles in the out of hospital setting; seeing, treating,

releasing (or referring) patients with predominantly minor conditions. They have been found to reduce emergency department attendance by 25%.

Evidence suggests that people often find it difficult to know how to access healthcare, who to call or where to go. Therefore a pilot in three SHAs will take place during the spring on 2010 of a three digit number to access non-emergency services. Subject to a positive evaluation the three digit number will be available throughout England. In the long-term it would be used to access urgent care services, including NHS Direct.

Providing hospital care at home yields similar outcomes to inpatient care, at a similar or lower cost. Patients receiving care at home reported greater satisfaction than those receiving inpatient care, and after 6 months mortality was significantly lower for those cared for at home.

There is no single model of case-management, but the core elements involve case finding or screening, assessment, care planning, implementation, monitoring and review. The Evercare programme in the US was able to reduce hospital admissions and emergency room use by about 50%. In the UK pilots it was less successful with no significant impact on emergency admissions (1% reduction), bed days, or mortality among high-risk patients. The US version included intensive home nursing care of patients when they were ill which was absent in the UK. Community Matrons could potentially reduce admissions rates if their efforts are focused on patients who have a condition that can be treated outside hospital and intervention takes place before they enter into a spiral of readmissions. They will also need to be available out-of-hours for crisis support. There needs to be a whole-system view of provision, with community matrons working with social care, within a network of specialist nurses with access to secondary care. Two models of community matrons have been shown to be successful. A whole system approach to management of long-term conditions in the Elderly Care Project in Cornwall and Unique Care pioneered in Runcorn at the Castlefields Health Centre with a part-time nurse working with a full-time social worker to identify and manage patients over 65 with a high-risk of hospitalisation.

Specialist workers for older people in Birmingham have made non-significant reductions in hospital admissions and cost savings for the PCT. They concentrate on patients medical and social needs. Further reductions are anticipated as the service becomes established.

There are a number of predictive modelling tools available that can be used to identify patients at high-risk of hospitalisation, in particular those with ambulatory care-sensitive conditions. These are nineteen conditions where community care can avoid the need for hospitalisation. If these conditions were handled more appropriately in the community the potential savings for Cheshire and Merseyside PCTs would be nearly £45m in one year.

## Secondary Care Interventions

Many commentators claim that the A&E four hour target is creating perverse incentives to fiddle the figures. For example: patient re-designation that could result in inappropriate admissions (although a recent research has found no significant evidence) or ‘gaming’ – making performance on a target appear better than it is. For example, patients having to wait in ambulances, so that the 4 hour target is not breached. It has been concluded that the A&E targets fail to take into account the complexity of the problem of reducing waiting times.

As approximately 40% of calls to 999 do not require an emergency response emergency call prioritisation could potentially take pressure off emergency services.

Delivering specialist care in local settings makes use of multidisciplinary teams such as GPs with special interests to provide more convenient and accessible services. It requires involved healthcare professionals to take on new responsibilities and in some cases develop new skills. Patient satisfaction with the closer to home demonstration sites was high and they were more accessible and convenient. However, there were some economic issues raised and concerns about supervision and training. Therefore implementation recommendations should be addressed. There is no evidence to support reducing demand for emergency services.

### RECOMMENDATIONS FROM PUBLISHED EVIDENCE

- Apply a whole system approach when redesigning services, taking into consideration the local context.
- Practice-based commissioning used effectively can substantially reduce emergency admissions
- Consider implementing good practice examples such as “Unplanned Care Direct” and “Primary Care Diversion Scheme”
- If Minor Injuries Units are to be a viable alternative to A&E they require an X-ray facility, radiology staff and nursing staff who can read results, and staffed by experienced emergency nurse practitioners who can deal with any condition.
- If Urgent Care Units are part of an integrated system of urgent care they will create opportunities to reduce unnecessary emergency admissions and hospital attendances.
- Consult public and patients when new services are being developed.
- GPs working within A&E departments can be an asset. They use fewer resources and can suggest initiatives to address inequalities of access to primary care locally.
- Public information campaigns using social marketing may be effective in reducing A&E attendance by advertising alternative action
- Developing new nursing roles, based on proven models such as Emergency Care Practitioners, and Community Matrons could reduce emergency admissions
- Use predictive modelling tools to identify patients at high-risk of emergency admission.
- Ambulatory Care-Sensitive conditions can be appropriately managed in primary care and community settings.

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