

PREHOSPITAL CARE

The Surrey Emergency Care System: a countywide initiative for change

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Modernisation is at the core of government policy. Within the NHS it has variously focused on accident and emergency, coronary heart disease, clinical governance and information technology although each strand has tended to operate in isolation. The Surrey Emergency Care System is a programme combining the strands into a single countywide initiative and that lays the technical and clinical foundations of a future integrated unscheduled care network. This paper describes the programme, its potential impact, and offers some insight into the barriers to change that the project has met so far.

in horizontal layers each with its own management and information technology infrastructure. Consequently there are conflicts between the need to deliver integrated clinical and social care across layers and the management structures within them. A lingering competitive culture from the internal market compounds this.

It could be very different. An example is the clinical need to deliver thrombolysis quickly to patients with myocardial infarction. This need has fostered innovations that highlight the benefit of taking a “whole systems approach”. Transmitting ECGs from the ambulance ahead of a patient’s arrival, for instance can pre-warn hospital teams thus significantly reducing their response time,² or alternatively enable remote support for prehospital thrombolysis by ambulance staff,³ or alternatively transferring patients direct to specialist centres for primary angioplasty (personal communication). The patient should then get the right care in the right place at the right time.

Clinical networks are being developed and provide the clinical infrastructure within the NHS to enable “whole systems” changes in disease management that have proved very effective. For instance:

CURRENT MODEL OF CARE

The traditional ambulance response to a 999 call has become increasingly sophisticated over time but its fundamental elements have not changed for 50 years and it has some structural faults:

- Success is measured by meeting artificial temporal targets.
- It is not tailored to clinical need.
- Many transfers to hospital are unnecessary.
- Each call generates multiple paper and electronic records.
- Responding personnel rarely have access to patients’ medical history.
- The “seam” between prehospital and in hospital care leads to:
 - Little coordination between them
 - Duplication of effort and consequent waste of time.
 - Poor “whole systems” audit
 - Little outcome based research

- Home monitoring of patients with congestive heart failure (CHF) can pre-empt acute exacerbations and reduce admission rates by 50%.⁴
- Community cardiac teams deliver better, more coordinated care and enable earlier discharge, reducing the average length of stay for those who are admitted from 11 to 6 days.⁴
- A similar model has been proved for falls and chronic obstructive pulmonary disease.⁵

It is accepted that 40%⁶ to 60%⁷ of “emergency” transfers to hospital can be better managed at home and some pilot projects have shown that paramedic care can be developed to include more advanced patient assessments, more definitive treatment at home, and alternative responses such as transfer to intermediate care beds, referrals to social service, or direct appointments with GPs.⁸ Combining these initiatives will

PRESSURES FOR CHANGE

There are pressures for change within the NHS including an underlying drive towards a more local and primary care based service and a drive to improve the quality of care and the quality of service delivered to patients.¹ The government has used a combination of targets and additional funding to encourage change but has tended to focus them at individual organisation level. It now seems clear that a more holistic approach could be more effective.

Health care is a vertical process delivered by layers of people—from patients themselves at the basic level through to consultant nurses and doctors at the highest. The NHS however, is organised

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Abbreviations: SECS, Surrey Emergency Care System; A&E, accident and emergency; IT, information technology; CHF, congestive heart failure; SpEPR, specialist electronic patient record; e-PRF, electronic patient report form; CDSS, computer decision support systems; ECMS, Emergency Capacity Management System; MIU, minor injury unit; WIC, walk in centre; PCT, Primary Care Trust; StHA, strategic health authority

radically change how services are delivered, minimise unnecessary transfers to accident and emergency (A&E)/admission to free inpatient beds for those who really need them. Together they represent a strong clinical and economic impetus for a more advanced model of integrated out of hospital care.

VISION

The Department of Health has a clear vision of a future integrated emergency care service⁹ in which patients receive a high quality and consistent response tailored to their needs, 24 hours a day, and within that lies a stream for patients who may need care in hospital. Some 999 calls need urgent care and transfer to hospital, while the remainder may be better transferred later or managed wholly in the community. In Surrey, this vision has been developed by many members of the whole health economy, social services, patients, and the public into the SECS programme, which has six distinct elements:

- A seamless specialist electronic patient record (SpEPR) with:
 - An ambulance electronic patient report form (e-PRF)
 - An A&E electronic patient record
 - Integrated audit tools
- Integrated computer decision support systems (CDSS)
- Telemetry for patient records and 12 lead ECGs
- Virtual case conference facility
- A community response for specific problems (falls, CHF, and COPD)
- A County wide Emergency Capacity Management System (ECMS)—a web based system, accessible by the whole health economy that can:
 - monitor, in real time
 - overall capacity of the whole health economy.
- the load on A&E departments, minor injury units (MIUs) and walk in centres (WICs).
- available capacity of each hospital
- availability and capacity of residential and nursing homes
- direct ambulance crews to the most appropriate location for their patient
- support critical care networks by providing information on bed and equipment availability
- maintain an “at risk register” for vulnerable patients and their carers in the community

THE FUTURE MODELS OF CARE

Emergency cases

Emergency cases will be attended by an ambulance crew with access to a summary of their EPR, transmitted onto their portable computer that hosts the e-PRF. Crews will assess and manage the patient and enter their findings by using voice recognition software and touch screen computers. CDSS will advise and prompt care, which the paramedic will register as completed by touch screen and which the computer will automatically code and date and time stamp. ECGs and physiological data will be automatically merged into the e-PRF that will then be transmitted to the most appropriate (not necessarily the nearest) emergency department to form the front end of the A&E EPR. Interventions en route will be added and transmitted as required. On arrival the patient will be taken to a pre-determined bed, the location of which will be decided and advised to the ambulance crew before their arrival, where care will be handed over to the waiting team.

In due course, a summary of the patient's course in hospital and the patients' clinical outcome will be transmitted back to the ambulance service to complete the record and to enable meaningful audit.

Urgent cases

Urgent cases will receive the same initial response but in some cases the attending clinician supported by CDSS will decide that the patient need not be transferred immediately to hospital. For them, the ambulance crew will convene one or more “virtual case conferences” (initially a simple phone call, but which in time can be a conference call or video conference) with NHS Direct, the GP, community care team, specialist response teams (for example, falls) or social workers and in many cases will hand care over to them. For those requiring urgent rather than emergency admission, the system will ensure that necessary support is available and, advised by the Emergency Capacity Management System (ECMS), will arrange timely direct transfer into a nominated bed which may well be in the community.

Non-urgent cases

For the (now) unusual cases classified by the ambulance crew and subsequently the patient as non-urgent, they will manage them on scene where appropriate, liaise with NHS Direct for further advice and support or book them to be seen by their GP, local MIU, or WIC in an appropriate time frame.

POTENTIAL IMPACT

The potential impact of SECS is profound. It delivers the clinical and technical networks to underpin a fundamental shift from hospital centric emergency care to a more refined and more community centric model. It should improve quality of social and clinical care, reduce transfers to hospital by 40%–60%, and reduce pressures on hospitals. It also has the potential to reduce the average job cycle time for ambulances and thereby improve response times to true life threatening cases.

SECS is acting as a catalyst for some primary care trusts (PCTs) to develop community falls, COPD, and CHF teams aiming to reduce bed occupancy by 50%, ease pressures on the acute sector, and consequently improve the throughput of “cold” surgical cases to reduce waiting time for surgery. Direct admission of urgent cases will reduce the strain of trolley waits in A&E.

An emergency care network will improve the quality of care, encourage integration, and reduce the duplication of effort inherent in the current system. CDSS based on evidence based guidelines integral to both e-PRF and EPR will support social and clinical care, regardless of location, which considers the patients circumstances and clinical condition and follows a consistent integrated care pathway. Common audit tools and processes further cement an integrated approach to care and enable whole systems outcome audit at the press of a button.

BARRIERS

All these concepts have been proved somewhere and the technical solutions to deliver them are well developed. What is unique about SECS is bringing them together within a single community and it is this that is proving to be a challenge. SECS has been planned for four years, is supported by all the acute trust and PCT chief executives and A&E directors in Surrey, fits well with the NHS modernisation agenda, and is actively supported by many key players in the NHS including two ministers, the strategic health authority, and the Department for Health and Social Care—yet it is still not being implemented. The barriers to change are instructive.

Real money and resource shift versus financial stability

Shifting the emphasis from acute to community care will probably be beneficial in clinical and economic terms but there is no overarching model proving it. The community model for CHF and COPD could possibly reduce acute bed days across Surrey by 12 000 per annum thus enabling hospitals to close wards or manage their surgical load more effectively. However,

unless wards are closed, fewer medical bed days saves only marginal costs whereas more surgery costs more and new community based teams will require “real” new money to plan and run.¹⁰

The quandaries are clear—marginal savings and better performance in the acute sector versus more costs in the community. Better quality of care and service versus possible increased costs. Where the balance lies in the new NHS is as unclear as how and where to re-allocate resources is.

Technology

The technology has been comparatively easy to develop although concerns about security and confidentiality from the “centre” have been recurring themes despite having been comprehensively addressed from the start. Initial concerns about shared access to Trust networks have reduced with time as government policy has shifted towards this model. The significant technology barriers have been more about some local IT professionals being nervous of change rather than the technology itself. Additionally there is an apparent unwillingness at a high level to consider novel approaches such as the virtual case conference.

Joint planning

Many emergency care networks are being set up around single A&E units but what is really needed is a true collaborative with all parts of the community sharing the agenda. The SECS programme entails significant joint working and change across seven acute trusts, five PCTS, one StHA, one Department for Health and Social Care, an ambulance service and the community. It addresses clinical modernisation in A&E, ambulance services, intermediate and community care, and CHD each of which has its own integral process and infrastructure. IT modernisation is divorced from them all. Consequently there is no established mechanism to:

- Jointly plan procure and implement a project across a community.
- Debate and agree the clinical changes that are necessary
- Link the various strands of clinical management and IT modernisation

As a consequence the bulk of the planning work fell on one trust resulting in a relative lack of ownership among the others. Crucially SECS’ diversity creates a situation where virtually everybody involved sees the benefits and actively supports the project but there is no one individual with the authority to say “yes”.

Clinically, SECS encourages uniformity that is on the one hand essential to deliver consistent care regardless of geography but that on the other hand is an anathema to most clinicians. Establishing the degree of harmonisation that is appropriate and what/who needs to change is difficult.

There is similarly no mechanism to share funding across a community and indeed a tendency for individual purse holders to say “we’ll support but they should pay”. The “five case model” for IT procurements becomes very complex when the costs are in one organisation and the benefits in another. It is further complicated when costs are technical, quantifiable, and up front while the benefits are clinical, qualitative, and potential.

Joint planning is a problem for Surrey, it would be a considerably greater for larger communities.

Shifting the balance of power¹¹ (StBOP)

StBOP shifts power from hospitals to the community and should, in time, resolve some of these issues. PCTS will effectively control the NHS budget locally and will be commissioning services community wide. They should therefore be in a position to both encourage and enforce change. Similarly the new strategic health authorities (StHA) will provide both a

mechanism for joint planning and sign off, while the centralisation of IT under a chief information officer will help coordination. None of these factors have been in place until recently and it will probably be some time before both PCTS and StHA are sufficiently established to feel able to innovate.

“The procurement rules”

A project of this size must of course go through the Official Journal of the European Community (OJEC) and conform to the NHS IT procurement rules. Because of its wide ranging potential it seems that every part of the strategic outline case and the outline business case has been scrutinised by just about every part of the Department of Health and its allied agencies none of whom were willing or able to give the go ahead until all the others had commented. The process has therefore been hugely time consuming and costly and as a result new initiatives have come (and gone) that have impacted directly upon SECS, which has consequently been working on constantly shifting sands. Personnel changes within government departments have also led to a need to continually go over old ground.

Documentation in support of the programme is lengthy. As a result it was often broken down by the assessors into specialist areas and distributed for comment. As a result individuals considering the case were often not party to the whole “big picture”. Much time was wasted while they asked questions that were answered in other parts of the business case.

At other times the process came up against some who seemed to feel that it could never work and that it would not work on their patch. Others claimed that there was no local support despite an avalanche of clear and unequivocal statements from StHA, DHSC, and local partners. The Surrey health community supports it and is willing to give it a go.

Despite these issues, the fact that the programme is still on the agenda suggests that it is supported locally, that it is appropriate, and that it is flexible enough to move with the changes that are brought about by national and local initiatives.

CONCLUSION

SECS is but one model of an integrated community wide emergency care system that is ready for implementation. As the new NHS structures become established and as new clinical initiatives mature into practice, SECS will become a reality and bring with it substantial change. We are confident that all the pieces are in place but the “procurement system” has been a considerable hindrance.

Surrey Ambulance Service is a “three star” organisation and could go it alone. This would however be at odds with the whole systems approach to the programme. It must therefore wait for final agreement from someone to implement the programme. There are too many barriers and red tape getting in the way of modernisation. If SECS is to become a reality and a model for change and indeed if the government really believes that *any* joined up integrated care is the way ahead, they have to make it much easier.

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