

**DELIVERING
CONNECTED CARE
ACROSS A REGION**

Bradford & Airedale has always faced challenges when it comes to healthcare. The diverse population, spread across a varied landscape, presents difficulties when trying to deliver connected healthcare.

Bradford & Airedale is the 4th largest metropolitan district in England. The region covers some 142 square miles, which reports high population density and higher than national average growth (Association Public Health Observatories 2012). The region has significant health inequalities with higher than national average levels of alcohol misuse, diabetes and deaths due to heart disease and stroke (Office National Statistics 2009, APHO 2012). Whilst inner city Bradford has high levels of deprivation and unemployment when ranked against the national average (HM Government 2012).

Yet when it comes to healthcare, clinicians in Bradford & Airedale are some of the most revolutionary in the country. Their aims are simple, they want to understand the needs of their patients better and provide world-class healthcare.

In terms of connected healthcare, the area has had their successes represented in numerous publications including the BMJ, HSJ, and the NHS information strategy itself*.

In the late 90s, a GP practice and the Bradford diabetes service wanted to share information. The driver behind this initiative was to reduce unnecessary admissions to secondary care by managing diabetes more effectively in general practice. The solution to this problem was the implementation of the same centrally-hosted system, SystemOne.

Since then, more and more services have adopted the single system approach. Where a

mixed economy of systems still exists, health professionals have instead tried to find new ways of linking data and sharing information.

Dr Shahid Ali, a local GP, and Dr Richard Pope, a diabetologist from Bradford Teaching Hospitals NHS Foundation Trust, have been instrumental in driving change.

“Connected care definitely makes a difference – and we believe that comes from sharing the medical record.”

Dr Ali says: **“In our area we’ve recognised that connected care definitely makes a difference and we believe that comes from sharing the medical record. Patients need to be able to see their information through the course of a pathway.”**

Dr Pope agrees: **“Both horizontal and vertical integration is necessary. Patients need to see a longitudinal record that’s presented to them electronically, but that information also needs to be shared across all services, from secondary care through to GP level.”**

Local software companies have now ensured that training on connected healthcare begins early in a clinician’s education. As part of a

medical degree, students attending University now get training on SystmOne, which is used in the area. Each year 1500 students at the University of Leeds and 250 students at the University of Bradford are trained before going on medical placements. This enforces the cultural change, and shows a new way of approaching IT in healthcare.

Dr Pope believes as clinicians, their requirements are very simple: **“We need continuously integrated data, instant communication and the ability to look at a changing care pathway in order to transform care. We need to do all of this together, to be instrumental in changing the way that we work.”**

E-Consultations Project

One of the best successes in Bradford & Airedale has been the introduction of e-consultations - an initiative that has improved care, and saved the NHS thousands of pounds. Led locally by GP Dr John Connolly and consultant nephrologist Dr John Stoves, the projects was initially piloted for Chronic Kidney Disease (CKD) referrals.

A GP, using SystmOne, sends an electronic task to a specialist consultant who has access to a SystmOne hub, established at the hospital. The consultant can then access the full patient record to view consultation details and the medical history to decide upon the best course of care. An electronic task is sent back to the GP, within a maximum of five days, detailing their

recommendation. The e-consultations scheme is helping to reduce unnecessary visits to hospital. For CKD referrals alone, the number of referrals to the outpatient department has reduced by 78% since the scheme began.

Dr John Connolly, GP lead at The Ridge Medical Practice in Bradford says “Consultants can make better decisions with access to the whole record and it consolidates their working relationship with GPs.”

The hub is now used for a range of activities, including hepatitis B vaccination monitoring. The percentage of haemodialysis patients in the area who had completed a full course of HBV vaccination increased from 42.8%

to 70.9% over a two year period. The mean cost per patient is estimated at £83 for an electronic referral and at £236 for a paper referral, as shown in tables 1 and 2.

The saving to the NHS per patient for using electronic referrals is estimated at £153.

TPP are now collaborating with NHS clinical innovators in an agile and responsive way. This promises to deliver the e-Consults model to all SystmOne GPs regardless of geography. When the patient doesn't have to travel to the specialist, advice can be given wherever and whenever it is needed in a highly cost-effective way.

	Input	Unit Cost	Mean cost per referred patient
GP referral	3 mins	£150 per hour	£7
Consultant time E-consultation	15.5 mins	£148 per hour	£39
Outpatient attendance	Attendance for 16% of patients	£225 per attendance	£36
Transport	17% of attending patients require NHS transport	£32 per attendance requiring transport	£1
Total			£83

Table 1

	Input	Unit Cost	Mean cost per referred patient
GP referral	8 mins	£150 per hour	£20
Outpatient attendance	Attendance for 94% of patients	£225 per attendance	£211
Transport	17% of attending patients require NHS transport	£32 per attendance requiring transport	£5
Total			£236

Table 2

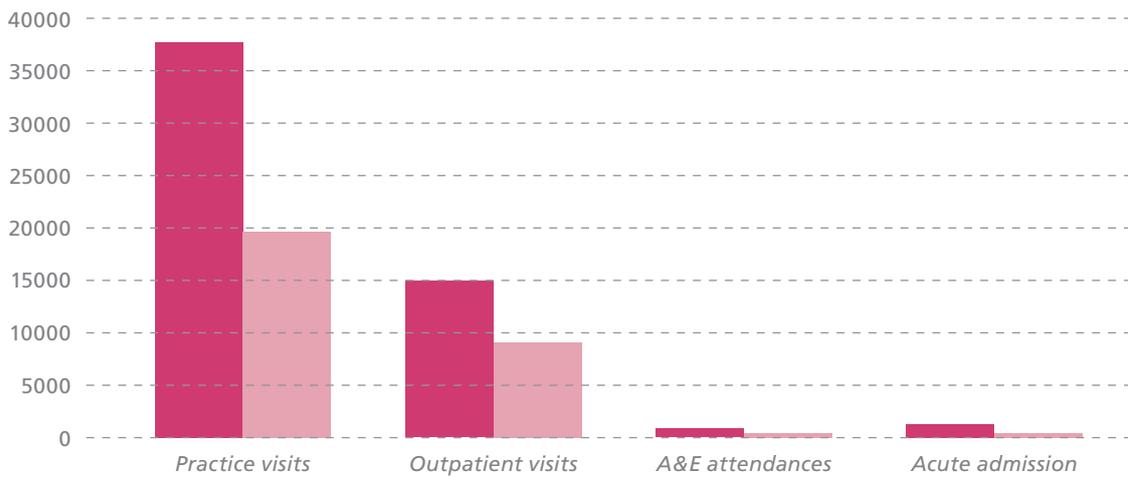
Care planning for Long Term Conditions (LTCs)

Dr Shahid Ali from the Phoenix Medical practice, worked on an initiative to change the way patients with long term conditions (LTCs) were dealt with. Patients with one or more LTC were allocated to groups which were then given special clinic times. Longer clinic appointments were given to those with two or more LTCs and all goals and discussion points were added to a personalised plan of care within the practice's clinical system, SystemOne.

Results from Dr Ali's study have shown reductions in practice contact, outpatient appointments and A&E attendance. All of this means there is a significant reduction in cost when comparing treatment methods. Acute admissions for the patients involved in the study cost just £5,000 after care planning compared to over £30,000 pre care planning.

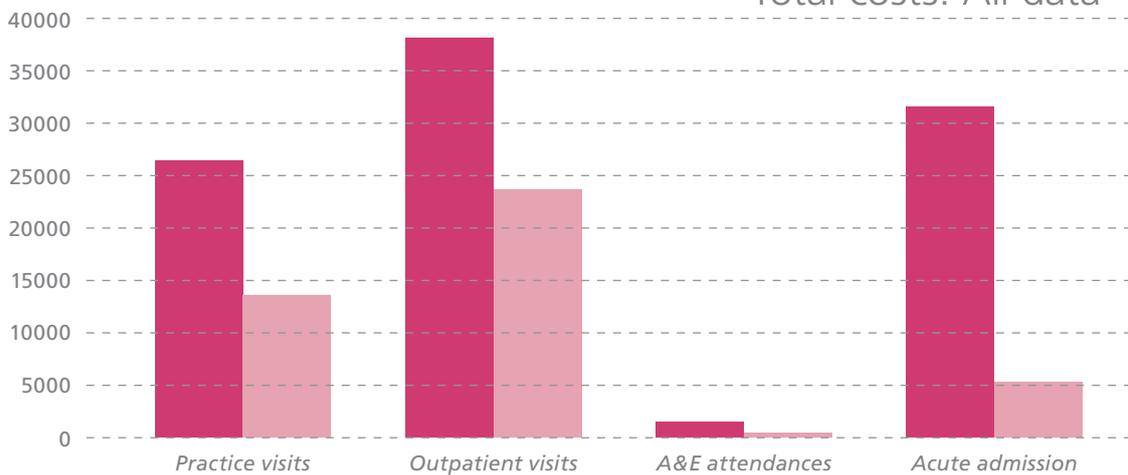
number of visits/attendances

Total activity: All data



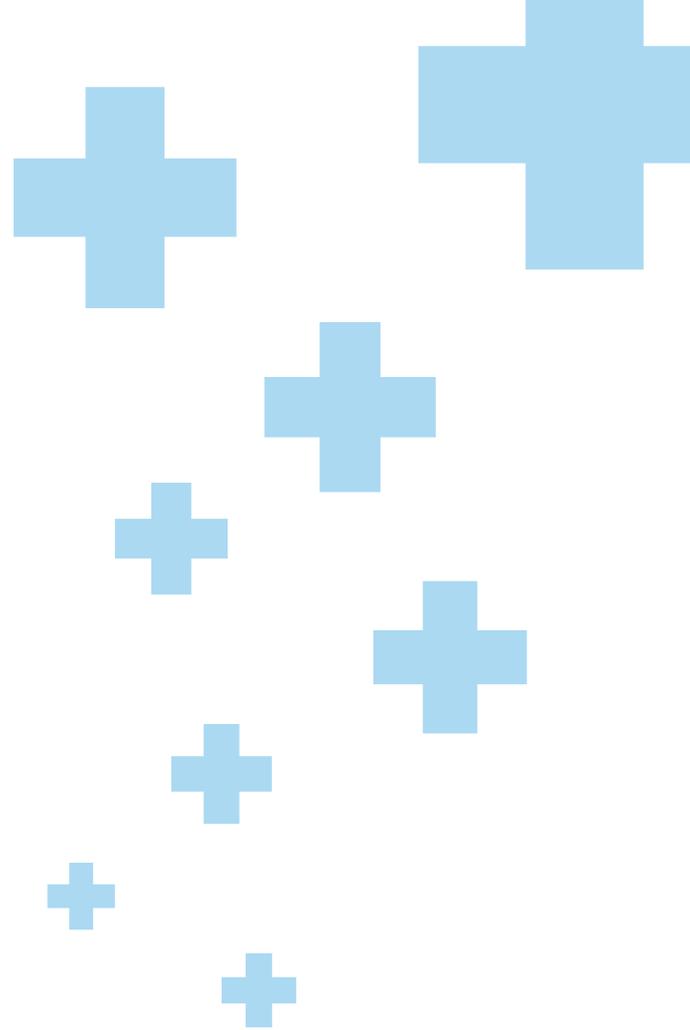
costs of activity

Total costs: All data



■ Pre care planning ■ Post care planning

Yorkshire and the Humber SHA have also taken time to implement the customised SystemOne templates for patients with Long Term Conditions, making them a standard across the SHA. This means all data, across all services, is recorded in exactly the same way. Julia Coletta, Long Term Conditions Lead at the SHA says "The feedback from patients has been great! They feel their condition is more manageable and feel that they have become an equal partner in their own care. Patients may have multiple long term conditions which need to be monitored and these templates are a great way of ensuring this."



Dean Davidson, Programme Coordinator from Bradford District Care Trust reported that the recent integration projects within the trust have been hugely beneficial in supporting integrated care: **“It’s very beneficial to be able to send and receive electronic summaries at key points in a patient pathway. However, a fully integrated electronic record would enable clinical staff to be able filter through the data, locate the appropriate information and make a decision based on the information you have.”**

The staff working across Bradford & Airedale are keen to let people know that what they have achieved really does work. Dr Ali says: **“There’s no aspiration here – what we’re doing is already in place and working. We’ve moved on, we’re no longer guessing about how to treat patients and what methods might work.”**

Senior staff members working in the region have a responsibility to ensure that everyone is committed to the connected health ethos.

Although working with a shared electronic record – and communicating electronically – is a different approach, it’s one that only needs a minor cultural change.

Dr Pope says: **“Seeing really is believing. There are still a lot of clinicians who are sceptical or worried about sharing the record but once you show them how much time it will save them – and how it will improve the care you offer patients, they are immediately convinced.”**

An example of a single change that’s made a big difference is a change that’s been made by the Bradford and Airedale health community for referrals.

Instead of asking the GP to create a full ‘Electronic Referral’ to the care trust (including Referral Page, Word Letter Template, Share and Task) the trust now only asking them to complete a single referral form and then

‘Share’ the record electronically with other staff. This has saved hours of clinical time and reduced duplication dramatically.

Since Airedale Hospital deployed SystemOne (the same system platform that’s used predominantly in primary care) there’s been a step change in the way care is delivered. Richard Pope, a consultant at Airedale says: **“For the first time we have true vertical integration in healthcare. The consultants in the hospital get to see a full primary record for their patients, and then, in turn, the GP is informed of a patient’s stay in secondary care.”**

Functionality built into SystemOne also allows staff at the hospital to view the Summary Care Record of patients whose record is not stored on SystemOne. For other patients whose records aren’t stored in the same system, links via DTS messages and ADT means information can still pass between primary and secondary care.

A future integration between TPP and EMIS will also mean services using SystemOne will be able to access data held in EMIS systems

and vice versa, giving clinicians access to more information, exactly when they need it.

Bradford and Airedale health community have recently deployed the SystmOne Clinical Record Viewer from TPP in order to supplement the CSE Healthcare Systems Rio service they use within the mental health setting. This licence-free service from TPP is deployed alongside an existing system to give clinicians access to a read-only view of the full SystmOne patient record. It also allows them to access the SCR of any patient not on SystmOne.

This means mental health professionals in acute care can have a more holistic view of a patient's record and feel they are fully informed when making a decision about patient care.

Bradford Royal Infirmary are also due to deploy the CRV by May 2013, alongside their existing PAS, iPM. Integration between these two systems, via ADT, will mean GPs are notified when their patient records are accessed and electronic discharge letters can be sent electronically.

A separate project at Bradford Hospital has also been established between GPs and pharmacy. A quality improvement initiative designed jointly by John Connolly (GP) and Carol Aitken (Hospital Pharmacist) has exploited shared electronic records across organisational boundaries by training hospital pharmacists at the hospital to enter details of changes in long term medication directly into SystmOne when elderly patients are discharged from an episode

Telehealth

Teleconsultation involves the use of video links between patient and care giver, allowing specialist input to patients without the need for either clinician or patient to travel. Airedale hospital has been at the forefront of the development of this innovative approach for over 7 years and currently operates a 24/7 Digital Healthcare Centre which is supporting patients at a range of locations across England.

Airedale's work began in the prison health field. Transferring patients to hospital from prisons is both costly and risky, making it difficult for patients who are in prison to obtain some specialist input. The ability to offer instant specialist care advice using video offers substantial clinical benefits to the patient and operational benefits to the prison healthcare team. **In up to 50% of cases referred, the patient no longer needs to leave the prison for further care.** The programme has been successful and is now operating in 20 prisons, from those in the North of England to the Isle of Wight. The service uses the

SystmOne prisons application which is in use across all prisons in England.

Use of shared electronic health records has also played a key role in the Trust's other developments. Patients with long term conditions such as heart failure or chronic chest disease are supported in their own homes using video links that are delivered via the person's television, using a set top box and attached webcam. **The confidence that results from knowing that expert support is immediately available has led to a 30% reduction in hospital admissions and a 36% reduction in the length of stay for those admissions that are needed from this group of individuals.**

Large numbers of older, frail individuals are today cared for in residential and nursing home settings. When residents are admitted to hospital, they often become disorientated as a result of the change in their normal environment and routines. Staff from the care home need to accompany them to hospital, depleting the remaining

staff numbers at the home. By using mobile video consultation systems, Airedale's team is able to see and speak with residents in their own room, who can be supported by their normal care team and yet still receive the clinical assessments and advice they need. Operating in over 30 care homes, this service is expanding rapidly and is highly valued by patients, their families and the care home staff. **Studies of the results obtained to date show that there has been a relative reduction of 50% in hospital admissions in areas where the teleconsultation is in use – and that attendances at the hospital's emergency department has reduced in relative terms by 78% by comparison with homes that do not have access to the video services.**

These 24/7 services rely on SystmOne to enable the critically important communication to and from clinical staff in both primary care and community sites – both to other SystmOne users and by using DTS messaging, to users of other clinical software systems.

of inpatient care. This alerts GPs more reliably to changes needed in regular medications lists and reduces the risk of medication errors. This initiative has been shortlisted for the finals of the 2013 Patient Safety Awards.

Bradford & Airedale have also saved a significant amount of money over the last 18 months through a unique integration between SystmOne and their radiology system, CRIS. Previously, the radiology department delivered radiology results in person to GP practices. With all GP practices using one system it was easier to develop a method of sending results electronically from the hospital.

HL7 messages deliver the result between SystmOne and CRIS almost instantly. SystmOne then sends an acknowledgement back to the radiology department to create a secure loop of communication.

Once the result is filed to the patient record, it can be shared with any service caring for the patient. TPP provided this integration to the Trust free of charge.

Dr Connolly, a GP recipient of the new electronic radiology reports, said: **“This development has reduced significantly the time which patients and their GPs wait for important examination results with definite benefits for patient experience and safety.”**

The future for Bradford & Airedale

The future for Bradford and Airedale involves building on the success described above and taking integration of records to the next level by embracing joined up working with colleagues and carers in other sectors including social care.

They also want to involve patients themselves as partners in their care, through the patient on-line access initiative. They also hope to take advantage of business intelligence tools that will come from TPP’s ResearchOne database – an anonymised data collection that can be used to identify trends and highlight risk.

Dr Richard Pope says: **“Ideally, we’d like to get everyone on the same system, but we know that’s not always achievable. In the meantime, we’ll work to connect as much data as we can, ensuring the patient always remains the focus – ultimately, patients want connected care.”**

