

Closing the Gap through Clinical Communities

Closing the Gap through Clinical Communities: improving the quality of care delivered to people who use health services by bridging the gap between known best practice and the routine delivery of care.

The Health Foundation's Closing the Gap programme, launched in 2008, is an ongoing programme that funds improvement projects, to the value of up to £475k each, for approximately two years.

Each round of the Closing the Gap programme has a different focus. The focus for 2010/11 is on quality improvement projects led by clinicians who have a track record as influential leaders in their clinical networks.

There are 11 projects from across the UK that aim to improve the quality and safety of care in a different clinical area, from improving care for newborn babies with brain injuries to reducing the rate of blood borne viruses among people with substance misuse problems.

As part of the programme, each project team benefits from learning and development to help improve knowledge of quality improvement, systems thinking, measurement and behavioural sciences.

Closing the Gap 2010/11 builds on the findings of two earlier Health Foundation programmes: the Engaging with Quality Initiative and the Engaging with Quality in Primary Care programme.

Aims of Closing the Gap through Clinical Communities

- 1 To build the knowledge and skills of clinical teams in how to make improvements in the quality of care.
- 2 To contribute to the creation of a systematic body of knowledge concerning how best to engage clinicians in quality improvement activity and, in particular, how best to stimulate learning about quality improvement among health professionals.
- 3 To support clinical communities to make demonstrable improvements in quality by tackling known gaps between best practice and routine delivery of care.

Contents

	Page
1 Enhancing care and saving lives of people with chronic kidney disease	6
2 Delivering better care for infants with brain injury	10
3 Abdominal aortic aneurysm, improving outcomes for patients	14
4 Optimising care pathways for acute stroke and transient ischaemic attack	18
5 Using quality networks to improve mental health services	22
6 Brain pathways: promoting earlier diagnosis of brain tumours in children	26
7 Preventing blood-borne viruses through clinical networks	30
8 Improving quality and safety in primary care	34
9 Improving quality of care and outcomes for people with lung cancer	38
10 Improving the quality of cardiovascular care by ambulance services	42
11 The FallSafe Project	46

1

Enhancing care and saving lives of people with chronic kidney disease

Chronic kidney disease (CKD) is a common condition affecting around 10% of the population. Advanced forms can require intensive treatments, such as dialysis, and may be life threatening. This project seeks to bridge the gap between best practice and current practice to help primary staff identify CKD at an earlier stage.

Why is this project needed?

If CKD is identified early, treatments are available that can prevent or delay its progression. However, because the disease does not cause any symptoms in the early stages, many people with CKD are not diagnosed at all, or are diagnosed too late to avoid severe complications. Meanwhile, the number of people needing kidney dialysis is set to double by 2014 to more than 45,000, and the rising prevalence of cardiovascular disease and diabetes could increase this figure even further.¹

So, there is a clear need to improve treatment in primary care for people with early kidney disease. However, although best practice was established in 2008,² there is a gap between it and the reality of practice within primary care, and performance levels are variable. At present, it is thought that 50% of people with moderate-to-severe kidney disease may not yet have been identified.³ This is a major public issue.

Who is involved?

'Enhancing care and saving lives of people with chronic kidney disease' is being led by Dr Kevin Harris, Associate Medical Director and Honorary Consultant Nephrologist at the University Hospitals of Leicester NHS Trust. He is supported by a multidisciplinary team that includes consultant nephrologists, renal nurses, consultant renal physicians and academics in the field, as well as experts in management, governance and project management. The project is run in partnership with organisations around the UK including the Kidney Alliance, the British Renal Society, the Renal Association and Heart UK.

The team has a wealth of practical knowledge and skills building on previous pioneering work to improve quality of care in the community. A key focus has been involving patient-based organisations and listening to the voices of individual patients, who play an active role in the team, drawing on their own experiences to help develop and implement the project, and assess its progress.

What is the project setting out to do?

This project is running in sites in Lothian, Leicester and south London over two years, starting in 2010, and has two key aims. The first is to make sure that the condition is caught earlier within primary care. The second is to improve the consistency and quality of care of people who have early kidney disease. The team is also helping to create a systematic body of knowledge about managing chronic kidney disease.

How will it achieve this?

The project involves the team rolling out two recently developed and piloted interventions and applying them to the primary care setting.

The first intervention involves building knowledge and understanding among primary care staff about best practice in managing CKD and making sure this is implemented. This is being done through a care-bundle approach for people with kidney disease – a system that sets out a series of evidence-based steps that healthcare staff should take with each patient to improve care and outcomes. The steps within this care bundle include putting patients with moderate or severe CKD on a register, and measuring and routinely documenting particular factors such as blood pressure and cardiovascular risk. The project work involves inviting practices to take part, encouraging and supporting staff to consistently adopt the care bundle, and evaluating levels of take-up. The second intervention is designed to empower people with CKD to develop a better understanding of their condition and the confidence to manage it for themselves. This is done through a structured education programme that encourages and supports participants to discover information for themselves and to use it to help them meet their own targets. The programme can be measured to enable the team to assess its effectiveness.

The team hopes that this two-pronged approach could be replicated for those with other long-term conditions, such as hypertension and type 2 diabetes, breaking down disease silos and improving effectiveness of treatment.

What difference will the project make to people's lives?

‘Our overall goal is to save lives by changing the way that care is delivered in the early stages of kidney disease,’ says Dr Harris. ‘This is also about improving quality of life for patients and their families. If people with chronic kidney disease are left undetected and untreated, they are at risk of developing cardiovascular disease and needing either dialysis or transplantation. This will result in a life of reduced opportunity for them and their carers, affecting their confidence and self-esteem, as well as their ability to stay in work or education. Ultimately, someone in this situation is at increased risk of premature death. This project will make a huge difference to people's lives.’

2

Delivering better care for infants with brain injury

Hypoxic-ischaemic encephalopathy (HIE) is a form of brain damage caused by a shortage of oxygen at the time of birth. The condition affects about 1 in 500 newborn babies who until this time have developed normally in the womb. Between 10 and 15% of these infants will die soon after they are born. The remainder may develop cerebral palsy, learning difficulties, behavioural problems or autism reducing their own quality of life and putting the whole family and wider community under strain.⁴

This project aims to improve the quality of care for newborn babies with brain injury, from birth through to childhood, across the east of England.

Why is this project needed?

Brain injury in newborn babies can result in permanent, severe and lifelong neurodisability, placing enormous physical, emotional and financial burdens on the infant, their family and society at large.

Until recently there was no specific treatment for HIE, so medical care of these infants was largely focused on minimising further damage. However, it has recently been shown that cooling infants by just a few degrees (a process known as hypothermic neuroprotection) can prevent this damage altogether.⁵ There has also been a growing awareness of the importance of ensuring rigorous follow-up, the role of magnetic resonance imaging scanning, developmental checks and parental involvement. All these can help paint a more detailed picture of the situation, to assess and address the child's ongoing needs.

Who is involved?

'Delivering better care for infants with brain injury' is being run by Cambridge University Hospitals NHS Foundation Trust in conjunction with the East of England Perinatal Network, and is led by Dr Topun Austin, Consultant Neonatologist at Cambridge University Hospitals NHS Foundation Trust and Clinical Lead for Neonatal Neuroprotection in the East of England Perinatal Network.

The project team is made up of doctors, nurses, allied healthcare professionals and parents from across the east of England with a common shared interest: improving the quality of care for infants with HIE. Within the team are individuals with expertise in each of the key aspects of the project, including transport, cooling, neuroimaging and follow-up.

What is the project setting out to do?

The project aims to improve the quality of care for children with HIE in their early years through an integrated, coordinated and family-centred service that brings together the key individuals responsible for their care.

Its first aim is to ensure that every eligible infant in the region has the opportunity to receive the cooling intervention, and that treatment is started as soon as possible after birth to maximise any potential benefit. This means obtaining an accurate diagnosis soon after birth and transporting the babies to one of three cooling centres in the region. A further aim is to ensure that each baby receives the highest standard of care, including brain imaging and comprehensive medical follow-up, to identify any developmental problems as early as possible. Improving the quality of care will have a real impact on the lives of these babies and their families.

The final aim is to ensure that these babies and their families receive the support they need at the time of diagnosis, treatment and beyond, through family-centred support networks. There are many support groups available to families of premature babies, but none for families of babies with HIE.

How will it achieve this?

The project aims to achieve these goals by focusing on the following key areas of activity.

- **Developing and delivering education and training** for healthcare professionals in resuscitation and early management of HIE integrated with existing regional neonatal training programmes. This training will be delivered by a team of specialist nurses and a clinical fellow.

- **Setting up systems for parents to engage in**, which involves capturing the views and needs of parents. This will be done by employing a range of techniques to assess parents' experiences and by engaging them in forums that they can use to influence the services they receive – especially after discharge.
- **Coordinating service improvements across the region** by employing a dedicated neuroprotection coordinator responsible for ensuring that all babies receive the same standard of care, from birth to follow-up.

What difference will the project make to people's lives?

'Family-centred care is at the heart of every aspect of the project,' explains Dr Austin. 'There is nothing more stressful than having a newborn baby admitted to a neonatal intensive care unit. To then be told that the baby may have a brain injury is devastating. By ensuring that every infant receives the same high quality care and supporting the families through their journey, we will be able to make a real difference to their lives.'

'My greatest hope is that we will have a system in place that will ensure that any infant born with HIE, regardless of when or where they are born, will be able to access the highest quality care, and that their families will feel supported right from the early days to the months and years ahead.'

3

Abdominal aortic aneurysm, improving outcomes for patients

Abdominal aortic aneurysm is caused when the walls of the abdominal aorta – the largest artery in the abdomen – stretch, causing it to balloon in size. Between 4 and 8% of older men are thought to have abdominal aortic aneurysm,⁶ but most do not produce symptoms. The main danger is that the aneurysm may rupture without warning, causing severe internal bleeding. Only 25% of people survive after a rupture.⁶ Surgery is available to prevent this but it also carries a risk of death. This project aims to reduce the mortality rate of aneurysm surgery, to ensure that patients benefit from screening and treatment.

Why is this project needed?

To reduce the number of deaths from abdominal aortic aneurysm, the government has announced the National Abdominal Aortic Aneurysm Screening Programme. This programme aims to detect and treat at-risk aneurysms before they rupture. There are two types of treatment available – open surgery or endovascular stenting.

The success of the screening programme relies on a low death rate from treatment. A recent report identified that patients treated in the UK have a higher risk of dying, at 7.5%, than comparable patients in other European countries, which record a risk of 3 and 4%.⁷ If more than 5% of patients die as a result of surgery, then the benefits of screening are lost.⁸ This project intends to reduce the risk of death to a minimum, in order for the screening programme to be effective.

Who is involved?

The project is being carried out by the Audit and Research Committee of the Vascular Society of Great Britain and Ireland – the professional body representing vascular surgery. The committee's Chairman is Mr David Mitchell, Consultant Vascular and Renal Transplant Surgeon at Bristol's Southmead Hospital. He is one of a team of experienced vascular specialists. As well as having an interest in vascular surgery, he has expertise in the provision of vascular access surgery and is a co-author of the national care pathway for vascular access. The project is being run with three partner organisations: the Circulation Foundation, the Vascular Anaesthetic Society of Great Britain and Ireland, and the British Society of Interventional Radiology.

The team includes doctors, nurses and patients, and will seek opinions from a wide range of healthcare professionals. It also includes a lay member who will advise on quality and audit from a patient's perspective.

What is the project setting out to do?

‘Abdominal aortic aneurysm, improving outcomes for patients’ aims to make surgery for abdominal aortic aneurysm as safe as possible, to provide the maximum benefit to patients and support the introduction of the National Abdominal Aortic Aneurysm Screening Programme. A large randomised trial run in the UK⁹ showed that it is possible to deliver this surgery safely by following certain protocols in selecting suitable patients preparing them appropriately and providing sufficient aftercare. The project has set a target of reducing mortality following abdominal aortic aneurysm surgery to 4% by 2013. This reduction would save 240 lives each year – not only ensuring the best standard of care possible to patients, but increasing the likelihood of success of the new screening programme.

How will it achieve this?

The project will achieve its aims through a range of activities.

- Carrying out an organisational and clinical protocol survey and a patient survey. These aim to assess factors other than operative skills that can impact on clinical outcomes. All UK vascular centres will be invited to take part in the project.
- Introducing best-practice protocols – for example, a traffic-light system designed to ensure that patients are only brought forward for surgery when they have reached their optimum level of physical fitness.
- Auditing the extent to which the protocols are being adopted, and assessing patient satisfaction with treatment.
- Targeting change in all centres, using those with excellent results as exemplars to improve outcomes in those centres with poor mortality figures.

The project aims to repeat these cycles each year until the mortality rate has reduced to 4%. The members of the Vascular Society aim to embed quality improvement within their clinical activity.

The main challenge will be to fully engage all the clinicians who are involved in this area of surgery in a short space of time. A particularly important part of the work is to persuade the key players of the importance of entering accurate data into the National Vascular Database. This is essential, as it is only by gathering accurate data that the team can assess its progress towards the 4% target.

What difference will the project make to people’s lives?

‘This project will reduce the harm that can be caused by major surgery,’ says Mr Mitchell. ‘Although our focus is abdominal aortic aneurysm, we also expect the project to have beneficial effects in other areas of vascular surgery. This will have a huge effect on the lives of people with abdominal aortic aneurysm and their families. To put it into context: at present, about 6,000 people are treated each year in the UK, by surgery or endovascular stenting. If we can achieve a 4% reduction in mortality, this means we will be saving the lives of 240 people every year.’

4

Optimising care pathways for acute stroke and transient ischaemic attack

Every year approximately 130,000 people in England have a stroke, and an additional 20,000 have transient ischaemic attacks (TIAs), sometimes called a 'mini-stroke'. Symptoms of a TIA are similar to those of a stroke but they generally resolve quickly, often lasting just a few minutes. There is now good evidence that the risk of suffering a full-blown stroke following a TIA is much higher than previously thought, and that the greatest risk is within the first few days after the TIA.¹⁰

Rapid assessment and treatment leads to a better outcome for people who have had a stroke. This project seeks to improve the quality of urgent care for those who have had a stroke, and to ensure that people who have had a TIA are diagnosed, investigated and treated in a timely fashion and that they make lifestyle changes to reduce their risk of stroke.

Why is this project needed?

Stroke is the third greatest cause of death in England. Of people who have had a stroke, 20 to 30% die within a month. Stroke is also the single greatest cause of adult disability, with 300,000 people in England living with moderate-to-severe disability as a result of a stroke. Stroke costs the NHS and the economy about £7 billion a year.¹¹

The underlying causes and effective treatments for stroke and TIAs are well understood, but a significant proportion of patients who have had TIAs still go on to suffer a stroke. UK services are among the most comprehensive and expensive in Europe, but outcomes compare poorly with those of other countries, with unnecessarily long lengths of stay and high levels of avoidable disability and mortality.¹² Many people do not recognise the symptoms of a TIA and are not aware of the risk of stroke following a TIA. This results in a delay in seeking medical attention. In addition, some healthcare workers do not treat TIAs on an urgent basis.

There is a need to improve the number, speed and accuracy of referrals to acute care, and to ensure that best practice is followed in urgent care of acute stroke wherever stroke is detected. Best practice states that everyone who has a stroke should have access to computed tomography scans within 24 hours. However, the 2008 National Stroke Sentinel Audit showed that only 59% of patients achieved this standard.¹³ Similarly, best practice states that patients should spend 90% of their stay on a stroke unit,¹⁴ but this only happens for 58% of patients.¹³

Meanwhile, it is unclear how far general practitioners (GPs) are working to implement risk-reduction approaches for patients at risk of stroke (for example, by helping them lower their blood pressure and stop smoking). Similarly, not all ambulance crews are using assessment tools to stratify stroke risk in patients with a TIA.¹⁴

Who is involved?

‘Optimising care pathways for acute stroke and transient ischaemic attack’ is being run by a network of two primary care trusts (PCTs), three acute hospital trusts and the Ambulance Service, along with user organisations and academic expertise, in Coventry and Warwickshire. The network spans all six provider trusts and PCTs within a clearly defined community, and has a history of collaboration and quality improvement, also with academic partnerships, to feed in innovations in quality improvement, change management and patient involvement.

The team members include a range of medical and nursing clinicians, working alongside patient involvement experts, clinical leaders, experts in PRINCE 2 project management, governance advisers and service improvement managers. The project is being led and overseen by Dr Anthony Kenton, Consultant Neurologist at University Hospital Coventry.

What is the project setting out to do?

The project has two main aims:

- to improve the quality of urgent care for everyone who has an acute stroke by implementing best practice
- to develop and implement an evidence-based pathway from urgent care through to secondary prevention for people who have had a TIA.

How will it achieve this?

In its aim to improve the quality of urgent care for stroke and speed of access to services, and to increase the number and accuracy of referrals to urgent care (particularly by ambulance staff). It seeks to do this by carrying out detailed evaluation and process-mapping to develop hyper-acute pathways for stroke. These will include protocols, operating systems and clear standards. Once this is done, it will work with clinicians and managers to raise awareness of the pathway and help them implement it, auditing their progress. A key part of this will involve promoting best practice, including on secondary prevention and self-care.

The work on TIAs will involve developing and implementing evidence-based care for people who have had TIAs. This will include developing an agreed pathway of care for patients with a suspected TIA, improving rapid access to acute care, and providing and testing awareness-raising programmes for at-risk groups, such as members of black and minority ethnic groups, which have low levels of awareness of TIAs.

What difference will the project make to people’s lives?

‘Our greatest hope is that we make a real improvement to stroke awareness, care and prevention in this area, and become a cutting-edge service from which others may learn,’ says Dr Kenton. ‘The project will result in a real reduction in morbidity and mortality. That means adding life to years – and years to life.’

5

Using quality networks to improve mental health services

The Royal College of Psychiatrists has established 12 national networks involving hundreds of UK mental health services that work together to meet recognised standards and improve quality. These include networks for mental health services for young people, for people with mental illness and offending behaviour, for therapeutic communities, and for mental health teams that prescribe medication. The college has selected four of these networks to take part in a pilot to find ways to improve their capacity to bring about meaningful improvement, by designing and delivering tailored programmes that will effect change within services.

Why is this project needed?

Psychiatric services have a major impact on patients' lives. Although the national networks have helped many individual services to put improvements in place, there are some areas of persistent and recurring problems. For example:

- Life expectancy for people with schizophrenia is approximately 15 years below average. This is mainly due to an increased risk of cardiovascular and respiratory disease.¹⁵ This is exacerbated by the adverse effects of medication used to treat the condition. If mental health services ensured that all patients prescribed antipsychotic medication had regular physical health checks, lives could potentially be saved and quality of life improved.
- Young people with the most severe mental health problems sometimes benefit from a short admission to a mental health unit when they are in a crisis. There is often no bed available when it is needed, and this sometimes results in a young person being admitted to an adult ward or being denied admission at all.¹⁶
- Service provision for people with borderline personality disorders is patchy,¹⁷ with little or no treatment available in many parts of the country; let alone the specialised long-term therapy recommended by the National Institute for Health and Clinical Excellence (NICE).¹⁸

Who is involved?

The Royal College of Psychiatrists' Centre for Quality Improvement will manage the 'Using quality networks to improve mental health services' programme. The work will be led by Dr Paul Lelliott, Director of the Royal College of Psychiatrists' Centre for Quality Improvement, who has more than 20 years' experience of clinical audit and clinical quality improvement at all levels of the health service.

The four national networks are all led by multi-professional teams which include senior clinicians and service managers. The networks also work closely with patient groups. The programme is supported by a range of partner organisations, including the Royal College of Nursing, the British Association for Psychopharmacology, the Association of Child Psychotherapists, and the charities Rethink and Mind.

What is the project setting out to do?

In the past, the emphasis of the networks has been on setting standards and measuring performance. This has been successful in identifying gaps in services. This current project seeks to take that further by developing interventions to help services meet those gaps by improving their quality and by focusing on the specific issues that have been identified. This project concentrates on the work of the following four networks.

- **The Prescribing Observatory for Mental Health**, which seeks to improve the quality of prescribing practice for people with severe mental illness. Its work has included highlighting failure to follow NICE guidance on prescribing antipsychotic drugs.
- **The Quality Network for Inpatient Child and Adolescent Mental Health Services and the Quality Improvement Network for Multi-agency Child and Adolescent Mental Health Services**, both of which focus on young people's mental health services. They argue that their respective services should be better integrated with each other, and have raised issues, such as insufficient access to clinical psychologists in inpatient units.
- **The Community of Communities**, which quality assures and accredits therapeutic communities offering highly specialised psychological therapies for people with complex needs such as prison therapeutic services. Evaluation of the outcomes achieved for clients has been identified as a weak area.

How will it achieve this?

A new implementation team will analyse the cause of the deficits in quality that have been raised by the four national networks. It will then work with the teams managing the networks, and with the services that participate, to develop a tailor-made plan to address the problem. These intervention packages, which will draw on the evidence about what works in bringing about change in complex organisations, might include process redesign, 'plan, do, study, act' cycles, focused training, leadership training, team building, academic detailing and repeated audit and feedback, benchmarking and statistical process control.¹⁹

Through its work, the implementation team will learn lessons about how best to help services to improve that can be applied through all 12 national networks managed by the Centre for Quality Improvement.

What difference will the project make to people's lives?

'My greatest hope is that we can bring about change that is measurable, and that this change has a demonstrable impact on the quality of care and the quality of outcomes for patients,' says Dr Lelliott. 'If we can help improve services, patients will benefit. And if our tailored solutions work, then we might have piloted a method that can be rolled out to other areas of healthcare.'

'We are aware that while we are a national body at the hub of these networks, change is a local issue. We can't force staff to change the way they work or impel organisations to change the way they deliver care. But there's often a feeling of helplessness. We want to instil among the clinical teams the belief that once a problem is identified, they can be effective in resolving it – developing a sense of agency. 'The main challenge is helping services to address these problems successfully despite many competing demands on the time of staff working in local services. Mental health services never stand still – there's always a queue of priorities. Our task is to encourage services to push improvement to the top of their agenda.'

6

Brain pathways: promoting earlier diagnosis of brain tumours in children

A quarter of all childhood cancer occurs in the brain. The condition affects more than 1 in 2,500 children,²⁰ and more children die of brain tumours than any other cancer. Long-term survivors of childhood brain tumours experience 10 times the disability of well children, and often require state or family support in adulthood.²¹ This project seeks to ensure that brain tumours are diagnosed earlier, to reduce the risk of death or long-term brain damage.

Why is this project needed?

Brain tumour care in the UK has a serious shortcoming: the length of time it takes to diagnose. Children here wait up to three times longer for diagnosis than children in Canada and the USA.²² UK children are often unwell for two to three months before diagnosis and are often not diagnosed until they are at risk of death, or of severe neurological damage.²³

This delay is associated with long-term brain damage and visual impairment²⁴ and causes unnecessary distress for the children and their families. Many children present repeatedly to healthcare professionals with symptoms and signs known to be associated with brain and spinal tumours.²⁵ One study has shown that 59% of teenagers with brain tumours visited their GP four or more times with symptoms before they were referred. Families often say that they felt regarded as ‘time wasters’ and ‘neurotic parents’ and are extremely distressed by the prolonged symptom interval prior to diagnosis.²⁶

The fact that children elsewhere are diagnosed more quickly indicates that there is room for improvement, and leaves the NHS open to widespread criticism.

Who is involved?

‘Brain pathways: promoting earlier diagnosis of brain tumours in children’ is being run by experts at Nottingham University’s Children’s Brain Tumour Research Centre, in partnership with the Samantha Dickson Brain Tumour Trust and the Children’s Cancer and Leukaemia Group. The centre is the only children’s brain tumour research centre in the UK. It has made this issue a research priority, and is supported by the Royal College of Paediatrics and Child Health (RCPCH). It is led by Dr David Walker, Professor of Paediatric Oncology at the University of Nottingham and Dr Sophie Wilne, Senior Trainee in Paediatric Oncology, who was the clinical research fellow in the first part of this study and has an intimate knowledge of the project.

The team includes a number of acknowledged leaders in their field who are experts in the clinical factors affecting diagnostic processes in brain tumours. It combines this with a range of expertise in project management, research and communications. The team members have considerable experience in managing change and managing large projects, and have a strong understanding of NHS managerial values and attitudes.

What is the project setting out to do?

The team began work on this issue four years ago, with a project called Brain Pathways, which worked to assess current standards in the UK and drafted guidelines for brain tumour diagnosis, which were approved by the RCPCH.

This project seeks to take up where this earlier work left off. Its overall aim is to reduce the interval from symptom onset to diagnosis to less than five weeks – a standard comparable to the best currently published results in Poland and the USA. It seeks to do this by empowering children, young people and their families to work together with healthcare professionals to select the correct pathway for them, whether it be observation, early referral or reassurance.

How will it achieve this?

The project focuses on four main areas of work.

- **Raising awareness of symptoms** that may indicate brain or spinal tumours in children, through targeted professional and public dissemination.
- **Developing a website** to raise awareness among practitioners of brain and spinal tumours in children, and to support families, young people and healthcare professionals who are concerned about symptoms. It will provide authoritative information, a facility for users to provide feedback, and a system to help families and professionals decide on their preferred course of action.

- **Evaluating the impact** of the programme, through professional and public awareness surveys, website feedback, national NHS two-week wait referral data and population-based audit of referral and symptom intervals by the UK's network of Children's Cancer and Leukaemia Group research and treatment centres.
- **Planning further development** of the website beyond the life of the project, to reduce the median interval from symptom onset to diagnosis to less than five weeks.

What difference will the project make to people's lives?

‘The current length of time before diagnosis means that a lot of children die unnecessarily,’ explains Dr Walker. ‘For those who do survive, the resulting brain damage can cause high levels of disability, which may affect their independence and choices in life. Both these scenarios cause a lot of unnecessary distress to children and their families, and makes them trust services less. If we can improve their cure rate, the outcomes will be simple: we can make sure more children survive, and that those who do are left with less severe disability and with services they feel they can trust.’



Preventing blood-borne viruses through clinical networks

People with substance misuse problems have disproportionately high rates of blood-borne viruses such as hepatitis B, hepatitis C and HIV. The vast majority of infection is among injecting drug users, through sharing needles. Infection can also be spread by activities such as sexual contact and tattooing. This project seeks to work through clinical networks and service-user partnership, to reduce the incidence of blood-borne viruses among people with drug and alcohol problems.

Why is this project needed?

Blood-borne viruses are highly transmissible. They put individuals and their families at risk and pose a significant public health risk too, as they can spread quickly through communities. However, some are preventable: through vaccination (for hepatitis B), anti-retroviral medication (which can cure hepatitis C), and programmes such as needle exchanges, which help prevent transmission to others. Hepatitis B and HIV cannot be cured, but can be managed and treated. However, surveys have indicated a poor awareness of blood-borne viruses among those most likely to become infected.²⁷ There is strong evidence that service users should be receiving screening and treatment,²⁸ but the testing and vaccination rates are low.²⁹

Rates of blood-borne viruses are particularly high in people using drugs such as heroin and crack. However, people with alcohol problems are more likely to engage in risky behaviour, such as unprotected sex, and alcohol is a particular risk factor for those with hepatitis C as it speeds up the disease. This means that as well as targeting drug users, there is a need to engage people who are drinking heavily.³⁰

Who is involved?

‘Preventing blood-borne viruses through clinical networks’ is being hosted on a day-to-day basis by a substance misuse team within the Central and North West London NHS Foundation Trust. The team is led by Dr Owen Bowden-Jones, Consultant Psychiatrist at Chelsea and Westminster Hospital. Other team members include experts in the field of hepatology, sexual health and substance misuse, from medical, nursing, policy and management backgrounds. There is a high level of service-user involvement throughout the project, and service users sit on the steering group.

The project is operating with support from a wide range of local organisations, including Chelsea and Westminster NHS Foundation Trust, which includes the largest HIV unit in Europe, and the Imperial

College NHS Trust, which includes a regional liver unit at St Mary's Hospital. The project also has links with the Hepatitis C Trust, the Health Protection Agency and Holloway and Wormwood Scrubs prisons, and has academic support from Imperial College.

What is the project setting out to do?

The project aims to reduce the incidence of blood-borne viruses among people with substance misuse problems. Its aims are:

- to ensure that everyone who attends substance misuse clinics is screened for blood-borne viruses
- to make sure everyone who needs a vaccine receives a full course of injections
- to enable everyone identified as needing specialist treatment to access that treatment, and support them through the process.

How will it achieve this?

The project seeks to find new ways of working, by reconfiguring existing resources to provide a service that is more flexible and delivers care that is better tailored to the needs of service users and, ultimately, produces better health outcomes.

A key aspect of the project is its pioneering use of service-user feedback to drive the activities. Dr Bowden-Jones explains: 'This project is based on the understanding that we will make little difference in treating people with substance misuse problems unless we base all we do on the views of those people.'

The project is divided into the following phases:

Phase 1: Providing screening for blood-borne viruses to all substance misuse service users, and developing systems for screening outside of these services. If someone is diagnosed as having a virus, this presents an opportunity to provide information and support to help them change their behaviour and reduce further risk to themselves and others.

Phase 2: Offering vaccination against hepatitis B to all appropriate substance misuse service users, to prevent infection.

Phase 3: Reviewing clinical pathways to specialist services for people with blood-borne viruses, and developing formal clinical networks between drug treatment, hepatitis and HIV services.

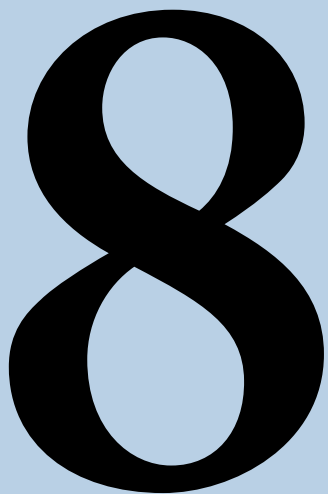
Phase 4: Setting up a workstream on sustainability, to ensure that best practice continues beyond the life of the project and is disseminated to other organisations.

After the final phase is completed, the project will implement a comprehensive communication strategy, to publicise its outcomes and findings.

What difference will the project make to people's lives?

Our overall goal is to save lives by changing the way that care is provided. 'All three blood-borne viruses have a major impact on people's lives,' explains Dr Bowden-Jones. 'HIV, if left untreated, can lead to multiple physical health complications. Meanwhile, hepatitis B and C can cause chronic fatigue, depression and increased risk of liver damage, advancing to liver failure and death. All three viruses develop over a period of years but are potentially fatal.'

'Firstly, the project will hopefully prevent people from contracting blood-borne viruses. For those not yet infected, the project will encourage, through education, changes in behaviour to reduce risk of future infection. For people who do become infected, the project will ensure a clearer pathway into treatment, with more support to help patients maintain treatment. For example, it will explore options for establishing joint clinics, where the hepatologist comes to the substance misuse clinic so that patients don't have to go to a potentially intimidating hospital. Other options include extending opening hours, to make services more convenient for patients, or linking newly diagnosed people with buddies, for peer support.'



Improving quality and safety in primary care

Two areas of health cause particularly high levels of ill health and harm to patients: heart failure and adverse reactions to prescription drugs. Heart failure affects 1 to 3% of the population, and up to 10% in the very elderly. However, patients with heart failure are often under-treated.³¹ Meanwhile, 6% of hospital admissions are a result of adverse reactions to prescription drugs.³²

This project seeks to enable 80 GP practices across four health boards in Scotland to improve their patient safety skills and quality of care, focusing on these two areas of clinical risk.

Why is this project needed?

Each GP practice has areas of risk that are of specific relevance to their own patients and staff, depending on factors such as the local demography. However, many practices lack experience and practical skills in implementing quality and safety improvement in the areas of high importance to them and the patients they care for. This project focuses on two common areas of risk, as an opportunity for practices to develop their skills and put in place processes for flagging up risk and preventing harm.

Heart failure is a common but life-threatening condition. There are clear evidence-based interventions and strategies in place to ensure best practice, but gaps have been identified in the quality of care.^{33,34} A lot of patients are getting many of the interventions available, but it is not yet possible to say that 95% of patients are getting all of those available.

Similarly, there is considerable evidence that prescription of high-risk medication frequently causes harm.^{32,35} Much of this is preventable, but practices can find it challenging to reliably monitor this prescribing, which can make it difficult to reduce harm in this area.

Who is involved?

'Improving quality and safety in primary care' is being carried out jointly by a number of Scottish health boards, NHS Quality Improvement Scotland, NHS Education Scotland, Royal College of General Practitioners Scotland and University of Dundee, with Forth Valley Health Board acting as the host organisation and coordinator.

The multidisciplinary project team is being led by Dr Neil Houston, GP and Clinical Effectiveness Lead, Forth Valley Health Board. It includes clinical leaders in each area and offers a range of skills, including data management, governance, project management, quality improvement and performance assessment. The steering group includes two patients who have been involved in the project design, and will help with group work and evaluation.

What is the project setting out to do?

The aim is to support 80 general practice teams to identify and reduce risk and harm to registered patients. In the first instance, practices will be encouraged to focus on two specific areas of care:

- patients with heart failure, with the aim of making sure all patients are receiving reliable, high quality care, and are trained in managing their own condition
- patients on high-risk medication, with the aim of ensuring that they are reliably monitored.

As a result of the project, the GP practices will develop their patient safety and improvement culture, and GP practice boards will develop their expertise in supporting practices to improve their care in a wide range of areas, through collaborative working, and in coordinating system-wide approaches to complex patient care.

How will it achieve this?

The project is setting out to improve quality through collaborative methodology and ‘small cycles of change’ methods, as well as by creating risk registers and improving the identification, recording, reporting and analysis of adverse events.

The heart failure aspect of the project will involve:

- providing practices with training in identifying, reporting and reducing harm
- improving the care of patients with heart failure within GP practices
- increasing the number receiving optimal treatment, to reduce morbidity, mortality and hospital admissions due to heart failure.

In practical terms, this means improving patients’ quality of life by reducing symptoms of breathlessness, improving function, reducing hospital admissions and potentially lengthening their lives.

The prescription drugs area of work will involve supporting the practices to improve their prescribing management and monitoring of patients taking high-risk medications.

What difference will the project make to people’s lives?

‘When patients are harmed, or are at high risk of harm, this causes a lot of worry and stress – not only for the patients and their loved ones, but also for those providing their healthcare,’ says Dr Houston. ‘If we can improve the way organisations work in order to reduce the risk of harm, we can make everyone’s lives better.’

‘My greatest hope is that the project enables practice culture to change. We want to see practices become proactive about identifying risk and identifying harm. Often, harm is not the result of individual clinical behaviour – it’s about shortcomings in the systems in which they work. We will help practices develop systems that can support better outcomes, enabling joint working between hospital and community health services. The patients will receive safer care as a result, and at the end of the day will have a better quality of life with fewer symptoms.’



Improving quality of care and outcomes for people with lung cancer

Lung cancer is the most common cause of cancer death in the UK. The average length of survival from diagnosis is only six months. Between 85 and 90% of lung cancers are associated with cigarette smoking, but every year lung cancer claims the lives of more than 4,000 people who have never smoked.³⁶

In the UK, around 38,500 people each year are diagnosed as having lung cancer, but wide variations have been identified in outcomes for these patients.³⁶ This project seeks to determine the causes for these variations, and to address them, in order to make sure outcomes are improved for patients with lung cancer.

Why is this project needed?

Long-term survival rates for lung cancer patients are generally poor, but there are wide variations in treatment patterns and survival rates across the UK. Data from the Office for National Statistics in the 1990s showed an alarming fourfold difference in five-year survival rates for patients with lung cancer between the better and poorer-performing regions of England.³⁷ More recently, the National Lung Cancer Audit has shown that patients in certain hospital trusts are almost five times more likely to have surgery than patients in others.³⁶

These variations do not seem to be explained by factors such as differences in how old patients are, how advanced the disease is at presentation (stage) or how unwell patients are, either due to the cancer (performance status) or other diseases (co-morbidities). This suggests that they may be due to ways of working.

Who is involved?

'Improving quality of care and outcomes for people with lung cancer' is being run by the Clinical Effectiveness and Evaluation Unit (CEEU) of the Royal College of Physicians (RCP) and the National Clinical Audit Support Programme of the NHS Information Centre for Health and Social Care, working in partnership with the Roy Castle Foundation (a patient organisation), Macmillan Cancer Support and NHS Cancer Improvement.

At the core of the project is a multidisciplinary team that combines a wealth of clinical and management experience in the lung cancer field with skills in project management, data analysis, auditing, clinical effectiveness and patient involvement. The team is led by two members of the CEEU: Dr Ian Woolhouse, who is the operational clinical lead for the project, and Dr Mick Peake, who is providing clinical advice and linking with a variety of national initiatives.

What is the project setting out to do?

This project seeks to raise the standards of all multidisciplinary teams up to that of the best, to ensure major improvements in survival and quality of life for patients. Its ultimate aim is to draw on data from the National Lung Cancer Audit to help teams that work in this field to consistently improve standards of care and therefore patient outcomes. It will do this both in terms of clinical measures and more qualitative patient-reported perspectives of care.

How will it achieve this?

It is doing this by drawing on the available data to:

- identify the reasons for variations in lung cancer outcomes
- apply proven quality improvement methods to target specific problems
- develop an educational programme for clinical settings
- gather patient-reported outcomes
- assess the impact of the changes.

The first part of the process is to identify the reasons for the variation in care between different lung cancer multidisciplinary teams. The project team will invite groups from hospital trusts with contrasting national lung cancer audit results to take part in a reciprocated, facilitated peer-review process, holding meetings and visiting each others' sites to assess each others' strengths and weaknesses and to consider their performance.

A 'problem statement' will be drawn up for each team, to define the areas of quality improvement. The project team will use process mapping and local evidence-based interventions to develop 'plan, do, study, act' cycles focused on these key issues. The teams will be visited by a quality improvement facilitator or a project manager several times over the ensuing months, and their improvement assessed. The successful outcomes of these monitored interventions will be developed into formal standard procedures for each team, which can be adapted into common learning tools for a range of healthcare contexts.

A further strand of the project will involve working with the Roy Castle Lung Foundation and Macmillan Cancer Support to develop and begin to collect patient-reported outcomes for lung cancer patients, which can also be used to assess the impact of changes.

What difference will the project make to people's lives?

'Our greatest hope is that the outcomes for all lung cancer patients in England will reach the standards of the current highest-performing regions,' says Dr Woolhouse. 'Not only do we hope to increase the number of patients who receive treatment for lung cancer – we also hope to make the care they receive more patient-centred, by carrying out detailed interviews of what is important to them as they go through the lung cancer diagnosis and treatment journey.'

10

Improving the quality of cardiovascular care by ambulance services

Cardiovascular disease is the most common cause of death in the UK. It includes heart attacks, strokes, and TIAs and accounts for almost two-thirds of premature deaths.³⁸ There are various evidence-based interventions that can help prevent or reduce the seriousness of these events, saving lives and improving health.³⁹ However, the UK continues to have very high rates of death from cardiovascular disease and stroke.

This project aims to improve the delivery of pre-hospital (ambulance service) care for cardiovascular disease to improve services for people with heart attack and stroke.

Why is this project needed?

Cardiovascular disease affects 1.8% of the population each year,³⁸ through stroke, heart attacks and TIAs. People suffering from cardiovascular disease often have to contact emergency services, and two-fifths of acute heart attacks result in sudden death.

Early and effective treatment can save lives, improve long-term health and reduce the risk of future disability.⁴⁰ However, the UK death rate from coronary heart disease and stroke is still one of the highest in western Europe.⁴⁰ Ambulance services are well placed to deliver pre-hospital care, which could improve patients' chances of recovery. However, the nature of these services, with widely dispersed clinical teams working under great time pressure, is a barrier to high quality care and its improvement.

This issue is particularly important because cardiovascular disease is a major health burden. Accounting for around two-thirds of premature deaths, cardiovascular disease also constitutes a major cost to the UK economy amounting to (£29.1 billion in 2004), with heart disease costing £8.5 billion and stroke £8.0 billion.⁴² Patients use ambulance services as the first line of care for emergency treatment and the first point on the pathway of care for cardiovascular disease. This makes it a priority for pre-hospital research and quality improvement.

Who is involved?

'Improving the quality of cardiovascular care by ambulance services' is being led by the East Midlands Ambulance Service NHS Trust in collaboration with the University of Lincoln. The project is supported by the National Ambulance Clinical Audit Steering Group, directors of clinical care and chief executives of English ambulance services, who together lead and drive quality improvement in the service.

The project team itself has wide experience in quality improvement methods, research and evaluation applied to ambulance services.

It also has experience of strategic management, policy development, and coordination in research and audit. Members of the team have expertise in pre-hospital care, emergency medicine and translational research as well as service-user involvement. The team is led by Professor A Niroshan Siriwardena, who is the Associate Clinical Director at the East Midlands Ambulance Service NHS Trust and Professor in Primary Care at the University of Lincoln, and Anne Spaight, Head of Clinical Governance, Audit and Research at East Midlands Ambulance Service.

What is the project setting out to do?

This project seeks to improve pre-hospital care for cardiovascular disease by using a care-bundle approach to ensure that every patient presenting with heart attack or stroke receives each element of optimal care. The care bundle for suspected heart attack includes aspirin, glyceryl trinitrate, pain scoring before and after treatment analgesia, and pain relief. The suspected stroke bundle will include the FAST (Face, arm, speech, time to call 999) test, and recording of blood glucose and blood pressure.

The team aims to improve care for suspected heart attack and stroke from current levels of performance to over 70% of patients receiving every element of care, within two years of the start of the project. It also hopes to develop and improve patient-reported outcome measures for heart attack and stroke as part of this initiative, to make a real difference to the quality of care that patients receive and experience.

How will it achieve this?

Through the care-bundle approach, the project will seek to ensure that every patient presenting with heart attack or stroke receives each element of optimal care, as defined by evidence and national guidance.

The project team will start by assessing current standards, analysing the barriers and facilitators to improvement, and will then use improvement methods, such as change management and transformations methods, to put in place the care bundles and, ultimately, improve the quality of services. The team will work closely with frontline ambulance service staff to understand and deliver improvements in care.

What difference will the project make to people's lives?

‘The project will make a real difference to people’s lives by improving the quality of care provided by ambulance service staff when they call an ambulance with a suspected heart attack or stroke,’ explains Professor Siriwardena. ‘Heart attack and stroke have a major impact on patients and those who care for them, causing death or long-term illness and disability.’

‘The very minimum that we expect to see as a result of this project is a significant improvement in care for suspected heart attack and stroke, and a greater use of quality improvement methods among front line ambulance service staff for increasing the effectiveness, safety and experience of treatment provided by ambulance services in England.’

11

The FallSafe project

Accidental falls are the most commonly reported patient safety incidents in NHS hospitals. More than 200,000 hospital falls are reported in England each year,⁴³ though the actual figure is thought to be much higher. Falls can lead to injury, including fractures and head injuries, as well as impaired confidence, anxiety and poor rehabilitation, and are a frequent factor in patients needing long-term care.⁴⁴ However, there is evidence that the risk of falling in hospital can be reduced and that these often simple interventions are commonly omitted. This project seeks to find the best way to ensure that simple guidelines are implemented in hospital wards to reduce the incidence of falls.

Why is this project needed?

Falls are probably the most significant area of patient safety, but this issue has often been overlooked in favour of others that have attracted more media attention. For example, we have seen a major focus on hospital-acquired infections in recent years, although these are less common, and often less serious, than a bad fall in hospital.

Rates of falls vary significantly from one trust to the next. This may be partly due to the types of patients that are treated in different trusts, as more falls occur in frailer older patients with multiple co-morbidities. However, it is also thought to reflect differences in what staff are doing to prevent falls, or to record incidents.

Falls are often a marker of factors such as muscle weakness, postural instability, low blood pressure, certain drugs, poor eyesight, environmental hazards and agitation. As such, a fall should always prompt staff to reassess the patient, address risk factors and put strategies in place to prevent further falls. However, there is evidence that this does not always happen.⁴⁵

Who is involved?

'The FallSafe Project' is being run by the National Falls and Bone Health Programme. The team comprises an integrated, multidisciplinary team with the skills to cover all angles on this single but complex issue. The team includes a range of professionals working with patients with falls, and two internationally published experts. The programme leader is Adam Darowski, Clinical Director of the National Falls and Bone Health Programme at the RCP and Consultant Geriatrician, University Hospitals Birmingham NHS Foundation Trust.

The project is supported by the following partner organisations: the Royal College of Nursing, the National Patient Safety Agency, South Central Strategic Health Authority, the British Geriatrics Society, and the patient safety charity Action Against Medical Accidents.

What is the project setting out to do?

The project seeks to reduce levels of inpatient falls, by helping hospital wards to introduce evidence-based assessments and interventions, and monitoring their impact. Participating wards will commit to monitor falls regularly, complete an assessment of the organisation and environment of the ward, put in place an evidence-based falls care bundle for older people who fall or are at risk of falling, and to use the 'plan, do, study, act' cycle and critical incident analysis approaches to improve the quality of care. Patient involvement runs through the centre of the project, and patients will be asked to comment on the falls prevention they receive and also on the care they experience after a fall. The resulting reduction in falls is expected to both improve care quality and reduce costs.

How will it achieve this?

Participating staff will be expected to use a care bundle, which means going through a checklist of actions with each patient admitted to the ward. They include making sure that patients:

- have the right walking aids available, and that they can reach them
- wear the appropriate footwear
- have their glasses with them
- know where the bathroom is
- are not taking medication that will make them more liable to fall, such as sleeping tablets.

Staff will be encouraged to use the checklists on a regular basis, and their performance will be monitored and the causes of any falls analysed. The team will identify a 'falls champion' in each ward, who will be responsible for encouraging their colleagues to make changes, bringing everyone up to a certain standard of care. The falls champion will be allocated some time away from their usual clinical role to allow them to do this properly. Changing the way people work means imposing cultural change, so a key part of the project involves winning hearts and minds.

For the project to work, the team wants to ensure buy-in from board level, ownership among staff at the grassroots level, and involvement from patients, their relatives and carers.

An important part of the initiative will be shared learning, through the strategic health authority, professional networks, and the Health Foundation itself. This will continue beyond the life of the project.

The project will be run on a relatively small scale, but aims to show that it is possible to improve safety and reduce the risk of falling without increasing cost. The team hopes that the initiative will be sufficiently successful that it can be rolled out to other wards in other areas, and that the methods used will be transferable to other areas of healthcare.

What difference will the project make to people's lives?

'We can reduce the number of falls in hospital, and the most obvious result will be the reduction in unnecessary injuries and even deaths,' explains Dr Darowski. 'It also means helping patients avoid indignity, anxiety, and extended rehabilitation periods. People often think that falling over is simply an unavoidable part of life for older people. Our challenge is to persuade people to be more positive about working to prevent falls and when people do fall, ensuring we prevent it from happening again.'

References

- 1 Department of Health (2004). The National Service Framework for Renal Services. London: Department of Health.
- 2 National Institute for Health and Clinical Excellence (2008). National clinical guideline for early identification and management of CKD in adults in primary and secondary care. London: NICE.
- 3 de Lusignan S, Gallagher H, Chan et al (2009). The QICKD study protocol: a cluster randomised trial to compare quality improvement interventions to lower systolic BP in chronic kidney disease (CKD) in primary care. *Implementation Science*, vol 4, p 39.
- 4 Dixon G, Badawi N, Kurinczuk JJ et al (2002). Early developmental outcomes after newborn encephalopathy. *Pediatrics*, vol 109, pp 26–33.
- 5 Azzopardi DV, Strohm B, Edwards AD et al (2009). Moderate hypothermia to treat perinatal asphyxia encephalopathy. *New England Journal of Medicine*, vol 361, pp 1349–58.
- 6 Cosford PA, Leng GC (2007). Screening for abdominal aortic aneurysm. *Cochrane Database of Systematic Reviews*, Issue 2, CD002945.
- 7 Gibbons C, Kinsman R, Walton P (2008). Second vascular surgery database report 2008. European Society for Vascular Surgery.
- 8 Ashton HA, Buxton MJ, Campbell HE et al on behalf of the Multicentre Aneurysm Screening Study Group (2002). Multicentre Aneurysm Screening Study (MASS): cost-effectiveness analysis of screening for abdominal aortic aneurysms based on four year results from a randomised controlled trial. *British Medical Journal*, vol 325, p 1135.
- 9 The EVAR Trial Participants (2004). Comparison of endovascular aneurysm repair with open repair in patients with abdominal aortic aneurysm (EVAR trial 1), 30-day operative mortality results: randomised controlled trial. *Lancet*, vol 364, pp 843–8.
- 10 Department of Health (2007). National stroke strategy. London: Department of Health.
- 11 National Audit Office (2005). Reducing brain damage: faster access to better stroke care. London: NAO.
- 12 Leal J, Luengo-Fernández R, Gray A, Petersen S, Rayner M (2006). Economic burden of cardiovascular diseases in the enlarged European Union. *European Heart Journal*, vol 27, pp 1610–9.
- 13 Royal College of Physicians (2008). National sentinel stroke audit. London: RCP.
- 14 Royal College of Physicians (2008). NICE guidance and National clinical guideline for stroke. London: RCP.
- 15 Brown S (1997). Excess mortality of schizophrenia. A meta-analysis. *The British Journal of Psychiatry*, vol 171, 502–8.
- 16 Cotgrove A, McLoughlin R, O’Herlihy A, Lelliott P (2007). The ability of adolescent psychiatric units to accept emergency admissions: changes in England and Wales between 2000 and 2005. *Psychiatric Bulletin*, vol 31, 457–9.
- 17 National Institute for Mental Health in England (2003). Personality disorder: no longer a diagnosis of exclusion. London: Department of Health.
- 18 NICE (2009). Borderline personality disorder: The NICE guideline on treatment and management. London: NICE.
- 19 Boaden R, Harvey G, Moxham C, Proudlove N (2008) Quality improvement: theory and practice in healthcare. Coventry: NHS Institute for Innovation and Improvement
- 20 Stiller C (2002). Epidemiology of cancer in adolescents. *Medical and Pediatric Oncology*, vol 39, pp 149–55.
- 21 Hjern A, Lindblad F, Boman K (2008). Disability in adult survivors of childhood cancer: a Swedish national cohort study. *Journal of Clinical Oncology*, vol 25, pp 5262–6.
- 22 Pollock BH, Krischer JP, Vietti TJ (1991). Interval between symptom onset and diagnosis of pediatric solid tumors. *Journal of Pediatrics*, vol 119, pp 725–2; Klein-Geltink JPL, Barr R, Greenberg M, Mery L (2005). Waiting times for cancer care in Canadian children: Impact of distance, clinical, and demographic factors. *Pediatric Blood and Cancer*, vol 44, pp 318–27.
- 23 Shemie S, Jay V, Rutka J, Armstrong D (1997). Acute obstructive hydrocephalus and sudden death in children. *Annals of Emergency Medicine*, vol 29, pp 524–8; Comi AM, Backstrom JW, Burger PC et al (1998). Clinical and neuroradiologic findings in infants with intracranial ependymomas. *Pediatric Neurology*, vol 18, pp 23–9.
- 24 Chou SY, Digre KB (1999). Neuro-ophthalmic complications of raised intracranial pressure, hydrocephalus, and shunt malfunction. *Neurosurgery Clinics of North America*, vol 10, pp 587–608; Yule SM, Hide TA, Cranney M, Simpson E, Barrett A (2001). Low grade astrocytomas in the West of Scotland 1987-96: treatment, outcome, and cognitive functioning. *Archives of Disease in Childhood*, vol 84, pp 61–4; Suharwardy J, Elston J (1997). The clinical presentation of children with tumours affecting the anterior visual pathways. *Eye (London)*, vol 11, pp 838–44; Reimers TSE, Mortensen S, Schmiegelow EL et al (2003). Cognitive deficits in long term survivors of childhood brain tumors: identification of predictive factors. *Medical and Pediatric Oncology*, vol 40, pp 26–34.
- 25 Wilne SC, Kennedy J, Jenkins C et al (2007). Progression from first symptom to diagnosis in childhood brain tumours: a multicentre study (Abstract). *Archives of Disease in Childhood*, vol 92 (Supp 1), p A69; Wilne S, Collier J, Kennedy C et al (2007). Presentation of childhood CNS tumours: a systematic review and meta-analysis. *The Lancet Oncology*, vol 8, pp 685–95.
- 26 Dixon-Woods M, Findlay M, Young B, Cox H, Heney D (2001). Parents’ accounts of obtaining a diagnosis of childhood cancer. *Lancet*, vol 357, pp 670–4.
- 27 Health Protection Agency (2007). Shooting up – Infections among injecting drug users in the UK 2006. An update. London: HPA.
- 28 Advisory Council on Misuse of Drugs (2009). The primary prevention of hepatitis C among injecting drug users. London: Home Office.
- 29 Royal College of General Practitioners (2007). Guidance for the prevention, testing, treatment and management of hepatitis C in primary care. London: RCGP.
- 30 Healthcare Commission/National Treatment Agency (2008). Improving services for substance misuse. London: Healthcare Commission/NTA.
- 31 Healthcare Commission (2005). Getting to the heart of it. Coronary heart disease in England: A review of progress towards national standards summary report. London: Healthcare Commission.
- 32 Howard RL, Avery AJ, Slavenburg S et al (2007). Which drugs cause preventable admissions to hospital? A systematic review. *British Journal of Clinical Pharmacology*, vol 63, pp 136–47.
- 33 Healthcare Commission (2005). Getting to the heart of it. Coronary heart disease in England: A review of progress towards national standards summary report. London: Healthcare Commission.
- 34 Nicol ED, Fitall B, Roughton M et al (2008). NHS heart failure survey: a survey of acute heart failure admissions in England, Wales and Northern Ireland. *Heart*, vol 94, pp 172–7.
- 35 National Patient Safety Agency (2006). Risk assessment of anticoagulant treatment. London: National Patient Safety Agency.
- 36 NHS Information Centre (2005). National lung cancer audit report. London: NHS Information Centre.
- 37 Department of Health (2000). NHS Executive performance indicators for NHS. London: Department of Health.
- 38 Rothwell PM, Coull AJ, Silver LE et al (2005). Population-based study of event rate, incidence, case fatality, and mortality for all acute vascular events in all arterial territories (Oxford Vascular Study). *Lancet*, vol 366, pp 1773–83.
- 39 Joint Royal Colleges Ambulance Liaison Committee, Ambulance Service Association. UK Ambulance Service clinical practice guidelines. London: Ambulance Service Association.
- 40 Brice JH, Valenzuela T, Ornato JP et al (2001). Optimal prehospital cardiovascular care. *Prehospital Emergency Care*, vol 5, pp 65–72.
- 41 Leal J, Luengo-Fernandez R, Gray A, Petersen S, Rayner M (2006). Economic burden of cardiovascular diseases in the enlarged European Union. *European Heart Journal*, vol 27, pp 1610–9.
- 42 Luengo-Fernandez R, Leal J, Gray A, Petersen S, Rayner M (2006). Cost of cardiovascular diseases in the United Kingdom. *Heart*, vol 92, pp 1384–9.
- 43 Healey F, Scobie S (2007). Slips, trips and falls in hospital. London: National Patient Safety Agency.
- 44 Oliver D, Healey F (2006). Preventing falls and injury in hospitals: the evidence for intervention. *Healthcare Risk Report*, June, pp 12–4
- 45 Royal College of Physicians (2008). National audit of the organisation of services for falls and bone health in older people. London: RCP.

The Health Foundation is an independent charity working to continuously improve the quality of healthcare in the UK.

We want the UK to have a healthcare system of the highest possible quality – safe, effective, person-centred, timely, efficient and equitable. We believe that in order to achieve this, health services need to continually improve the way they work.

We are here to inspire and create the space for people, teams, organisations and systems to make lasting improvements to health services.

Working at every level of the healthcare system, we aim to develop the technical skills, leadership, capacity, knowledge, and the will for change, that are essential for real and lasting improvement.

Identify Innovate Demonstrate Encourage

Berkshire Consultancy Ltd

Berkshire Consultancy Ltd is a thriving consultancy practice specialising in leadership development, quality and performance improvement. We have extensive experience of working in public services including the health sector.

Berkshire Consultancy Ltd is supporting the work and the learning of the award holder teams throughout Closing the Gap by:

- providing tailored learning and development support to each team
- ensuring that the teams learn from one another
- developing skills and knowledge in leading quality improvement
- helping the teams and the programme as a whole to capture and communicate their learning to the wider system so that improvements, and the learning about how to lead improvement in healthcare, are sustained and replicated.

The Health Foundation
90 Long Acre
London WC2E 9RA
T 020 7257 8000
F 020 7257 8001
E info@health.org.uk

Registered charity number: 286967
Registered company number: 1714937

www.health.org.uk