Population health systems

Going beyond integrated care

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1 Summary

Integrated care has become a central part of the language of health service reform in England in recent years due to the challenges posed by an ageing population and the changing burden of disease. Policy initiatives introduced by the coalition government have sought to accelerate integration of services both within the NHS and between NHS and social care, and some areas are making progress in co-ordinating care for older people and those with complex needs.

While this shift marks progress from the fragmentation that has come to characterise the NHS and social care system, these efforts have not typically extended into a concern for the broader health of local populations and the impact of the wider determinants of health.

Just as with integrated care, there is a long history of public health policy initiatives in England. Yet the paths of integrated care and public health have rarely crossed.

The central purpose of this paper is to challenge those involved in integrated care and public health to 'join up the dots'. This challenge recognises that population health is affected by a wide range of influences across society and within communities. Improving population health is not just the responsibility of health and social care services, or of public health professionals. Instead, we argue that it requires co-ordinated efforts across *population health systems*.

This means thinking of integrated care as part of a broader shift away from fragmentation and heading towards population health. Making this shift will require action and alignment across a number of different levels, from central government and national bodies to local communities and individuals.

There are a small number of examples from other countries where organisations and systems have sought to go beyond simply integrating care services to focus on improving the health of the populations they serve. These examples provide lessons for us in England as the development of integrated care continues.

2 From integrated care to population health

Integrated care

There is a long history of policy initiatives in England designed to promote integrated care, dating back at least to the 1960s. Most recently, amendments to the Health and Social Care Bill (following the unprecedented 'listening exercise') created legal duties to promote integrated care, a programme of integrated care pioneers has been established, and the Better Care Fund has been set up to pool some of the funding for health and social care. Health and wellbeing boards were created by the Health and Social Care Act 2012 to provide a local forum for the development of integrated care, and some areas are planning to go much further than required under national policy initiatives. The Care Act 2014 also includes a duty for local authorities to promote integrated working.

There are very clear reasons why integrated care has attracted growing attention and support. Population ageing and the changing burden of disease (especially the increased prevalence of long-term conditions) require care to be co-ordinated within the NHS and between health and social care. Nowhere is this more important than in the case of people with multiple long-term conditions (multi-morbidity), many of whom are in regular contact with several health and social care professionals as well as receiving care from families, friends and volunteers. Unless these professionals work together in responding to people's needs, and treat the person as a whole rather than the presenting medical condition, there is a risk that care will be fragmented and deliver poor outcomes.

The experience of organisations and systems that have achieved high levels of integration illustrates the benefits of this way of working for patients and populations (Curry and Ham 2010). A well-known example in England is Torbay, where health and social care services have been working together in the community for more than a decade, delivering particular benefits for older people (Thistlethwaite 2011). Many other areas of England have followed Torbay's example by creating

integrated health and social care teams in the community aligned with general practices and, increasingly, with hospitals. A number of these areas are beginning to realise the benefits of integration by helping people to remain living independently in their own homes for longer and reducing the use of some hospital services.

Similar experiences have been reported from initiatives in other parts of the world, including Canada, the United States, Europe and New Zealand (Timmins and Ham 2013; Curry and Ham 2010). Some organisations and systems in these countries have sought to go beyond the integration of care for patients and service users to explore how they can use their resources to improve the health of the populations they serve. Examples include long-established integrated systems such as Kaiser Permanente in the United States (often referred to as a health maintenance organisation), which is described in more detail later in this paper.

Population health

Efforts to improve the health of populations often use the language of public health or population health. Like integrated care, population health means different things to different people, but can be broadly defined as 'the health outcomes of a group of individuals, including the distribution of such outcomes within the group' (Kindig and Stoddart 2003).

While access to traditional health and care services plays an important part in determining the health of a population, evidence suggests that this is not as important as lifestyle, the influence of the local environment, and the wider determinants of health – that is, the conditions in which people are born, live and work (Canadian Institute for Advanced Research *et al*, cited in Kuznetsova 2012; Booske *et al* 2010; Marmot *et al* 2010; McGinnis *et al* 2002; Bunker *et al* 1995). This means that improving population health requires efforts to change behaviours and living conditions across communities. It also means that accountability for population health is spread widely across these communities, not concentrated in single organisations or within the boundaries of traditional health and care services.

Following the lead of organisations like Kaiser Permanente and the influence of the 'Triple Aim' – defined by the Institute for Healthcare Improvement (IHI) as improving patient experience, improving the health of populations, and reducing

the costs of health care – there has been growing interest in population health in the United States in recent years from accountable care organisations and other integrated health systems.

Because of the way the US health care system works, these organisations and systems have typically focused on improving the health of specific groups of people covered by health plans rather than the whole of a population living within a defined area (Noble *et al* 2014; Jacobson and Teutsch 2012). They have also often focused on improving the health of these populations 'one person at a time' – with patients as the primary unit of intervention rather than broader populations (Noble *et al* 2014). This means that these approaches can quickly lose their connection with population health, focusing primarily on medical interventions for patients and neglecting the wider determinants of health and the distribution of health outcomes across populations (Sharfstein 2014).

In England, there has been a succession of initiatives over the past 40 years designed to give greater attention to preventing ill health and rediscovering the role of public health. However, an important difference in the English context is the definition of the population group whose health is being managed or improved. Unlike in the United States, where the focus is on members or attributed patients, in England the focus is on all those who live in a defined area and who are served by the local 'health authority' (to use the overarching term). The importance of the wider determinants of health has long been recognised following the analysis of health inequalities presented in the Marmot, Acheson and Black reports (**Marmot *et al* 2010**; Acheson 1998; Department of Health and Social Security 1980). From this perspective, population health management focused on individuals has a place (for example, through 'making every contact count'), but needs to be underpinned and complemented by interventions designed to tackle the underlying social, economic and environmental determinants of health across populations (*see* Figure 1, p 8).

Approaches to population health are beginning to gain traction in different parts of the world. In the United States, some accountable care organisations and other integrated systems are emulating Kaiser Permanente's approach, and some of these systems are transforming into accountable health communities based on collaboration across sectors and geographies (Magnan *et al* 2012). Similar approaches can be found in New Zealand and the Nordic countries, where the role of regional and local government in funding and providing health care creates

a favourable environment for partnerships across the public sector to promote population health. Closer to home, the transfer of public health responsibilities to local authorities has led to renewed interest in their role in improving the health of the populations they serve. Examples of some of these systems are explored later in this paper.

Joining up the dots

Returning to the English context, the main focus of integrated care has been on bringing different parts of the NHS closer together, as well as building bridges between health and social care. These efforts have centred on co-ordinating care services for older people and those with long-term conditions, in line with international evidence and national policy initiatives. While there are some examples of this extending into a concern for population health, most of the current initiatives have started with local government (as in the case of the health commissions established in Liverpool and London), and the role of public health is not yet well articulated within work on the Better Care Fund and the integrated care pioneer programme.

In view of the scale of the challenges involved in moving from fragmented care to integrated care – both within the NHS and between health and social care – this narrow focus is entirely understandable, but there is a risk of a much bigger opportunity being missed unless stronger connections are made between different strands of activity. This is particularly the case in the context of the *NHS five year forward view* and its emphasis on the dual role of the NHS in prevention and lifestyle support as well as developing new models of care (NHS England *et al* 2014). In writing this paper, our principal purpose is therefore to challenge those involved in integrated care and in public health to 'join up the dots'. Put simply, this means thinking of integrated care as part of a broader shift away from fragmentation and towards population health.

The need to make this shift is clearly articulated by the body of evidence about our population's health, lifestyles and the impact of the wider determinants of health. This evidence is well known and includes the following.

- The persistence of large and avoidable differences in health outcomes between social groups, which are, in many cases, widening (Marmot *et al* 2010). This includes large differences in health outcomes within local populations.
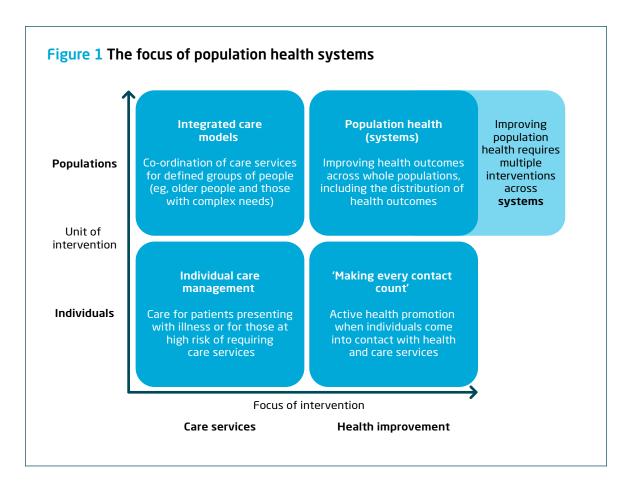
- The prevalence of multi-morbidity increases with deprivation (Barnett *et al* 2012; **Department of Health 2012**). A recent study of patients in around 500 general practices found that 29 per cent of people with three long-term conditions were from the most deprived quintile of the population, compared with only 14 per cent from the least deprived (Charlton *et al* 2013).

- The development of single and multiple morbidities is clearly linked to lifestyle (Sabia *et al* 2012). Yet seven out of ten adults in England fail to adhere to two or more government guidelines in four areas of behaviour that affect health (smoking, alcohol, diet and physical activity) (**Buck and Frosini 2012**).

- Unhealthy lifestyles are increasingly clustering and polarising within the population. Between 2003 and 2008, the relative risk of men from unskilled backgrounds in England displaying unhealthy behaviours in these four areas compared to professionals increased from a ratio of 3:1 to 5:1 (**Buck and Frosini 2012**).

- Early life experiences in the womb, home and school are critical to health and wellbeing over the life course (Giesinger *et al* 2014; **Allen 2011a**, **2011b**; **Marmot et al 2010**). However, evidence suggests that child health and wellbeing may have worsened in recent years, and in the current decade England is likely to face the first rise in absolute child poverty since records began in the 1960s (**Social Mobility and Child Poverty Commission 2014**; Taylor-Robinson *et al* 2014; **UNICEF 2014**).

Making this shift towards population health will require collaboration across a range of sectors and wider communities – between NHS organisations, local authorities, the third sector and other local partners, as well as patients and the public (**Foot et al 2014**), working together as *population health systems.* Thinking about this shift in relation to systems rather than organisations is crucial because of the complex range of influences on population health.

As outlined in Figure 1, what we are describing here as population health systems have a wider focus than most of the approaches to integrated care in England to date. While interventions focused on individuals and integrating care services for key population groups are important, these must be part of a broader focus on promoting health and reducing health inequalities across whole populations.

Figure 1 The focus of population health systems

	Care services	Health improvement	
Populations	**Integrated care models** Co-ordination of care services for defined groups of people (eg, older people and those with complex needs)	**Population health (systems)** Improving health outcomes across whole populations, including the distribution of health outcomes	Improving population health requires multiple interventions across **systems**
Individuals	**Individual care management** Care for patients presenting with illness or for those at high risk of requiring care services	**'Making every contact count'** Active health promotion when individuals come into contact with health and care services	

Unit of intervention (vertical axis)

Focus of intervention (horizontal axis)

Elements of this approach are already in place in some parts of England. A well-known example is the Bromley by Bow Centre in east London. Established in 1984 and now serving around 2,000 people every month, its work is based on collaboration across services and sectors to improve the health and wellbeing of vulnerable young people, adults and families across the local community – one of the most deprived wards in London. Alongside GP services, the centre is home to a range of activities and services including social welfare and legal advice, adult skills and employment programmes, money management services, social groups and other community activities, as well as healthy lifestyle programmes. Local GPs refer people to these services and others like them in the borough.

Other areas have developed similar initiatives that connect the NHS to a range of local services focused on specific aspects of people's health and wellbeing. This includes service models where social welfare, legal and debt advice are provided alongside traditional health and care services, and close links are made between the

two. In Derbyshire, for example, the Citizens Advice Bureau provides support to individuals and families in 98 out of 102 general practices in the county. In 2013/14, around 6,500 people received advice through the service, dealing with nearly 30,000 problems (**Buck and Jabbal 2014**, p 69).

Elsewhere, some professional groups are starting to play new roles in promoting public health and wellbeing. In Wigan, 70 community pharmacists offer smoking cessation and sexual health advice services, as well as referring people to relevant services if they spot early signs of issues like isolation, dementia or the risk of falls. The approach is now being extended to dental practices in the area. Wigan Council has also established a community investment fund to provide support for ideas from the community sector that will improve people's health and wellbeing.

In other parts of the country, programmes are being established that recognise the connections between people's health and their living environments. One example is Liverpool City Council's Healthy Homes Programme, which uses targeted assessments of people's health needs and the conditions in their homes to identify interventions to improve health and wellbeing. Interventions include 'health-proofing' homes from damp and excess cold, removing hazards in the home to reduce accidents, and giving advice on fuel poverty and keeping homes warm, as well as referrals to a range of local partner organisations. The programme has achieved reductions in the number of excess winter deaths and financial savings for the NHS, among other things (**Public Health England 2013**).

A similar example can be found in the West Midlands Fire Service, which delivers a range of programmes that recognise the links between keeping people safe in their homes and the impact of poverty, deprivation and lifestyle. The fire service works with partners across the community to help make homes safer, tackle anti-social behaviour, and support people to live healthier lives (*see* **www.wmfs.net/**).

As well as joining up local services, some parts of the country are also beginning to harness the power of local communities in shaping their health and care services and improving community health and wellbeing. In some areas, volunteers have been trained to become 'community health champions', supporting people in their neighbourhoods and broader communities to lead healthier lives, as well as working with commissioners and providers to improve the quality of services available in their local area (*see* **www.altogetherbetter.org.uk**; **NHS Confederation and Altogether Better 2012**).

Taking a broader focus, various recent national initiatives have tried to encourage the development of place-based approaches to funding and designing public services. The coalition government has piloted whole-place community budgets in an attempt to bring together budgets and services for families with complex needs in different parts of the country. Despite a number of challenges, some of these areas are beginning to show progress in building partnerships across the public sector (House of Commons Communities and Local Government Committee 2013). Before that, the Total Place pilots established by the previous government also sought to reshape resources according to local population needs rather than separate organisational funding models (Humphries and Gregory 2010).

At a city-wide level, the recently established Mayoral Health Commissions in Liverpool and London have ambitious plans for services to work together across their cities, boroughs and local communities to improve the health of their populations and tackle the wider determinants of health (London Health Commission 2014; The Mayoral Health Commission 2014). Some health and wellbeing boards are also growing into their roles and starting to design plans to join up local services to improve population health.

By highlighting these examples, we are recognising some of the building blocks that are already in place across the country to support the shift that we have described towards population health (and more examples can be found in Local Government Association 2015; Local Government Association and Public Health England 2014; Buck and Gregory 2013). The challenge for local areas is how to build on and join up these often small-scale initiatives to create a systemic approach to improving population health across services and sectors. Those areas that have already developed system-wide plans for improving population health face a further challenge: putting the right foundations in place to make these plans a reality.

In the next section, we describe examples of organisations and systems in other countries that have started to make this shift towards population health. Then we explore what needs to happen to support these developments in the English context.

❸ Examples of emerging population health systems

To help articulate the shift described in the first part of this paper, we now discuss some examples from different parts of the world where systems are emerging that are focusing on improving population health. Rather than offering a comprehensive review of the way these systems work, the examples simply aim to illustrate how population health has been interpreted in different systems and the interventions that have been used or proposed. These examples were selected based on the authors' knowledge of developments in other countries and the views of a small number of international experts. Taken together, they provide a picture of the shift being made towards population health in different countries and provide lessons for local areas in England as the journey towards integrated care continues.

After describing each example at a high level, we outline a broad framework to help interpret the approaches taken by these organisations and systems to improve the health of the populations they serve. The framework explores similarities in their approach at macro, meso and micro levels.

Kaiser Permanente, United States

Kaiser Permanente started out in the 1930s as a prepaid health care system for workers building dams in the Californian desert, where there was a strong incentive to reduce injuries through prevention. The apocryphal story of Sidney Garfield (the first doctor who worked for Kaiser Permanente) hammering down rusty nails to avoid workers being injured and requiring expensive medical care illustrates what this meant at the time. Today, Kaiser Permanente is a non-profit health maintenance organisation serving around 9.5 million members, their families and wider communities across the United States.

Kaiser Permanente's structure and its longstanding efforts to integrate services are well known and described in detail elsewhere (Curry and Ham 2010; McCarthy and Mueller 2009). Key organisational features include its role as both insurer and provider of care (within and outside of hospitals), and the use of capitated budgets for members' care across regions. Among other things, integration of care at Kaiser Permanente is supported by population risk stratification, an emphasis on prevention and self-management, disease management and the use of care pathways for common conditions, case management for patients with complex needs, extensive use of technology and population data, and a model of multispecialty medical practice where unplanned hospital admissions are seen as a 'system failure'.

Over the past decade, Kaiser Permanente has shifted its focus from people with long-term conditions with the most complex needs 'at the tip of the triangle' to all of those for whom it has responsibility. It uses data about the population it serves, available through its system-wide electronic health record, to understand members' health needs and the distribution of health outcomes. Using these data, Kaiser Permanente offers a range of interventions tailored to the needs of different individuals and population groups to support people to remain healthy and to deliver the right treatments when they become ill.

One example of this is Kaiser Permanente's approach to preventing and treating heart disease. It has focused heavily on preventive interventions like smoking cessation, promoting exercise and other lifestyle changes to reduce the risk of developing heart disease across member populations. Between 2002 and 2005, in Northern California, Kaiser Permanente helped reduce prevalence of smoking among its members by 25 per cent, compared with a 7.5 per cent reduction across California as a whole (Levine 2011). Smoking cessation interventions have been combined with a range of other interventions – from primary and secondary prevention through to acute care and the management of chronic illness – to form a systematic approach to the prevention and treatment of heart disease across Kaiser Permanente member populations. Among its members in Northern California, the rate of heart disease mortality decreased by 26 per cent from 1995 to 2004, and members were 30 per cent less likely to die from heart disease than other Californians in 2004 (McCarthy and Mueller 2009).

Across Kaiser Permanente as a whole, the success of this approach to improving members' health is evidenced by the organisation's consistent high performance

in national Healthcare Effectiveness Data and Information Set (HEDIS) measures (**Kaiser Permanente 2015c**; **Kaiser Permanente 2014**), as well as its strong performance compared with other health systems across the world, including the NHS (Ham *et al* 2003; Feachem *et al* 2002).

As well as focusing on improving members' health, Kaiser Permanente has been involved for a number of years in efforts to improve the 'total health' of the broader communities it serves. For example, to help improve the availability of healthy food, Kaiser Permanente supports food stores in deprived areas to stock fresh fruit and vegetables, sets up farmers' markets at Kaiser Permanente facilities and in the community, and works with local schools to offer healthier food and drink options for pupils. It also provides financial support for food banks and other food assistance programmes. In schools and community centres, Kaiser Permanente runs a range of educational theatre programmes using music, comedy and drama to help educate children and adults about their health and wellbeing. These programmes have reached around 15 million children over the past 25 years (**Levi** *et al* **2013**).

As part of these efforts, Kaiser Permanente has also established a range of Community Health Initiatives to support the development of place-based interventions to improve population health. It has sponsored or co-founded more than 40 Healthy Eating Active Living (HEAL) collaboratives since 2006, typically focused on:

- ensuring that health is considered in local government plans and policies (for example, through creating bike paths or walking trails)

- improving access to green spaces and community gardens

- improving access to healthy food in schools, workplaces and deprived areas

- promoting physical activity across the whole population

- utilising community assets to support and sustain initiatives (*see* **Kaiser Permanente 2015b**).

These initiatives involve collaboration between a range of organisations and groups across different sectors working in partnership with their local communities. They

have had some positive results – for example, increasing levels of physical activity and improving aerobic fitness among school-age children (Cheadle *et al* 2012; **Kaiser Permanente 2012**). Evaluation of these place-based initiatives continues, and findings and key lessons are shared online (**Kaiser Permanente 2015a**).

Nuka System of Care, Alaska

Southcentral Foundation is a non-profit health care organisation serving a population of around 60,000 Alaska Native and American Indian people in Southcentral Alaska, supporting the community through what is known as the Nuka System of Care (Nuka being an Alaska Native word meaning strong, giant structures and living things).

Nuka was developed in the late 1990s after legislation allowed Alaska Native people to take greater control over their health services, transforming the community's role from 'recipients of services' to 'owners' of their health system, and giving them a role in designing and implementing services (**Gottlieb 2013**). Nuka is therefore built on partnership between Southcentral Foundation and the Alaska Native community, with the mission of 'working together to achieve wellness through health and related services'. Southcentral Foundation provides the majority of the population's health services on a prepaid basis.

The Nuka System of Care incorporates key elements of the patient-centred medical home model, with multidisciplinary teams providing integrated health and care services in primary care centres and the community, co-ordinating with a range of other services (Driscoll *et al* 2013; Graves 2013; Johnston *et al* 2013). This is combined with a broader approach to improving family and community wellbeing that extends well beyond the co-ordination of care services – for example, through initiatives like Nuka's Family Wellness Warriors programme, which aims to tackle domestic violence, abuse and neglect across the population through education, training and community engagement. Traditional Alaska Native healing is offered alongside other health and care services, and all of Nuka's services aim to build on the culture of the Alaska Native community.

Alaska Native people are actively involved in the management of the Nuka System of Care in a number of ways. These include community participation in locality-based advisory groups, the active involvement of Alaska Native 'customer owners'

in Southcentral Foundation's management and governance structure, and the use of surveys, focus groups and telephone hotlines to ensure that people can give feedback that is heard and acted on. As well as building strong relationships with the population it serves, the Nuka System of Care depends on collaboration between Southcentral Foundation and a range of local, regional and national partners. New collaborations are being established each year as gaps in services are identified and filled.

Since it was established, the Nuka model of population-based care has achieved a number of positive results, including:

- significantly improved access to primary care services

- reductions in hospital activity, including:
  - 36 per cent reduction in hospital days
  - 42 per cent reduction in urgent and emergency care services
  - 58 per cent reduction in visits to specialist clinics

- performance at the 75th percentile or better in 75 per cent of HEDIS measures

- customer satisfaction, with respect for cultures and traditions at 94 per cent (**Gottlieb 2013**).

Gesundes Kinzigtal, Germany

Gesundes Kinzigtal (meaning 'healthy Kinzigtal') is a joint venture between a network of physicians in Kinzigtal and a Hamburg-based health care management company, OptiMedis AG. Gesundes Kinzigtal is responsible for organising care and improving the health of nearly half of the 71,000 population in Kinzigtal in south-west Germany.

Since 2006, Gesundes Kinzigtal has held long-term contracts with two German non-profit sickness funds to integrate health and care services for their insured populations, covering all age groups and care settings. Around a third of this population has actively enrolled in Gesundes Kinzigtal – free to all those insured – which allows access to a number of health improvement programmes offered by the organisation. Health care providers in Kinzigtal are directly reimbursed

by the sickness funds for their services, but Gesundes Kinzigtal holds 'virtual accountability' for the health care budget for this population group. If the sickness funds spend less on health care than the population budget, Gesundes Kinzigtal shares the benefits (Hildebrandt *et al* 2010; 2012).

To help keep the population of Kinzigtal healthy and reduce care costs, Gesundes Kinzigtal contracts with traditional health and care providers as well as collaborating with a range of community groups including gyms, sports clubs, education centres, self-help groups and local government agencies. Through these collaborations, Gesundes Kinzigtal offers gym vouchers to encourage people to stay active as well as dance classes, glee clubs and aqua-aerobics courses. It also runs health promotion programmes in schools and workplaces and for unemployed people, and 'patient university' classes to offer health advice to support prevention and self-management.

As with many other integrated care systems, Gesundes Kinzigtal has developed targeted care management and prevention programmes for particular high-risk population groups, such as older people, those living in nursing homes, people with specific conditions, and those with high body mass index. Health professionals are trained in shared decision-making to ensure that patients are actively involved in their own care when they do require input from health services. Professionals also benefit from the availability of a system-wide electronic health record to ensure that information about patients is available across providers and care settings to support effective co-ordination of care.

External and internal evaluation has shown that this approach is improving health outcomes – most notably, reducing mortality rates for those enrolled in Gesundes Kinzigtal compared with those not enrolled (Busse and Stahl 2014; Hildebrandt *et al* 2012). There have been improvements in the efficiency of services, as well as people's experience of care. Gesundes Kinzigtal has also been successful in slowing the rise in health care costs for the population it serves (not simply those who have actively enrolled in Gesundes Kinzigtal). Between 2006 and 2010, it generated a saving of 16.9 per cent against the population budget for members of one of the sickness funds, compared with a group of its members from a different region. One of the main drivers of this saving related to emergency hospital admissions. Between 2005 and 2010, emergency hospital admissions increased by 10.2 per cent for patients

in Kinzigtal, compared with a 33.1 per cent increase in the comparator group (Hildebrandt *et al* 2012).

Counties Manukau, New Zealand

Counties Manukau Health (CMH) is responsible for commissioning health and care services for the whole population of 500,000 people living in South Auckland, New Zealand, and providing hospital and specialist services in the area. CMH works with a range of local and national partners to integrate services and improve the health of the population living in Counties Manukau.

As with many other integrated care systems, CMH has worked with local providers to develop locality-based integrated health and care teams aligned with networks of general practices and working in partnership with hospital services. Capitated budgets are allocated to primary care organisations to deliver care in their localities, and alliance agreements are used to share responsibility between locality partners and CMH. Services are tailored to the needs of different population groups within each locality, based on population risk stratification, ranging from primary prevention services and lifestyle support through to active case management for patients with complex health and social care needs, with the emphasis on supporting people to manage their own health. Each locality is served by a wider social care network to provide help and support to families with complex needs whose living environments are impacting their health.

While these locality networks are relatively embryonic, early indicators reported by CMH show improving trends in a number of areas. For example, immunisation, cardiovascular risk assessment and smoking cessation support rates have all increased from around 65 per cent to more than 90 per cent in the past two years, while acute hospital and care home utilisation rates are now below demographic growth rates.

Alongside these locality networks, CMH also runs a number of other well-established programmes with local partners designed to improve population health. One example is its Healthy Housing Programme – a joint initiative between CMH, neighbouring district health boards and Housing New Zealand, the government-owned social housing provider – which ran from 2001 to 2013. The programme

was open to all people living in rented Housing New Zealand accommodation, and focused on:

- improving access to health and care services

- reducing the risk of housing-related health issues

- identifying social and welfare issues and providing a link to relevant agencies.

After a joint visit and assessment from local health and housing teams, typical interventions included educating families about their health and health risks, referrals to health and social care services, installing insulation to make houses warmer and dryer, modifying houses to meet health and disability needs, and transferring families to alternative houses in cases of overcrowding. These interventions were tailored to the needs of different families and population groups – particularly the Māori and Pacific Island groups, which are disproportionately affected by poor housing conditions. The programme took a locality-by-locality approach to ensure that every eligible household was reached systematically and to reduce the potential for stigmatisation of families involved in the programme.

The programme had a clear impact on the health of families involved. An evaluation involving 9,736 residents in 3,410 homes found that the programme was associated with reductions in acute hospital admissions of 11 per cent (among 0- to 4-year-olds) and 32 per cent (among 5- to 34-year-olds), while housing-related hospital admissions fell by 12 per cent and 27 per cent respectively for these age groups (Jackson *et al* 2011). Qualitative evaluation found strong links between the programme and tenants' self-reported household wellbeing (Bullen *et al* 2008).

Other interventions run by CMH and its partners include the Providing Access to Health Solutions programme, which supports people in receipt of jobseeker support and other benefits to access appropriate health and vocational services to help them return to employment, and Smokefree 2025, which involves action across multiple sectors to meet the national policy goal of being a smoke-free nation by 2025.

Jönköping County Council, Sweden

Jönköping County Council is an elected regional health authority serving around 340,000 people in southern Sweden. Over the past 20 years, Jönköping County Council has pursued a population-based vision for its citizens of 'a good life in an attractive city'. It plans, funds and provides health services for this population, working in partnership with local government in the county's municipalities. It has considerable autonomy and tax-raising powers by virtue of Sweden's system of devolved government.

Jönköping County Council is best known for its work on quality improvement and developing integrated health and care services (Ham 2014). Staff and clinical teams have been encouraged to work together to think about how they can deliver the best outcomes for a fictional elderly resident, Esther, enabling them to map services that people receive across different settings and explore how they can be improved across systems. The benefits of this approach have included significant reductions in hospital admissions, days spent in hospital and waiting times for specialist appointments (Baker *et al* 2008).

Other services aimed at improving older people's health include Jönköping's Passion for Life programme, which recently won the European award for social innovation in ageing. It is based on a series of group meetings called 'life cafés', where people come together to collectively discuss how they can improve different aspects of their health and wellbeing. Life cafés are held in different locations depending on the topics being discussed – for example, in a gym if the topic is physical activity, or in a restaurant if the theme is diet and nutrition. Some of these life cafés have also focused on intergenerational activities and the specific needs of minority groups.

As well as integrating care and prevention services for older people like Esther, Jönköping County Council has taken a broad approach to planning and delivering services across the whole of the population it serves. It uses population-level data to understand the needs of different population groups, and uses a dashboard of indicators to monitor health outcomes across and within local populations. These indicators focus on a range of areas, including rates of obesity, alcohol consumption, physical activity, quality of diet, social deprivation, violent crime, school truancy and educational outcomes, as well as a range of measures of people's physical health. The Council then works in partnership with local government in Jönköping's

municipalities to plan and deliver services to improve population health in each locality.

In particular, Jönköping County Council has developed targeted strategies for four main population groups: children and young people, people with mental health conditions, people living with drug and alcohol addiction, and older people. Professionals from different sectors are brought together to design and implement new approaches to improving people's health across each of these groups. One example is Jönköping's collaborative programme for younger people with mental health conditions, which involves primary care and social care services, schools and the police, as well as a range of other local partners. Public health is seen as a core part of designing and delivering interventions across each of these population groups, rather than a separate strand of activity.

To support people to manage their own health across the population, 'learning cafés' (similar to the life cafés described above) have been set up that connect people with similar conditions and draw on the expertise of 'expert patients'.

The impact of Jönköping County Council's population-based approach is evidenced by its consistent high performance across a range of public health indicators when compared with other parts of Sweden – including in relation to life expectancy, self-reported health status and emotional wellbeing (Socialstyrelsen *et al* 2014).

Summary of these approaches

In their different ways, the examples described in this section paint a picture of the shift that is being made in different parts of the world from integrated care to population health. While they take a variety of forms and are at different stages of development, these examples share a number of similarities in their approach and methods. In particular, the approaches taken by these systems can be described across three broad levels: macro, meso and micro.

At a **macro level**, the examples involve organisations working together across systems to improve health outcomes for defined population groups. Unlike typical approaches to integrated care that focus primarily on groups that are frequent users of health and care services, these systems aim to improve people's health across the whole of the populations they serve, as well as targeting specific interventions on the

most deprived groups. This population-level lens is used to plan programmes and interventions across a range of different services and sectors.

Key features that have supported these systems at a macro level include:

- population-level data to understand need across populations and track health outcomes

- population-based budgets (either real or virtual) to align financial incentives with improving population health

- community involvement in managing their health and designing local services

- involvement of a range of partners and services to deliver improvements in population health.

At a **meso level**, these systems have developed different strategies for different segments of the populations they serve, depending on people's needs and level of health risk. By grouping people with similar needs and tailoring services and interventions accordingly, this approach recognises that improving the health of older people and children, or healthy adults and those living with multiple long-term conditions, will require a different set of approaches, and involvement from different system partners to be effective.

Key features that have supported these systems at a meso level include:

- population segmentation and risk stratification to identify the needs of different groups within the population

- targeted strategies for improving the health of different population segments

- developing 'systems within systems' with relevant organisations, services and stakeholders to focus on different aspects of population health.

At a **micro level**, the examples deliver a range of interventions aimed at improving the health of individuals within the populations they serve. These interventions are many and varied, and involve input from a number of organisations and services

depending on their focus. In the examples described above they include housing support, education programmes, vocational services and employment advice, exercise programmes, smoking cessation services and other lifestyle support, as well as more traditional health and care services like care planning and individual case management for people with complex health and care needs.

Key features that have supported these systems at a micro level include:

- integrated health records to co-ordinate people's care services

- scaled-up primary care systems that provide access to a wide range of services and co-ordinate effectively with other services

- close working across organisations and systems to offer a wide range of interventions to improve people's health

- close working with individuals to understand the outcomes and services that matter to them, as well as supporting and empowering individuals to manage their own health.

Across these three levels, the examples that we have described illustrate what the shift towards population health means in practice, as well as the range of benefits that can be achieved from pursuing this way of working. In the final section of the paper, we build on these ideas to ask how we can support the development of this type of approach in England.

4 Implications for England

Making the shift from integrated care to population health in England requires NHS organisations to work much more closely with local authorities, third sector organisations and the private sector. It also requires alignment at all levels, starting in central government, cascading through local systems, and ultimately reaching into localities and neighbourhoods. Previous attempts to prioritise population health have met with partial success at best, and the challenges involved in acting on the ideas set out in this paper should not be underestimated.

To help provide clarity in meeting these challenges, the government and other national bodies need to develop a population health strategy for England that sets out goals for population health improvement, how these goals will be delivered and by whom. In some cases, this will mean national action through legislation or regulation; in other cases, it will require action by NHS organisations, local authorities and their partners.

While central government and statutory agencies must provide leadership for population health, third sector organisations and community groups also have a critical role to play. As we described in the first part of this paper, the health of a population is influenced by numerous factors, many of which are outside the control of the NHS and local government. Drawing on the expertise held within communities is therefore essential.

At a local level, the Mayoral Health Commissions in Liverpool and London illustrate how local authorities are embracing the enhanced role of local government in public health (London Health Commission 2014; The Mayoral Health Commission 2014). Elsewhere, health and wellbeing boards are beginning to act as a forum through which NHS organisations and local authorities can develop joint approaches to integrating health and social care and improving population health. While the impact and influence of these boards to date has been limited (Humphries and Galea 2013; Humphries *et al* 2012), their role as a forum for local leadership should be encouraged. These initiatives are embryonic examples of local system leadership in which leaders from different organisations work together on issues of common concern.

The transfer of responsibility for public health from the NHS to local government helps to explain the growing interest of local authorities in population health, but equally it risks detaching public health expertise from the NHS. This illustrates one of Leutz's original laws of integration, to the effect that 'your integration is my fragmentation' (Leutz 1999). Strengthening the role of public health in the NHS, while realising the potential of public health responsibilities being co-located with other local authority services, is critical in order to embed a population health perspective at local level.

As these ideas are taken forward, there are lessons to be learnt from the Total Place and Whole Place community budget initiatives established under the current and previous governments. These lessons include the need to overcome barriers (real or perceived) to data sharing between different organisations, as well as the vital role of leadership across local areas (House of Commons Communities and Local Government Committee 2013; Humphries and Gregory 2010). Experience of partnership working in public services is distinctly mixed, and the challenges in delivering results are considerable. At the same time, the potential gains are significant if the barriers can be overcome, especially when public services face further cuts in funding. This is particularly relevant in the context of the current government's plans to devolve greater responsibility for public sector spending and decision-making to cities and other local areas – as in the case of the planned devolution of powers to Greater Manchester (Topping 2014).

Much will depend on visible and consistent leadership at a local level by elected mayors and others, programme management arrangements to support implementation of local strategies, and an ability to find and retain the common high ground of a shared concern for the health and wellbeing of the population, regardless of organisational or professional loyalties. National bodies must also play their part by ensuring their actions do not create barriers to joint working at a local level and by aligning the requirements they place on the NHS and local government.

Aligning requirements means having a common outcomes framework to which different central government departments are fully committed – especially the Department of Health and the Department for Communities and Local Government – and which incentivises local areas to work to achieve common goals. This means trying not to place conflicting demands on NHS organisations and local government, and realising the links between the NHS, social care and public health.

It also means developing new ways of organising budgets and paying for services at a local level to incentivise investment in population health and joint working between organisations across systems.

The same need for alignment applies within the NHS itself, where fragmentation at the centre means that national bodies do not always work in a way that creates a coherent policy framework to support partnership working at a local level.

Public Health England and the National Institute for Health and Care Excellence (NICE) have a specific contribution to make in providing advice and guidance to the NHS and local government on evidence to support local decisions – for example, on the interventions that will have the greatest impact on health improvement. They could play a similar role in identifying ways in which central government can assess the health impact of its decisions and promote health in all policies. As a result of the recent reforms to the NHS and public health system, there is a lack of clarity about who is responsible for holding policy-makers across government departments to account for the impact of their decisions on population health (Gregory *et al* 2012).

For NHS organisations, a key question they must consider when approaching partnership working is what kind of business they are in. In this regard, there is much to be learnt from the transformation of the US Veterans Health Administration (VA) in the 1990s. The man who led the transformation, Ken Kizer, has described to us how the VA was traditionally seen as a hospital system before it reinvented itself as an integrated health and long-term care system. Subsequently, it faced the challenge of becoming a system focused on promoting the health and wellbeing of the veterans it served.

Kizer's reflection on the experience of the VA is that all health care organisations have to ask themselves what business they are in; are they running hospitals and other health services, seeking to deliver integrated care, or promoting health and wellbeing? His formulation of the challenge in this way is directly relevant to the challenges facing the NHS today and is, in essence, just a different way of defining the shift in thinking we have described in this paper. The answer to this question will determine the future direction of the NHS and its partners at a time of unprecedented challenges, as set out in the *NHS five year forward view*.

Whatever the answer, it is increasingly clear that the future depends on joint working between agencies in different sectors to create systems that are capable of transforming health and care in the direction set out in the Forward View. System working is needed to achieve this because, to invoke Atul Gawande, we are in *the century of the system* (Gawande 2014). By this, he means that delivering high-quality care and outcomes requires systems that support those responsible for care to make the right choices.

Particularly now, in the information age, it is no longer possible to rely on skilled craftspeople using their experience and professional judgement. System working is also important in the case of population health, where improved outcomes can be delivered only through collaboration between a variety of agencies and the many professionals who work in them. As Senge and colleagues have recently described, system leadership is critical for the times in which we live, and there needs to be active support for its development (Senge *et al* 2014).

Without system leadership, the problems facing our society will remain as intractable as ever. In health care, these problems include persistent and widening inequalities in health, the challenge of multi-morbidity, and increasing numbers of frail older people who account for a high proportion of need and demand for health and care services. There is little prospect that unco-ordinated action by multiple public and private agencies will be effective in tackling these problems, underlining the arguments we have advanced in this paper.

In emphasising the need for a broad-based approach to population health, it is important not to overlook the wider contribution of statutory agencies themselves. As the Forward View argues, these agencies could do much more by supporting staff to adopt healthy behaviours as a contribution to population health improvement (NHS England *et al* 2014). Beyond that, the NHS and local government need to recognise the significant contribution (either consciously or unconsciously) that they, as major employers, already make to population health, and the impact this has on local economies. The NHS is not only a treatment or prevention system; it also actively influences the wider determinants of health through its massive economic and social power in every community (Buck and Jabbal 2014).

As these ideas are taken forward in the NHS, the crucial role of primary care in supporting a population health approach must also be recognised (Thorlby 2013).

Community-oriented primary care has been debated for many years, and the strength of general practice in the NHS – notwithstanding recent pressures – offers an opportunity to show what this could mean in practice.

At a practical level, developing a population health systems perspective requires the following elements as a minimum:

- pooling of data about the population served to identify challenges and needs

- segmentation of the population to enable interventions and support to be targeted appropriately

- pooling of budgets to enable resources to be used flexibly to meet population health needs, at least between health and social care but potentially going much further

- place-based leadership, drawing on skills from different agencies and sectors based on a common vision and strategy

- shared goals for improving health and tackling inequalities based on an analysis of needs and linked to evidence-based interventions

- effective engagement of communities and their assets through third sector organisations and civil society in its different manifestations

- paying for outcomes that require collaboration between different agencies in order to incentivise joint working on population health.

Where next?

The history of well-intentioned public health strategies that have promised much but delivered less – dating as far back as *Prevention and health: everybody's business* in 1976 (Department of Health and Social Security 1976) – suggests caution in claiming that things will be different this time around. If there are reasons for optimism, they can be found in the major challenges facing public services in the next parliament, requiring responses that go well beyond tried and tested initiatives.

To help meet these challenges, the incoming government in 2015 should work with national bodies and local areas to take forward the ideas described in this paper. The permissive framework set out in the *NHS five year forward view*, with its emphasis on integrated care and health improvement, also provides a favourable policy context for the ideas set out here. Acting on these ideas should be seen as part of the health and care system's efforts to achieve the 'fully engaged' scenario outlined by Derek Wanless more than a decade ago (**Wanless 2002**).

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Hugh Alderwick joined The King's Fund in 2014 as Senior Policy Assistant to Chris Ham and Programme Manager for our integrated care work.

Before he joined the Fund, Hugh worked as a consultant in PricewaterhouseCooper's health team. At PwC, Hugh provided research, analysis and support to a range of local and national organisations on projects focusing on strategy and policy. Hugh was also seconded from PwC to work on Sir John Oldham's Independent Commission on whole-person care, which reported to the Labour party at the beginning of 2014. The Commission looked at how health and care services can be more closely aligned to deliver integrated services.

Chris Ham took up his post as Chief Executive of The King's Fund in April 2010. He was Professor of Health Policy and Management at the University of Birmingham between 1992 and 2014 and Director of the Health Services Management Centre at the University between 1993 and 2000. From 2000 to 2004 he was seconded to the Department of Health, where he was Director of the Strategy Unit, working with ministers on NHS reform.

Chris has advised the World Health Organization and the World Bank and has served as a consultant on health care reform to governments in a number of countries. He is an honorary fellow of the Royal College of Physicians of London and of the Royal College of General Practitioners, and a companion of the Institute of Healthcare Management. He is a founder fellow of the Academy of Medical Sciences.

Chris was a governor and then a non-executive director of the Heart of England NHS Foundation Trust between 2007 and 2010. He has also served as a governor of the Canadian Health Services Research Foundation and the Health Foundation and as a member of the advisory board of the Institute of Health Services and Policy Research of the Canadian Institutes of Health Research.

Chris is the author of 20 books and numerous articles about health policy and management. He is currently emeritus professor at the University of Birmingham

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and an honorary professor at the London School of Hygiene & Tropical Medicine. He was awarded a CBE in 2004 and an honorary doctorate by the University of Kent in 2012. He was appointed Deputy Lieutenant of the West Midlands in 2013.

David Buck is Senior Fellow, Public Health and Inequalities at The King's Fund. Before joining the Fund, David worked at the Department of Health as Head of Health Inequalities. He managed the previous government's PSA target on health inequalities and the independent Marmot Review of inequalities in health, and helped to shape the coalition's policies on health inequalities. While in the Department he worked on many policy areas including diabetes, long-term conditions, the pharmaceutical industry, childhood obesity and choice and competition.

Prior to working in the Department of Health, David worked at Guy's Hospital, King's College London and the Centre for Health Economics in York, where his focus was on the economics of public health and behaviours and incentives.

'Integrated care' has become a key phrase in the language of health service reform in England. How can we move beyond simply integrating services to focus on improving the health of the wider population?

Population health systems: going beyond integrated care challenges those involved in integrated care and public health to 'join up the dots'. It argues that integrated care should be seen as part of a broader shift away from fragmentation and towards a population health systems approach, and uses examples from other countries where organisations and systems have started to make this shift to highlight lessons for the English NHS.

The report concludes that adopting a population health systems approach requires:

- NHS organisations to work much more closely with local authorities, third sector organisations and the private sector, and to engage more effectively with patients, local communities and the wider public

- new ways of organising budgets and paying for services at a local level to incentivise investment in population health and joint working

- greater pooling of population data, as well as the use of population segmentation and risk stratification, to identify the needs of different groups and develop targeted strategies

- place-based leadership, drawing on skills from different agencies and sectors based on a shared vision, strategy and goals.

With the permissive framework set out in the *NHS five year forward view* providing a favourable policy context, the incoming government in 2015 should work with national bodies and local areas to ensure that the NHS in England does not miss this opportunity to go beyond integrated care.