World Health Organization

Service Delivery and Safety

People-centred and integrated health services: an overview of the evidence

Interim Report

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1. Introduction

This document presents some of the evidence on strategies to implement people-centred and integrated health services. It accompanies the World Health Organization (WHO) global strategy on people-centred and integrated health services *(1)*. It looks at examples from around the world, in differing country contexts, and identifies some models of good practice and lessons learnt. In particular, it discusses the five strategic directions towards people-centred and integrated health services and looks at the different approaches used to achieve them. It further considers some of the issues involved in leading and managing change in the health sector, and how to measure success and build learning into the process.

A glossary of key terms is contained in Annex 1, while selected evidence of the positive benefits of different strategies to support people-centred and integrated health services is provided in Annex 2 and examples of potential measures of people centred and integrated health services are presented in Annex 3.

2. The evidence for people-centred and integrated health services

2.1 Benefits

People-centred and integrated health services have been shown to generate benefits for people and health systems in countries across the world, of all income levels. The evidence suggests that people-centred and integrated services are essential components of building universal health coverage *(2,3)* and can improve health status. For example, evaluations of primary care expansions *(4,5)* and community-delivered care *(6)* in low-income and emerging economies have both shown either improvements or non-inferiority of outcomes with integrated care. One of these reviews also demonstrated that "primary care-focused health initiatives in low- and middle-income countries have improved access to health care, including among the poor, at reasonably low cost" *(4)*. Studies addressing care pathways, patient participation and provider communication typically show improvements in responsiveness and user satisfaction *(7,8)*, and some indicate improvements in equity and cost-effectiveness.

2.2 Context

However, while there is evidence for the positive benefits of people-centred and integrated health services, the ability to achieve successful outcomes can be highly context-specific – for example, heavily reliant on the propensity of care systems to adopt transformational change. Moreover, integration that focuses on improving access to care can also result in increased service utilization without changes in health outcomes *(5)*. For example, in the case of Japan, a focus on building "critical pathways" for people with specific diseases led to better quality of care and improved access, but also led to an increase in costs due to greater specialized treatments and did not reduce the overall burden of disease *(9)*. The evidence on financial mechanisms and the role that they can play in supporting people-centred and integrated care is also somewhat mixed. For example, a recent review found that financial strategies to promote care integration (such as pooled funding) had no clear effect on health outcomes, although some schemes did contribute to the provision of care closer to the home, and reductions in utilization of acute care *(10)*.

2.3 Evidence gaps

Multiple evidence gaps exist in the focus of interventions and how the concept of people-centred and integrated health services has been identified and applied. Research studies have typically focused on treatment and diagnosis, and adult and elderly care, meaning that the evidence base for other services (health promotion, prevention, long-term care, rehabilitation and palliative care) is less strong, as is evidence on other life stages (such as childhood). Furthermore, much of the evidence on people-centred and integrated health services is derived from advanced economy settings (2,3). Overall, it is striking how the bulk of evidence, and particularly higher quality studies, focus on relatively narrowly-defined interventions to support people-centred and integrated health services. There is a disconnection between how people-centred and integrated care is commonly conceptualized and the evidence base to-date, which is focused on more narrowly-defined interventions.

2.4 Evidence-informed

While there are many specific programmes and research initiatives that can usefully inform strategies for achieving people-centred and integrated services, this lack of a broader evidence base should be kept in mind. New service delivery reforms should be complemented by implementation research and evaluations that both guide their application and further develop the evidence base. Since there is no single approach to people-centred and integrated health care that can be applied in all contexts, policies and strategies need to be evidence-informed rather than evidence-based.

3. The evidence for the contribution of people-centred and integrated health services to health care in different country settings

3.1 Low-income countries

A good example of the relevance of the people-centred and integrated health services approach in low-income countries is contained in the findings of a multi-country study entitled *Health systems in Africa* and based on the Ouagadougou Declaration on Primary Health Care in Africa *(11)*. The report found that, despite government and donor efforts to strengthen health service provision, users still found services to be grossly inadequate, inequitable, poorly coordinated and lacking in the understanding of people's priorities. Of the reports seven recommendations, the first highlighted a need to "establish mechanisms to increase providers' awareness on the multidimensional and complex nature of health that is perceived by communities to constitute physical, mental, emotional, spiritual, social and economic well-being" including involving the community in making policy decisions through enhanced community representation, ownership and participation.

In low-income countries, examples of people-centred and integrated health services are less common than in other country contexts, but in some countries there has been a strategic focus on increasing health coverage through primary health care as well as promoting community participation. For example, Box 1 describes the development of community-owned and operated health centres in Mali that have resulted in improved health care coverage and care quality.

Box 1. Community-owned primary care networks in Mali

In Mali, primary care networks have been developed made up of community-owned, community-operated primary care centres with the support of government-run district health teams and referral units. The networks have sought to expand the range of services offered to local people and improve the quality of care. Coverage plans, negotiated with local communities, examine local health priorities, after which primary health centres are created that are owned and run by the community. Typically, the health centres are staffed by a three or four person team of doctors and nurses who are directly employed by the community association. The community can make an agreement with the Ministry of Health to obtain technical and financial support from the district health teams to help establish the health centres and/or supervise their subsequent operation.

The approach has proven popular. By 2007, 826 such centres were in operation (up from 360, a decade earlier) with an average set up cost of US$ 17 000. The health centres have proven resilient mechanisms to improve health care, for example, with significant growth in curative care episodes, provision of antenatal care with coverage levels as measured by the Demographic Health Surveys in 2006 standing at 70% and vaccination coverage at 68%. The popularity of the community-based and owned initiatives has seen rapid growth, with coverage across Mali rising from about 5.5 million to just over 10 million people between 1998 and 2007. Of this, the numbers of people within 5 km of a health centre has grown to nearly seven million people. Health authorities in Mali continue to promote the extension of the approach.

Source: *(12)*.

Box 2. Integrating HIV/AIDS and TB programmes to disadvantaged communities in Nairobi, Kenya

Since 1993, the Eastern Deanery Aids and Relief Programme (EDARP) has established a community-based health care programme within Nairobi to people living with HIV/AIDS in disadvantaged communities with no direct access to basic facilities. Over 1000 community health workers have been recruited and trained, and the number of community nurses has risen from four to 100, supported by a nurse training programme provided by Marquette University College of Nursing to provide oversight, mentorship and supervision of nurse trainers.

In recognition of the multiple health needs of people living in the poorest communities within Nairobi, in 2006, EDARP partnered with the International Council of Nurses in its multidrug-resistant TB (MDRT-TB) programme. The approach has sought to overcome the traditional barriers in the management of people with TB/HIV by organizing health services around the needs of the patient, with a strong focus on supporting people to understand how to live and manage their illness and support their emotional and mental health needs.

The programme revolves around a multidisciplinary team of experts including doctors, nurses, community health care workers, nutritionists, counsellors, social workers and pharmacists. The team provides services for prevention, diagnosis, and treatment, as well as psychosocial issues to provide holistic care. Patients are involved in making decisions about their care and treatment options in order to make solutions work tailored around individual’s needs. A key element of success has been the creation of a team-based culture rather than one based on individual specialisms.

Source: *(13)*.

Another emerging trend in low-income countries has been for the better integration of care between disease-specific prevention and treatment programmes. Supported by new donor policies that focus increasingly on primary health care, these strategies have sought to overcome the barriers in the management of different programmes and begun to co-locate care and treatment in primary health care centres. The aim has been to provide more holistic and accessible care to people who may be living with more than one long-term condition – for example, with both HIV/AIDS and tuberculosis (TB) (see Box 2 for an example from Kenya).

Other case examples of people-centred and integrated health services development in low-income countries include:

- A national capacity-building programme in Ethiopia is building a multidisciplinary workforce through training all cadres of mental health specialists including psychiatrists, psychiatric nurses and clinical psychologists. It also trains primary care staff and community health workers to support inter-professional education and care delivery *(14)*.
- The Chain-Free initiative in Somalia seeks to improve the quality of life with mental health problems through combatting discrimination, building workforce capacity and facilitating care between primary, community and hospital-based settings *(14)* .
- Integrated community case management in South Sudan, Uganda and Zambia for malaria, pneumonia and diarrhoea to reduce child mortality, involving community health workers who assess and treat children with serious illnesses. A key aspect of the approach is a focus on health education and disease prevention *(15)*.

3.2 Middle-income countries

In middle-income countries, the principles of people-centred and integrated health services have been taken forward in a number of key ways, though perhaps the most common has been the strengthening of primary and community care practices, and expanding their role and remit towards “healthy living centres” that enable a wider range of services to be made available to local people. A good example, from Chile, has been the integration of early detection and treatment of people with mental health problems into the remit of family practice and another is the growth of family health centres in Brazil. These strategies highlight the fundamental importance in middle-income countries of strengthening primary health care as a mechanism to promote more people-centred and integrated care.

Another of the most common strategies adopted in middle-income countries has been the use of people-centred and integrated strategies to prevent and control the rise in chronic disease. At one level, this has been achieved by new laws and regulations that, for example, have led to better tobacco control. However, a significant amount of focus has also been placed on the development of community-based interventions that engage and empower people to adopt healthier lifestyles, support better disease management, and enable community rehabilitation and independent living.

These approaches and interventions reveal the importance of using community-based care teams and highlight the important role that local health workers and trained volunteers play in the provision of care and support. Engaging and working with people in local communities to enable them to become co-producers of population health is important when human and financial resources are limited.

Examples include:

- In Brazil, a concerted campaign to promote physical exercise in the city of Sao Paolo increased the prevalence of people taking up physical exercise from 55% to 60% between 1999–2003, including educational sessions to support people with high blood-pressure and diabetes *(16)*.
- In China, several major community-based projects aiming to reduce the risk factors associated with chronic illness have been developed. For example, during 2000–2002, 32 demonstrator sites for chronic disease prevention helped to reduce annual heart disease and stroke deaths through a combination of reduced smoking, reduced salt intake and greater physical exercise *(17)*.
  In Shanghai, a self-management programme supported by trained volunteers from the community was shown to significantly improve health behaviours and health status and has since been rolled-out to other cities *(18)*.
- In India, community-based rehabilitation teams have supported blind people to cope in their daily activities *(19)*, while home-based palliative care teams were shown to enable better continuity of care in Kerala *(20)*.
- In the Philippines, changes in tobacco policies combined with a Youth Smoking Cessation Programme and other public awareness campaigns led to a one-third drop in tobacco users amongst adolescents during 2000–2003 *(21)*.
- In rural South Africa, nurse-led chronic disease management programmes focusing on people with high blood pressure, diabetes, asthma and epilepsy have supported patient education, self-management support and improved surveillance leading to improved control of disease *(22)*.

3.3 High-income countries

In high-income countries, the effect of ageing populations and the growing burden of long-term chronic illness and multiple morbidities means that existing and fragmented health care systems are no longer coping effectively with rising demands for care. In response, many national governments have instituted structural and financial reforms to promote integrated care and, specifically, encourage intersectoral action with social services such as housing, employment, family welfare and disability support programmes. Within this, a specific focus has been placed on enabling people to manage their own health conditions through schemes that support self-care and independent living (see Box 3), and on better coordinating care between care settings, especially in the transition between hospital and home (see Box 4).

Box 3. Integrated care in South Karelia, Finland

In response to the need to improve access and support better care to remote communities, an integrated care organization – the South Karelia District of Social and Health Services – was created in 2010 to combine the provision of primary, community and hospital care together with elderly and social care into a single organization. This included the development of care teams made up of general practitioners, nurses and home care workers to support people through remote monitoring and health coaching to take responsibility for managing their own care in order to increase their independence and prevent ill-health and hospitalizations. Evaluations have demonstrated feelings of greater security and reduced isolation, reduced use of medications, reduced travel times for appointments and a 50% reduction in costs compared to usual care.

Source: *(23)*.

Box 4. Proactive case management in South Devon and Torbay, England, United Kingdom of Great Britain and Northern Ireland

Proactive case management by multidisciplinary health and social care teams seek to prevent at-risk individuals from hospitalization through managing and coordinating their care in the home environment. By increasing continuity of care and supporting effective care transitions between care settings, unscheduled hospitalizations have been reduced and there has been less need for older people to enter long-term care facilities.

Source: *(24)*.

4. The five strategic directions

The sections that follow discuss each of the five strategic directions in turn, describing the array of possible interventions and strategies that exist within each, and the strength of the evidence for positive benefits. In addition, selected evidence for the positive benefits of different strategies to support people-centred and integrated health services is presented in Annex 2.

The tables of possible strategies presented are not meant to constitute a recipe for reform, but rather an illustration of potential options that countries may wish to consider. The list of interventions should therefore be treated as a “menu” of possible options rather than as a blueprint for change.

What the evidence strongly suggests is that the development of interventions in specific country-contexts needs to be locally developed and negotiated. In each specific context, the exact mix of strategies will need to be designed and developed taking into account the local context, values and preferences.

5. Strategic direction 1. Empowering and engaging people

5.1 Empowering and engaging individuals, carers and families/households

There is strong evidence in both advanced and developing economies that interventions which seek to empower and engage individual patients, carers and families/households have the ability to make a positive impact on a range of outcomes including health literacy, patient experience, service utilization and cost, and health outcomes *(25)*. The most common and effective interventions appear to be in the areas of health education, shared decision-making, supporting self-care and personal care planning (see Table 1).

Table 1. Empowering and engaging individuals and families: key strategies and evidence of their likely impact and potential risks

Strategies	Examples and evidence of impact	Potential risks
Improving health literacy	Improving health literacy is a common strategy in many countries. Common strategies include mass media campaigns, the development of targeted educational packages and lifestyle programmes supported by schools and care professionals (increasingly supported through new forms of e-health). Strategies that encourage lay, parental and family-led advice and support in local communities have also been adopted. The evidence for positive benefits is strong and includes enabling people to better manage their health conditions and control risk factors associated to changes in lifestyle (see Annex 2).	Low. Empowered individuals may lead to greater demands on health care professionals.
Shared decision-making between people and health care professionals	Promotion of patient and family involvement in decision-making about care and treatment options remains underdeveloped but is becoming a common element of health care in many countries *(26, 27)*. The evidence for positive benefits is strong, with shared decision-making being associated with: the development of more appropriate interventions that better match patient preferences and needs; reduced misdiagnosis; and greater patient satisfaction and independence (see Annex 2).	Low. Challenges the established role of care professionals. Patients may prefer not to make certain decisions, or may have incomplete information if not adequately briefed by health workers.
Giving people access to personal health records	Relatively widespread in advanced economies, for example, Medicare in the USA, but also in low-income contexts where patients hold their own health care records. The evidence for positive benefits is good and indicates that it facilitates shared decision-making, self-care and patient satisfaction (see Annex 2).	Low/Medium. Potential breaches of patient confidentiality.

Strategies	Examples and evidence of impact	Potential risks
Supported self-management	Widely used in advanced economies for conditions such as asthma, diabetes mellitus and heart failure *(28,29)*, the evidence is good for improving health status and quality of life, and reducing unnecessary hospital visits and/or hospital readmissions (see Annex 2).	Medium. Self-care requires proactive patients but there is often a lack of willingness, capability and/or information to engage effectively.
Personal care assessments and planning	Comprehensive and holistic assessments of needs, including the development of personalized care plans, have been associated with greater patient satisfaction, improved care coordination and reduced costs (see Annex 2).	Medium/High. Personal care assessments and plans add additional time and costs that might outweigh the benefits of adoption in all but the most complex cases.
Conditional cash transfers linked to health education and/or behaviour change	Used widely, particularly in Latin America, for example, the Oportunidades programme in Mexico *(30)*, among others. The evidence suggests it can support uptake of priority services and induce more healthy behaviours in certain population groups.	High. Requires supply side changes to be effective. May cause unexpected effects, unsustainable behaviours and inequity.

While some of the strategies employed to promote empowerment are traditional ones that have been employed for many years, information technology is opening up new options such as the use of text messaging to produce timely information exchange or video gaming as a means to develop virtual community support networks *(31,32)*. There is also a major emphasis on widening the use of electronic health records and making individual records easily accessible to the patient, as a means to strengthen communication between patients and providers. Yet, there remain challenges in terms of developing and implementing interoperable information management systems and in assuring patient confidentiality *(33)*.

With the exception of large-scale communication campaigns, until now strategies for individual empowerment, particularly those involving technologies, appear to have been explored less in low- and middle-income countries, although there would appear to be considerable scope for their application. Examples of effective strategies that have been employed to generate individual empowerment and engagement in health services include the following.

- In Angola, HIV/AIDS prevention programmes have, since 2007, been included in the national school curriculum, an approach seen as crucial to achieving maximum impact of interventions (see Box 5).

- In Australia, the CHOICE Project in the Central Coast region of the state of New South Wales developed an innovative shared decision-making and peer support service to empower young people to make informed and preference-based decisions about their own care. The project adopts a collaborative approach to decision-making, empowering young people to be involved in making decisions about their own care, assisted by peer support workers and an electronic decision aid that facilitates shared decision-making *(34)*.

- In China, policy reviews have considered deploying interventions to support self-care for patients, including those with hypertension and other chronic diseases, based on a review of evidence to suggest that such strategies appeared to be effective *(35)*.

- In Ethiopia, patient-centred transformational training methods have been developed to strengthen efforts in prevention, care and control of TB. The Ethiopian Nurses Association trained nurses in the patient-centred care model to ensure that patients received good quality care that meets their physical, psychological and social needs, and supports them to better self-manage their conditions *(36)*.

- In Thailand, educational support for caregivers has been associated with a range of benefits to patients, caregivers and the cost-effectiveness of services *(37)*.

- In the United States of America (USA), the implementation of the Tribal Participatory Chronic Care Model improved: dietary behaviour, clinical endpoints and self-management support at the patient-level; cultural competency and health care delivery at the provider-level; and collaboration, referral processes and shared clinical information between tribal government and federal government health systems *(38)*.

Relatively narrow, technical interventions to promote individual empowerment should be complemented by broader initiatives informed by health and human rights that seek to enshrine access to health care as a basic right, and mobilize stakeholders including affected communities within such a framework *(39)*.

Box 5. Promoting HIV/AIDS literacy in Angola

Since 2007, as part of an international initiative called EDUCAIDS that seeks to incorporate health literacy into educational programmes for youth and young adults, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has been partnering with the Angolan Ministry of Education to offer mainstream education on HIV/AIDS throughout the school curriculum as part of the ongoing process of education reform. As a result, HIV/AIDS prevention is being integrated into education materials for primary and secondary schools across the country and UNESCO has been working with the Virginio Bruni Tedeschi Foundation to enhance the capacity of the Ministry of Education to deliver in-service training on HIV/AIDS to teachers.

The programme is designed to improve the quality of primary and secondary school teacher-training in the area of HIV/AIDS, evaluate its outcomes and impact through consultations with stakeholders to ensure ownership, and produce harmonized guidelines and approaches to in-house teacher-training on HIV/AIDS prevention, care and support. The programme also aims to support the Ministry of Education in developing a strategy and an implementation plan for rolling-out in-service teacher training across the country. A project evaluation and assessment was conducted in mid-2008. One of the important lessons learnt was that coordination of efforts among the stakeholders and support for the public education sector in response to HIV/AIDS is critical to achieving maximum impact of interventions in the post-conflict and transition phase in Angola.

Source: *(40)*.

5.2 Empowering and engaging communities

Community empowerment and engagement has long been a core component of development strategies beyond the health sector, and integrated development projects such as the Jamkhed Comprehensive Rural Health Project in India *(41)* and the Millennium Villages Project *(42)* have placed high priority on it. These strategies are also increasingly widely used in health sector projects and it appears that while such projects help develop self-confidence and self-esteem, there may be challenges related to managing the workload for communities so that the programme does not become too time-consuming *(43)*.

Recent reviews of the links between community participation and health outcomes demonstrate that the approach is seen as a key factor in supporting health improvements, particularly in low-income countries and settings *(44, 45)*. A variety of approaches have been used and many have been shown to be successful (see Table 2 and Annex 2), yet the evidence for impact globally appears variable and context-specific. What appears to matter in empowering communities is the extent to which they self-identify with each other, the relationships within the health committees or participatory groups themselves, the available resources and the relationships between the community, local health workers and managers *(46)*.

Table 2. Empowering and engaging communities: key strategies and evidence of their likely impact and potential risks

Strategies	Examples and evidence of impact	Potential risks
Community participation	Community participation in planning and goal setting is a widely used strategy. Examples include for youth violence in Canada *(47)* and orphans in Kenya *(48)*, among others. The evidence is variable and context-specific, but the approach can help communities examine the underlying factors behind health problems, raise community awareness and support health improvements *(45)* (see Annex 2).	Medium. Highly influenced by local politics with the potential for "capture" by a dominant elite. May create unpredictable dynamics within local communities.
Community awareness	Interventions that support education and awareness through participatory groups have been shown to improve health outcomes where this is culturally sensitive and targeted to specific health problems. There is evidence for the need to support social networks and social integration (see Annex 2).	Low/Medium. Lack of cultural awareness on what is acceptable to local communities can limit engagement and effectiveness.
Community delivered care	There is good evidence that community health workers and developing the role of local people as partners in care supports better access to care, promotes legitimacy and trust, and offers new opportunities for peer-to-peer learning and strengthened advocacy (see Annex 2).	Low/Medium. Difficult to sustain over time. Requires a new way of working between health professionals and the community.
Patient and user groups	Organizations that represent the views of patients and service users at a national and local level are relatively widespread in high-income countries and offer opportunities for peer-to-peer learning and strengthened advocacy, though the evidence for their influence on care delivery is limited.	Medium. Patient and user groups are not necessarily representative of all groups in society and may be open to "capture" by industry or care providers.
Addressing structural factors that marginalize at risk communities	Widely applied in HIV/AIDS projects that seek to decriminalize needle exchanges or sex work, or stop harassment by police. These approaches address factors that exacerbate health issues such as violence, discrimination and stigma.	Medium. Difficulties in the acceptance of such strategies by both professional groups and communities.

Some strategies for empowerment have focused on specific patient or population groups. For example, programmes to address the HIV/AIDS epidemic, particularly in countries with concentrated epidemics, have often focused on the empowerment and mobilization of key populations at increased risk of HIV infection such as sex workers, men who have sex with men and people who inject drugs *(49)*. These strategies may be particularly important given the marginalized and vulnerable nature of such communities, and the associated stigma. The HIV/AIDS field has also been path breaking in the way that it has mobilized community activists in low-income and emerging economies who have become effective advocates for affected communities. There is increasing interest in the transferability of lessons regarding community empowerment from the HIV/AIDS experience to other conditions *(50)*.

Examples of effective strategies that have been employed to generate community participation in health services include:

- In Colombia, the New Paradigm project in Piedecuesta encouraged people with spinal cord injuries to meet regularly as a group to discuss their health care needs. Health care and social workers provided information on health and led interactive training sessions in practical self-care skills. Topics covered included pressure sores, urinary problems, catheter management and issues related to sexuality *(51)*.

- In Japan, empowering older people with early dementia and their family caregivers using a range of interventions such as cooking programmes, trips to temples and shrines, and health coaching for carers to increase their knowledge about coping with dementia, all helped people to better interpret the symptoms of dementia and reduce behavioural problems *(52)*.

- In Nepal**,** engagement with local women's groups to identify the major maternal and newborn problems in their communities and to develop community-driven strategies to address these had significant success with 30% fewer newborn deaths and 80% fewer maternal deaths than in control areas *(44)*.

- In Peru, there has been a commitment to broadening participation to include marginalized groups in supporting and designing models for multisectoral collaboration *(53)*.

- In Rwanda, a review of the health promotion needs of individuals with lower limb amputation has resulted in policies to establish workshops to enable people with disabilities to share experiences and motivate each other to improve health behaviours *(51)*.

- In Uganda**,** networked community-based groups of people living with HIV have enabled them to engage in advocacy, increase access to treatment and care, and raise the profile of HIV in the public domain to reduce stigma *(54)*.

- In the United Kingdom of Great Britain and Northern Ireland, the Co-creating Health programme has focused on developing the skills and attitudes of both people with long term conditions and their clinicians, while ensuring systems and services are designed to support and facilitate self-management *(55)*.

6. Strategic direction 2. Strengthening governance and accountability

6.1 Key strategies for strengthening governance and accountability

There are a number of approaches to building systems of governance and accountability that can help to foster people-centred and integrated health services (see Table 3 and Annex 2). This includes methods, such as:

- engaging communities in shaping services through strategies such as decentralization and devolution;
- community consultations;
- providing systems to listen to people's views through survey-based methods or report cards; and
- enshrining rights and responsibilities through patient charters and legislation.

Table 3. Promoting governance and accountability: key strategies and evidence of their likely impact and potential risks

Strategies	**Examples and evidence of impact**	**Potential risks**
Patient charters	A common approach, for example in Canada, Denmark, England (United Kingdom), Ghana, New Zealand and Norway *(56)*, patient charters help make providers accountable for offering particular standards of care, and offer a route for redress (see Annex 2).	Low. Negative consequences may be observed in settings where charters are "top down" and do not necessarily equip health service providers to deliver on promises. May also lack teeth legally.
Community information	Communities that are provided with information about care services may be more empowered on their rights and responsibilities and therefore in a better position to influence care provision (see Annex 2).	Low. Information alone may not be sufficient to strengthen accountability to people and communities.
Community consultations	Community consultations, for example through committees and participatory groups, can help to articulate community preferences and improve access to care (see Annex 2). They often occur through local government structures, such as in the Philippines *(57)*, or through specially established boards or committees *(58)*.	Medium. Requires sufficient autonomy at local level to respond to community preferences *(58)*.

Strategies	**Examples and evidence of impact**	**Potential risks**
Collecting and acting upon patient and user experiences	Using information generated by service users proactively is associated with improved satisfaction and enhanced quality of care, as well as promoting public accountability (see Annex 2). A number of approaches can be undertaken, including provider report cards, patient reported outcomes, client satisfaction surveys, telephone hotlines, or balanced scorecards produced and shared with communities. Versions of these strategies are currently used, for example, in Bangalore (India), Chile, Ghana, Philippines, Uganda, Ukraine, USA and Uzbekistan *(59)*.	Medium. Effectiveness may be contingent on contextual factors such as provider choice and population literacy *(59)*, as well as the technical capacity to collect data. High likelihood of “lip service” being paid to the results of user views and experiences unless there is an associated commitment to action based on findings.
Decentralization and devolution	Many countries have decentralized systems, such as Kenya, Philippines and Uganda. Decision-making that is closer to communities may make health services more responsive to community needs.	Medium/High. Local governments may not be concerned about health and/or lack capacity to implement health programmes. In some contexts decentralization appears to increase inequities and lead to fragmentations in care geographically.
Contracting for services with explicit agreements about quality and equity	Widely used particularly in fragile and conflict-affected settings such as Cambodia and Haiti *(60)*. Improves service quality and accessibility by making expectations more clear and by involving effective private sector actors.	Medium. May lead to excessive focus on specified outcomes to the neglect of others.
Registering with a specific care provider/ having one person clearly responsible for coordinating care	Required in Australia, Italy, Netherlands, New Zealand, Norway and the United Kingdom *(61)*. Ensures accountability by making it clear who is responsible for service coordination.	Medium. May be perceived to reduce patient choice.
Performance-based financing	Increasingly widely used in low- and middle-income countries, as well as advanced economies. Rwanda is a particularly well-known example *(62)*. Incentivizes providers to offer better quality of care.	High. Possible adverse effects on health worker motivation, danger of false reporting, adverse selection and “cherry picking” *(63)*.

6.2 Community engagement

Whilst there is evidence to support the efficacy of these approaches, the evidence on whether policies of community engagement actually help to improve health planning and accountability is mixed *(44,45)*. The evidence suggests that success may only be achieved through incremental steps as the process of relationship-building between local communities, health workers, managers and policy-makers requires time to build trust and sustainability. Specifically, there is evidence to show that successful interventions to support people-centred and integrated health services are those that the community ultimately has a stake in owning and directing for itself (44) (and see the case of the NUKA health system in Box 6).

A good case example of the benefits of this approach has been reported from the village of El Triunfo in the municipality of Palencia, Guatemala, where community-level social development councils, supported by community health worker groups, have enabled community participation in health resulting in projects that have built schools, developed health posts and invested in piped water. Over 30 years, the participatory process has enabled them to build local leadership and has strengthened the relationship between communities and the health system *(64)*. However, one of the persistent issues with strategies to enhance accountability is the extent to which such mechanisms allow the poor and marginalized to have a voice within the health system. This is a factor that needs to be monitored on a regular basis.

Box 6. A best case scenario – people-centred and integrated health services in the NUKA health system, Alaska, USA

In the NUKA health system of care in Alaska, health care to the indigenous community has been significantly improved through promoting universal health care, primary health care and developing community-owned and integrated health care solutions around people's needs. The Southcentral Foundation was established by the Alaskan Native leadership in 1982 as an opportunity to completely redesign care systems to better meet the needs, values and priorities of 60 000 people in the Alaskan Native Community. Led by a clear mission for working together with the Native Community to achieve wellness through health and related services – with the purpose of improving people's physical, mental and spiritual well-being – a key focus was placed on creating shared responsibility for care outcomes between care providers and the community with a commitment to quality and family wellness. Thirteen operational principles underpin the system – the NUKA model – reflecting the key values of people-centred and integrated services.

By 1997, the Alaskan Congress passed a law that allowed Alaska Native people to obtain the ownership and management of their health system and, as a result, the Southcentral Foundation established a range of primary care centres that offer an interdisciplinary set of services including primary care, dentistry, optometry, physical therapy, behavioural health, outpatients services and residential treatment for adolescents and women. A specific focus has been placed on including traditional healing and complementary medicine valued by local people, together with home health, health education and specific programmes to support the elderly and children. Active ownership of the Foundation by the local community and "walking with communities" to achieve change has been central to its success.

Key results since 1997 include:

- increased enrolment in primary care from 35% to 95% of the population;
- same day access for routine appointments, down from four weeks;
- waiting lists for behavioural health consultations eliminated through having integrated physical and mental health care services;
- increased patient and staff satisfaction with a greater respect to culture and traditions;
- reduction in staff turnover by 75%;
- significant reduction in the unnecessary use of specialist care and treatment including a 36% reduction in hospital days; 42% reduction in visits to the emergency department; and a 58% reduction in treatment at specialist clinics; and
- reduced disparities and improved care outcomes for people with cancer, obesity, diabetes and dental caries, plus reduced levels of child abuse, child neglect, domestic violence, substance abuse and suicide.

Source: *(65,66)*.

Box 7 gives a good example the role of social participation in health planning in the Bolivian town of Tupiza that has been successful in taking forward policies and services to embed the principles of people-centred and integrated health services through multicomponent action.

Box 7. The effects of social participation on health planning in Tupiza, Plurinational State of Bolivia

Bolivian national policies have strongly supported participatory local planning processes. For example, the health sector plan of 1984, and a 1994 law on social participation, both sought to institutionalize mechanisms for promoting a community voice in health sector planning. In Tupiza, a small municipality in Potosí department, social participation is credited as being the primary driver of health service improvement. Based on an early needs assessment, policy-makers together with the local population identified a new model of care for Tupiza that aimed to reduce inequalities and introduce a family-based health model**.** The health network was expanded to include community health workers, responsible for regular home visits. Families in the health district are stratified according to risk and home visits planned accordingly: high-risk families receive monthly visits, medium-risk families receive one visit per trimester and low-risk families are visited once per semester. The family health record (*carpeta familiar*) is the cornerstone of the information management system. It gathers socioeconomic and epidemiological data about each family and its context.

Health services have been planned and implemented based on the information from the family health records. Providers believe that the family health records explain the success of the Tupiza health model. Introduced in 1996, currently 98% of the Tupiza population are incorporated into the system. As one health worker from the district observed in a recent focus group discussion, “the most important element is the contact with the family, and it is in their house that you can observe the determinants of health”. Community involvement in Tupiza has also contributed to increased health literacy among members of the community and local decision-makers, and a family- and community-based health model founded on an identification of needs and preferences at the local level. Moreover, it has stimulated increased equity in access to health services for traditionally excluded rural populations.

Source: *(67)*.

6.3 Scorecards

In Afghanistan, the use of a balanced scorecard has helped the Ministry of Public Health to drive quality improvements *(68)*, and recent pilot tests have put the data from such scorecards into the hands of communities (see Box 8). The use of data and information to drive engagement, provider accountability and quality improvement is, however, more a feature of high-income countries *(69)*, and there is a trend to make this information publicly available in “league tables” to enable people to judge performance *(70,71)*. However, concerns have been voiced about the risks of this approach, including issues around measurement and the creation of incentives that distort service delivery.

Box 8. Using a balanced scorecard to promote accountability and improve community health services in Afghanistan

Since 2004, the Ministry of Public Health in Afghanistan has used the balanced scorecard as a management measure to assess and enhance the delivery of the basic package of health services *(72)*. More recently there has been experimentation with a community scorecard – an innovative decision tool that allows community members to provide feedback, and monitor and evaluate local level services. The use of the community scorecard is intended to improve services through strengthening accountability and enhancing community capacity to engage with the health system.

The community scorecard was developed using community input to develop performance indicators, ensuring consensus between male and female community members, as well as provider input. Once indicators were agreed, performance was scored and trained facilitators helped run meetings that brought together local stakeholders to review indicators and generate action plans with agreed activities, timelines and identified individuals responsible for activities. After a mutually-agreed period of time, the agreed indicators were measured again, and the results analysed and disseminated to communities and stakeholders, including policy-makers and nongovernmental organizations.

Findings from community scorecard implementation indicated that health facility providers and community members (male and female) embraced this tool as valuable for its participatory and capacity-building approach. Furthermore, repeated measures of the community scorecard demonstrated improvement in multiple aspects of service quality. The Ministry of Public Health is considering the feasibility of scaling-up this or other similar approaches that have also been piloted in the country.

Source: *(73)*.

6.4 Openness

The development of an organizational culture that supports open feedback, knowledge sharing and a demand for data in decision-making is a key attribute of high-quality health care systems. Without this organizational orientation, individuals may be unwilling to admit mistakes and therefore learn from them. If information is viewed in a proprietary way it will not flow throughout the system, inhibiting others from also learning. Open feedback is supported by leadership commitment to publicizing key indicators regarding the change *(74)*.

Teamwork, trust and mutual understanding reinforce an open organizational culture.

The evidence suggests that the definition of clear roles and responsibilities, as well as regular communication, are likely to enhance collaboration in the implementation of change *(75)*.

Collaborative reflection as a group, can also help enhance collective learning, as well as reinforce the values of openness and knowledge sharing *(76)*.

6.5 Information

High-income countries are increasingly interested in how different types of information – from patient outcome data to data on client satisfaction – may affect provider accountability *(69)*. Sometimes the information may be made available primarily to health service managers, but increasingly information is being made publicly available via the internet or published in league tables *(70, 71)*.

6.6 Financial incentives

There is much interest in the use of performance-based payment systems and as new financing schemes are rolled out to support universal health coverage, health service payors may play a substantial role in shaping provider incentives and holding providers to account. It is particularly important therefore that the financial incentives created by payors align with the overall goals of people-centred and integrated health service delivery. A good example of developing “mutual accountability” for population health outcomes that aligns financial motivations between partners in care was developed in the region of Gesundes Kinzigtal, Germany (Box 9).

Box 9. Investing potential savings under a shared accountability contract for population health outcomes in Gesundes Kinzigtal, Germany

Located in south-west Germany, Gesundes Kinzigtal has adopted a population-based integrated care approach to organize care across all health service sectors. The system is run by a regional health management company in cooperation with a physicians' network, a German health care management company with a background in medical sociology and health economics, and two statutory health insurers. A key feature is the "shared health gain" approach using a shared savings contract, and the model has attracted non-health partners, such as leisure centres and other community groups, to become stakeholders.

The integrated care system has enabled strategies to be developed that bring partners together to provide services differently, such as through: individual treatment plans and goal-setting agreements between doctors and patient; a focus on patient self-management and shared decision-making; and follow-up care and case management supported by a system-wide electronic patient record.

Since 2006, investment in preventive and health promotion programmes has led to a reduction in morbidity and mortality compared to comparator regions, and reduced overall costs to the insurer. The results for one of the insurers, for example, showed a substantial morbidity-adjusted efficiency gain between 2007–2010 of more than 16% of total costs (including pharmaceutical, hospital, nursing, emergency, physiotherapist and sick leave costs).

Source: *(77)*.

7. Strategic direction 3. Reorienting the model of care

7.1 Deciding on the model of care

Communities, health organizations and countries must all consider *what type* of services should be offered, *where* and *how* they should be provided, and *to whom* they should be provided. While many countries are moving towards care models that are more oriented towards primary health care, there is no single optimal model of care. Rather, countries need to develop their health services in ways that reflect the needs of their own particular populations.

There is a range of evidence to support the importance of reorienting care services in the ways described below, some of which is summarized in Table 4. A number of strategies exist for reorienting the model of care, ranging from service delivery objectives, such as building capacity in primary, community and home-based care, through to more strategic objectives related to population health planning.

7.2 Primary health care and community health care

Strengthening primary health care involves ensuring adequate funding, appropriate training, connections to other services and sectors (especially existing vertical programmes), and developing sustainable workforce plans. In conflict-affected states and low-income countries, which are particularly deprived of health workers, community health worker strategies may be key. Across all settings, strategies should address the planning and strengthening of workforce capabilities and skills diversity to provide services targeted towards identified health system priorities (see Box 10).

Responding effectively to these priorities is likely to require attention to the necessary cultural and behavioural changes within the workforce and community. These include raising the prestige of primary care cadres and establishing people-centred and integrated health care as a mainstay of practice. In addition, attention to the private sector and methods to regulate and incentivize practices that are people-centred and integrated will be of benefit *(78)*.

Special attention also needs to be paid to health care models that draw upon and take advantage of resources within the community. For example, peer support programmes that use "buddy" type arrangements to transfer the knowledge and skills acquired by people living with a specific condition to others with similar conditions have been positively received by participants, although conclusive evidence on their health impact is not yet available *(79, 80)*.

In low- and lower-middle income countries, community-based care has received much attention, particularly in light of the scarcity of health workers in much of sub-Saharan Africa. While the effectiveness of community health workers treatment programmes, even for relatively complex conditions such as pneumonia, has been demonstrated *(81)*, scaling-up such programmes to whole countries is challenging. Home-based care programmes also deserve consideration, and appear to be increasingly used for the provision of palliative care in countries at different levels of economic development. Evaluations of such services often show improved outcomes for patients *(82)*, but careful consideration needs to be given to the burden placed on family members and the nature of support that they receive *(83)*.

7.3 New technology-based models

Rapid technological change is enabling the development of increasingly innovative care models. For instance, progress in point-of-care testing for diabetes and other chronic diseases (and their complications) can help to identify those in need of treatment early in the disease process and facilitate self-management. But such technologies require supportive systems that can respond to individual circumstances and the complexities of the disease posed by each patient (such as comorbidities, cultural preferences and social determinants).

Likewise, emerging technologies employing mobile and internet services can create new pathways to access providers for geographically isolated communities, as well as those in need of cultural- or language-specific services. Experience with such technologies will help to inform how they can be best used to meet health priorities in a process that enhances people-centred and integrated health care. In this sense they should be recognized as complementary to, not substitutes for, more traditional "low-tech, high-touch" methods, which remain the backbone of health care services.

Box 10. Scaling-up family medicine in Thailand as part of the universal coverage scheme

Hospital medicine was introduced in Thailand in 1888 and thereafter hospital-based medicine became the norm, conferring high social status and prestige on its practitioners, whereas family practice was almost absent. When the Thai universal coverage scheme, known as the "30 Baht" scheme, was established in 2002, insured persons had to register with a contracted primary care unit. Thailand had limited experience with family medicine doctors at this time, and the experience that did exist was primarily through demonstration sites in specific provinces.

In an effort to quickly obtain a large number of family medicine physicians at the early stage of the universal coverage policy, doctors who showed interest and had more than five years of experience in any branch of medicine, were offered conversion courses to familiarize them with the concepts of family medicine. These courses were planned on a twice yearly basis from 2001 to 2003. Altogether, 6127 doctors participated in this fast track programme. Progress slowed from 2004–2011 when the fast track training ceased and only 106 family doctors were trained. In 2012, a new "family practice learning" programme was launched to provide postgraduate training in family medicine.

Scaling-up family medicine in Thailand has faced numerous problems. Perhaps most significant is the fact that almost all health professionals in Thailand come from a hospital-centred culture. Even if policy-makers are familiar with the concepts of primary care and family medicine, they are unlikely to have practical experience of it. Continuously clarifying the aims and strategies of family medicine has been important to sustain support for the reforms.

Source: *(84)*.

Table 4. Reorienting the model of care: key strategies and evidence of their likely impact and potential risks

Strategies	Examples and evidence of impact	Potential risks
Primary health care	Investment in primary health care, specifically with gate-opening functions, is widespread and associated with a range of positive benefits including: improved access to care; improved screening and immunization; improved mortality rates; reduced use of the hospital sector; and more equitable and efficient care systems (see Annex 2).	Low. Some scope for inappropriate reductions in access to specialty care where care is poorly integrated.
Family medicine practice	Widely pursued in the former Soviet Union and eastern Europe through recognition of family practice as a specialty and sometimes retraining practitioners *(85)*. The higher prestige of family practice attracts more physicians and encourages people to use primary care services.	Low. Potential to focus on the role of primary care doctors rather than the range of professions and services needed in primary care settings.

Strategies	**Examples and evidence of impact**	**Potential risks**
Community health workforce	Widely applied across different country contexts but a particularly high priority strategy where there are limited trained health workers, for example, in sub-Saharan Africa *(86,87)*. Evidence suggests the approach can enhance access to care. Improve patient outcomes and patient satisfaction.	Medium. No defined scope of practice for similar cadres across settings. Potential to create further vertical, siloed intervention programmes. May draw resources away from other health priorities and costs of supporting appropriately may be considerable.
Community-based multidisciplinary teams	Multidisciplinary teams of doctors, nurses and other professions, such as health workers, are associated with many benefits including: improved staff morale and job satisfaction; better use of resources; greater satisfaction with quality of care; and better outcomes for patients (see Annex 2).	Low/Medium. Can be difficult to build effective teams due to cultural and professional differences, as well as constraints related to existing organizational silos.
Home care and community-based rehabilitation	Can help to provide access to remote and marginalized communities as well as people with special needs. Widely used for palliative care programmes and to people with complex needs, for example to people with dementia or following a stroke. Evidence suggests the ability to provide more respectful care that supports people to live at home resulting in lower costs, especially when combined with e-health technologies (see Annex 2).	Low/Medium. May place excessive burden or stress upon patients and family members if appropriate support is not provided.
Integrated mental and physical health care	Care outcomes for people with physical and mental health co-morbidities can be improved, and costs significantly reduced, through strategies that integrate the management of physical and mental health needs in primary and community settings (see Annex 2).	Low. Primary and community care workers may lack the expertise to support people with mental health problems.
Peer-to-peer conversations, expert patients	Widely used across high-income countries, at least at the level of individual programmes *(80)*, the development of peer groups can increase access to expert advice about how to manage both clinical and social aspects of a condition. It can also help overcome feelings of isolation.	Low. May be ineffective if not accompanied by appropriate training and support from professionals.
E-health	In relatively wide use across all country contexts *(88)*, e-health has the potential to support people in remote and rural settings otherwise underserved by traditional care *(89)*, as well as facilitate care coordination between care providers *(90)* and enable self-care and independence.	Medium. Cost-effectiveness of provision is not proven in all cases and is variable. Training needed for users and care professionals.
Outreach services to marginalized and remote communities	Extensively employed across a variety of contexts. Outreach services have been used to increase service coverage to hard-to-reach communities enabling greater responsiveness to local community needs (see Annex 2).	Medium. Potential to draw resources away from primary care and create health service fragmentation.

7.4 Priority setting

While this section has primarily discussed new models of service organization and a shift in emphasis towards primary care, countries need to continue to assess and appraise the package of services they are offering, and which services should be available at different levels of the health system. This process, often called priority setting, uses a blend of methods to understand both the particular needs and preferences of key stakeholders and how decisions fit within a holistic approach to health care. These methods may include economic models (such as cost-effectiveness analyses), citizen participation, public submissions, and equity analyses of disease burden and access to treatment.

Validated tools, such as WHO-CHOICE (Choosing Interventions that are Cost Effective), are available and could form part of priority setting. However, in many cases a stronger role for community preferences and local values may be needed. Some countries have created successful institutions to support the evidence base for this process, such as the Health Intervention and Technology Assessment Programme in Thailand and the National Institute for Health and Care Excellence (NICE) in the United Kingdom, but such institutional capacity is not present in many low- and middle-income countries. The development of initiatives such as the International Decisions Support Initiative at NICE International can help to build capacity in these countries.

8. Strategic direction 4. Coordinating services

8.1 Coordinated care for individuals

The primary goal of coordinated care is to deliver quality health services through the better organization of care activities involving individuals and all the health care providers they encounter *(91)*. Thus, the focal point for improvement is the delivery of care to the individual, with services coordinated around their needs and those of their families. Care coordination for the individual is not only about coordination across service providers, but also about coordinating care over time, through improved information flows and maintaining relationships with providers. Coordination is not a single activity, but rather a range of strategies that can help to achieve person-centred and integrated care *(92,93)*. Services, including infrastructure, referral systems, information technology and case management, need to be developed to focus care around the individual.

Targeted programmes of coordination can have positive effects on quality of care, and possibly cost-efficiency *(93)*. Thus, different approaches can achieve coordinated services in varying settings, such as chronic disease management, preventive health, maternity care, mental health and palliative care. What remains important in all of these approaches, however, is the central roles of community engagement, empowerment of individuals and effective communication between providers to achieve care that is synchronized to respond appropriately to the needs and preferences of any given individual and their situation *(94)*. Coordination of care offers a gateway to continuity in service provision, whereby services are structured around an individual's unique comorbidities and social experiences rather than organized around individual diseases.

Methods to encourage coordinated service delivery include culturally-based health services, a focus on patient–provider agreements in care arrangements, close communication between generalist and specialist providers, and effective referral and discharge systems. For many of these, the use of innovative technologies and improved information systems offers a chance for improved care coordination *(93)*. For example, electronic health records can improve communication between providers, and geographical mapping with mobile devices can clarify coverage gaps for outreach programmes in low resource settings (such as screening and vaccination activities).

There is a wealth of evidence to support the need for better care coordination, though it shows that it is often best suited to those with multiple health and care needs that require support from across the spectrum of care (see Table 5). There is evidence to suggest that the people who suffer most from under-coordination are people who are poor, vulnerable and from ethnic minority or hard-to-reach groups *(95)*. It will be important, therefore, when developing strategies of care coordination that they specifically target these groups. This is not only an ethical question, but also makes good economic sense since the avoidable deterioration of the health of these groups is likely to result in high costs for public health systems.

Table 5. Coordination of care to individuals: key interventions and evidence of positive benefits

Type of intervention	Evidence of positive benefits from review studies
Care coordination (general)	Greater coordination of care has the potential to reduce costs by preventing hospital admissions and supporting people to better manage their health problems and so live independently. It is most effective when targeted at people whose health is at risk of deterioration *(95)*.
Care management	Case management is a well-established way of integrating services around the needs of people with complex medical problems. When implemented effectively it can improve the experiences of users and carers, support better care outcomes, reduce the utilization of hospital-based services and enable a more cost-effective approach to care *(96,97)*. Case management for people with mental health problems through integrated community-based teams can help to maintain retention of patients under treatment, reduce hospitalizations and promote health and well-being *(98,99)*.
Care pathways	Integrated care pathways that use guidelines and protocols can be highly effective in supporting individuals to receive the relevant clinical care in a timely manner *(100)*. Care pathways can reduce complication rates and in-hospital mortality significantly for people with medical complications *(101)*. Evidence-based care pathways can reduce lengths of stay in hospital and enable better discharge planning *(102)*.

8.2 Coordination within health programmes and between health providers

An initial target for coordinated care are the underlying and interacting systems that relate to service provision *(103)*. Opportunities exist to better bridge the administrative, informational and funding barriers between health care sectors and between providers *(93)*. This involves sector components such as pharmaceutical and product safety regulators, information technology teams working with communication and referral systems, allied health teams delivering treatment plans in collaboration with each other, and provider networks focused on closer relationships in patient care.

It is important to highlight that there will be many approaches to coordination, each with different strengths and weaknesses in any given setting (see Table 6 and Box 11). Identifying these approaches is a first step towards enhancing coordination between health programmes and providers. Successful coordination will also rely on fostering collaboration, creating strong links between units, motivating actors and making all groups accountable for the monitoring and evaluation of results.

One challenge familiar to most countries is that of the relationship between vertical (stand alone, usually disease-specific) and general health programmes. Vertical programmes function best as temporary components when a health system is weak (such as in conflict-affected states), in reaching specific target groups, delivering complex health interventions and in providing a rapid response to health crises *(104)*. For example, in 2004, the Mozambican Ministry of Health began a national scale-up of antiretroviral therapy (ART) using a vertical model of HIV clinics located within large urban hospitals. In 2006, the Ministry expanded access by integrating ART into primary health care clinics. This supported higher levels of coverage, although patients attending vertical clinics had a lower risk of attrition *(105)*.

In reality, vertical programmes often persist beyond a temporary programme of activity, but are rarely effectively connected to the wider health system. This can adversely affect both coordination of patient care and the ability of the health sector to provide comprehensive services. As such, a move to integrate vertical programmes into mainstream health services will be a frequent step toward coordinated care. Understanding the particular political economy, financial abilities and key stakeholders in these situations can help to successfully incorporate a vertical programme into coordinated services without compromising the health benefits gained.

One of the most popular and extensively used methods to support care coordination between health providers has been the development of guidelines to support evidence-based care pathways, often supported by changes to both funding and governance arrangements that encourage and incentivize providers to collaborate. The use of care pathways has often been disease-based and focused on the vertical integration of services between primary and hospital care settings, but more recently there has been attention paid to understanding how care pathways can be developed for people with more complex needs. In Hong Kong (China) and Scotland (United Kingdom), integrated care pathways in community health services for the management of severe mental health conditions have helped to personalize care around people's needs *(106)*. Overall, there is extensive literature and experience to support the use of the care pathway approach to ensure higher quality care and better care transitions between providers, though the approach is generally suited to specific disease-based approaches or to clients with well-defined needs. Hence, they often do not meet the values of people-centred integrated health services since they are less able to manage people's holistic needs.

Table 6. Coordination of care between health and other providers: key strategies and evidence of their likely impact and potential risks

Strategies	Examples and evidence of impact	Potential risks
Vertical integration between primary and specialist care	The ability to create effective links between primary and specialist services is important to enable more effective diagnosis, faster referrals and smoother care transitions. The approach is widespread in high-income countries and is associated with reduced hospitalizations, re-admissions and recovery rates post-surgery (see Annex 2).	Medium. Difficulties in developing close working relationships between professional staff and care organizations working in different jurisdictions.
Integrating vertical programmes of care	Specifically developed in many low-income countries to support people with both HIV and TB in primary care settings, such as in Mozambique *(105)*, integrating vertical programmes has been shown to improve coverage and access to care, support greater community satisfaction and improve health outcomes (see Annex 2).	Medium. Difficulties in managing budgets and staff between separately funded projects from donors with different goals and outcomes.

Box 11. Promoting service coordination: lessons from cardiology services in Lithuania

During the early 2000s, Lithuania was facing a growing burden of cardiovascular disease with an ill-equipped health service delivery system. Despite significant efforts to shift the health system to a stronger primary care orientation, cardiovascular services remained very hospital focused, giving rise to both inefficiencies and gaps, especially in rural areas. Following a planning phase in 2003–2004, a programme was instigated to promote coordination and integration of cardiovascular services in eastern Lithuania.

The key elements of the programme were:

- strengthening the coordination/integration of effective gathering, sharing and use of data to build meaningful relationships and ensure the strategic use of information;
- revitalizing the competencies of the health workforce to enable a flexible, multi-skilled team of professionals capable of responding to the needs of the population in a more coordinated/integrated way, along with improving the public's health literacy to better manage personal health care needs;
- investing in adequate and sustainable resources to align the infrastructure and other resources, including the workforce, for more coordinated/integrated service delivery;
- formalizing through policy the conditions for more coordinated/integrated services;
- designing a health services delivery care infrastructure and ensuring an organizational framework conducive to working across professions and sectors, including social services, pharmacies and voluntary services;
- enabling a shift in culture, including organizational and professional norms, and challenging standard working cultures to foster new forms of cooperation between professionals and the public; and
- soliciting the active engagement of people, as citizens, consumers, providers and patients in the design and organization of health services in order to ensure people-centred care.

Source: *(107)*.

8.3 Coordinating across sectors

Coordination across sectors involves interactions between sectors such as health, social security, housing, immigration, urban development and education. As with coordination within the health sector, alignment can be facilitated by ensuring that the right communication strategies are in place. An enabling environment for policy development, legislation and regulation is also essential to ensure the flexibility and responsiveness needed to support coordinated systems. This may include the open sharing of information between departments, joint monitoring and evaluation projects, or legislation prioritizing coordination for health. Funding arrangements and payment schemes should be attentive to the possible spill over effects of payment mechanisms in one sector on other sectors, such as incentives for early discharge and frequent referrals *(93)*.

Evidence regarding the most effective strategies to promote intersectoral coordination is relatively limited, but as with improving coordination between different entities within the health sector, all strategies are likely to involve multiple components, such as regulatory requirements, budgetary incentives, jointly-set targets, and joint monitoring and evaluation (see Table 7 and Box 12). Policy-level adjustments to support coordinated care may take many different forms, but common to all will be a commitment to communication, streamlined regulation and processes, and flexibility to adapt to different settings.

Table 7. Coordination of care between sectors: key strategies and evidence of their likely impact and potential risks

Strategies	Examples and evidence of impact	Potential risks
Integration of health and social care	Strategies have varied from the inclusion of social workers as key members of primary care teams to full integration of social care and health care delivery systems (as in Scotland, United Kingdom) that plan, purchase and delivery care jointly.	Medium. Political and funding difficulties in formalizing relationships between different parts of government, especially when local authorities and health authorities cover different jurisdictions.
Intersectoral partnerships	Improved planning, coordination and delivery of care between health, housing and other services can help improve quality of care and quality of life, as seen for example in the Health City Networks in Europe *(108)* and Alberta Healthy Living Network (Canada) *(109)*.	Medium. Difficulties and bureaucracy encountered in developing new formal partnerships between different agencies.
Integrating traditional and complementary medicine into modern health systems	Many strategies have sought to include coverage of traditional and/or complementary therapies in benefit package of national health insurance schemes *(110)*. The key advantage is that people are assured access to traditional and complementary medicine that they need.	Medium. Traditional and complementary medicine providers might offer low quality of care or fail to use effective conventional treatments, depending on the country.

Box 12. Integrating traditional and complementary medicine in Asia

Incorporating traditional and complementary medicine into national policies has been an issue that has long been addressed in low- and middle-income countries, particularly in Asia.

- In China, the integration of traditional Chinese medicine into the national health care system began in the late 1950s. Today, 95% of general hospitals in China have traditional medicine departments which treat about 20% of outpatients daily.
- In the Republic of Korea, full integration of western and eastern medicine has been supported by a range of measures to improve quality of care such as clinical cooperation, training of consultants and lifting restrictions on doctors practicing oriental medicine within hospitals. However, difficulties have been encountered including the lack of financial accountability of the traditional sector and the dominance of modern medical practice in decision-making.
- In the 2000s, Malaysia adopted a coordinated approach to the integration of traditional and complementary medicine based on self-regulation by complementary professions. Organizations representing traditional health systems, complementary therapies and homeopathy have sought to recognize, accredit and register their own practitioners while developing standardized training programmes, guidelines, accreditation standards and codes of ethics.

The Asian experience shows that effective integration strategies must promote communication and mutual understanding among different medical systems, ensure equitable distribution of resources between traditional/complementary and conventional medicine, provide inter-professional training and educational programmes for both traditional/complementary and conventional medicine, and embrace a national policy that includes traditional and complementary medicine products, practices and practitioners.

Source: Developed from *(111,112)*.

9. Strategic direction 5.
Creating an enabling environment

9.1 Strategies for promoting system change

Creating an enabling environment is key to facilitating the first four strategic directions towards achieving people-centred and integrated health services. There are relatively few studies on managing large scale systems change, but those that exist agree on number of critical strategies for promoting system change *(74,113,114)*. These are described below.

9.2 Strong leadership and the establishment of a shared vision

Strong leadership and vision appear to be critical to successful change management within a health system. This leadership should be both “designated” (leadership from people who are formally put into positions of leadership) as well as “distributed” (leadership by multiple people, including both those with and without formal leadership positions who engage in leadership practices) *(74)*. Leadership is important for articulating a shared vision and helping to convey the urgency and importance of that vision to all stakeholders in the health system. Frequently, establishing a strong policy framework for reform will be important to building a shared vision, as well as setting out how that vision will be achieved. A communications strategy comprising an array of different media (such as audio-visual materials and pamphlets) can further support change by helping to convey the advantages of reform to different groups, both within and outside the health sector.

9.3 Dedicated resources for implementing change

The ability to secure dedicated resources to enable transformational change is a key requirement *(113)*. Financial resources should be budgeted to support the reforms and there needs to be a recognition of the considerable amount of staff time that will be needed to plan and implement change (such as for training, development of new guidelines, and performance management and feedback). To avoid frustrations and failures, the resources available need to be commensurate with the overall vision and the level of activity it entails.

9.4 Supportive organizational culture

Development of an organizational culture that supports monitoring and evaluation, open feedback, knowledge sharing and a demand for data in decision-making is a prerequisite for transformational change. Without this organizational orientation, individuals may be unwilling to admit mistakes and therefore learn from them, and if information is viewed in a proprietary way, it will not flow throughout the system, inhibiting others from also learning. Open feedback is supported by leadership commitment to publicizing key indicators regarding change *(74)*. In addition, teamwork, trust and mutual understanding reinforce an open organizational culture. The evidence suggests that the definition of clear roles and responsibilities, as well as regular communication, are likely to enhance collaboration in the implementation of change *(75)*. Collaborative reflection as a group can also help enhance collective learning, as well as reinforce the values of openness and knowledge sharing *(76)*. Health systems need to embrace the process of continuous quality improvement, seeking to adapt and grow over time.

9.5 Reorientation of the health workforce

Shifting the focus of health systems towards people-centred and integrated health services will require health workers to approach patients, clients and communities differently, be more open to working in teams (particularly inter-professional teams), use data more effectively in their work and be willing to innovate in their practice. Special attention therefore needs to be given to reorienting health workers to the reforms.

People-centred and integrated health services imply an approach to care that encourages multidisciplinary and interdisciplinary teamwork.

It can be challenging to develop and maintain such teams because the various professional disciplines think differently about what is important in care provision and there are often conflicts over power and control.

There is a lack of information about the human resources and skills mix requirements needed to support people-centred and integrated health services and most of what does exist comes from North America and may have limited applicability elsewhere.

Key elements identified include:

- *role enhancement*, to expand a group of workers' skills so they can assume a wider range of responsibilities;

- *role enlargement*, by encouraging the development of new roles and functions necessary for staff to carry out their work – for example, to develop skills as case managers or care coordinators;

- *substitution*, where work previously and traditionally undertaken by one professional group is substituted or delegated to others – for example, from doctors and nurses to community health workers;

- *education*, to support new curricula to prepare the health workforce in the understanding of their future roles and building communication skills, psychosocial skills and knowledge of other community resources for support *(115)*; and

- *training*, which is needed to prepare medical and other staff with a range of interpersonal skills for working in team-based health care environments *(116)*.

Further discussion of the human resources required for people-centred and integrated care is presented in Box 13.

Box 13. Human resources for people-centred and integrated health services

A well-performing workforce is one that works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given available resources and circumstances *(117)*. When it comes to addressing the challenge of implementing new paradigms of care based on people-centred and integrated health systems, innovative strategies must be implemented in order to optimize the performance of the health workforce.

New competencies
In an attempt to deploy human resources for a continuum of care, new competencies should be taken into account, both at a clinical and non-clinical level. Organizing care around the patient and thus adopting a person-centred approach involves centring care upon patients, which allows their values, preferences, needs and expertise to direct care for the health problems they have to cope with. This requires a multitude of skills in the workforce, such as interviewing and communicating effectively, assisting changes in health-related behaviours, supporting self-management and using a proactive approach. Conveying empathy, trust, confidentiality and respect facilitates productive communication among providers and their patients, who seek a regular source of care across their life course.

Sharing power with patients creates an atmosphere in which patients mutually participate in care. When information about treatment goals and expected outcomes is shared with patients, they are prepared to take greater responsibility. There should be not just a dialogue but rather a genuine partnership with patients that facilitates health services co-production between providers and patients, a model that has proven to improve both health behaviour and clinical outcomes. Improving the curriculum, new teaching methods and innovative models for both pre-service and in-service training are needed to translate these new competencies into practice.

New positions

In addition to new competencies, new positions should be developed in order to effectively cope with the demands posed by the need to integrate health services. Since primary care is to act as the hub of coordination, health networks managers should be appointed to ensure that care is properly coordinated across the hub and that the population approach is consistent along the entire network and aligned towards the fulfilment of people's needs. Along with these managers, integration directors may develop a significant role in assuring a comprehensive clinical approach that integrates primary and secondary care, as well as a community perspective.

At the patient level, new roles to support assessment, individual treatment plans, self-management and follow-up, such as care coordinators and case managers, should be developed in order to deal with vulnerable and frail patients, and to take charge of coordinating the continuum of care of the patient across different settings, which may include the social sector. The primary care family team should be considered paramount in the health care network, not just because of its gate-opening function and its role as the regular source of care to patients throughout their life course, but because of its key role in coordinating care for a defined population.

Multidisciplinary teams

In order for health care networks to work effectively, collaboration and teamwork among professionals within and across different care settings should be emphasised. All integrated service delivery models underscore the notion of multidisciplinary teams as the cornerstone of the provision of care. Multidisciplinary teams share responsibility and accountability for clinical processes and care outcomes at an individual, community and population level. It involves the identification of team members, definition of their roles and functions, definition of shared goals and targets, and a systematic evaluation of targets reached. The team may range from the basic care unit of community health workers and nurse auxiliaries, to primary care physicians and nurses, and to other much larger multidisciplinary teams that encompass other professionals such as dentists, nutritionists, psychotherapists and social workers. A highly effective multidisciplinary team will display the flexibility to be able to move across different care settings and a learning orientation through the promotion of integrated clinical sessions, referrals, rotations of personnel and so on, as a means to support collaboration and knowledge exchange.

An enabling environment

Governments should create an enabling environment for these strategies at the national and regional level, through effective and supportive legislation, regulation and certification schemes. Critical emphasis should be placed on "transformational leadership" to engage in proactive and engaging communication on the goals and the values that underlie the need for change. Softer managerial skills, such as team building, negotiation and system thinking should receive more attention accordingly. The organizational culture, built on a common language around the patient and his/her needs, should foster and embrace open feedback, knowledge sharing and accountability. The introduction of compensation and incentives frameworks for the workforce should be reviewed and updated to be able to effectively reward key outcomes on quality and integrated care, bearing in mind that non-financial incentives can also act as motivating factors when properly deployed. Finally, communication and information technologies have a critical role to play, since information exchange between professionals from different disciplines is critical to effectively meeting patient and population needs.

Source: WHO elaboration based on *(117,118,119)*.

9.6 Supportive regulatory frameworks

Governance and regulation play a key role in establishing the rules within which professionals and organizations must operate within health systems – for example, in terms of quality standards and the financial health of care providers. However, regulators typically focus their activities on the performance of individual organizations or professional groups when what is needed is a “whole system” focus that encourages, and makes legitimate, work across traditional boundaries. Existing regulatory requirements in health systems are often complex and misaligned in relation to such broader goals, making it difficult for new partnerships to grow. Therefore, there is a need for regulators to adapt their focus so that existing barriers to joint working can be removed where this is in the interests of people and communities.

9.7 Payment reform

Changes in the way care is funded is also needed to promote the right mix of financial incentives in the system that supports the integration of care between providers and settings. Such reforms have included the development of capitation-based funding that pools resources from different sectors in order to promote intersectoral community-based care. Other approaches include the development of “bundled” payments to support holistic care across a care pathway *(120)* and incentives for physicians linked to integrated working and performance.

Finding the right payment mix to support integrated care can be challenging, but there is growing evidence to support a “cappuccino” or mixed model of funding, in which the largest part is based on capitated funds, with the emphasis on pooling resources, but with an additional element of funding that supports payment for performance and innovation *(121)*.

10. Leading and managing change towards people-centred and integrated health services

10.1 Achieving people-centred and integrated health services

The previous sections described the five key strategic directions for transforming health systems to deliver better health care that is more equitable, people-centred and integrated. However, country-led initiatives for people-centred and integrated care have not always achieved their objectives or been sustained in the long-term (see Box 14). Moreover, while there is good evidence on the different range of approaches that can be used to successfully achieve more people-centred and integrated health services, their diverse and complex nature makes it difficult to compare experiences and results at the international level given the different ways they can and have been applied.

However, one policy review across four countries (Chile, New Zealand, Spain [Basque region] and Uganda) identified a set of key lessons in achieving people-centred care *(122)*. While it found significant variation in the way people-centred care was being implemented, three common lessons were observed.

1. Efforts to make care more people-centred were more likely to succeed when linked to complimentary drivers for change such as improving equity in health, establishing the rights of citizens and addressing the challenges of chronic illness.

2. Long-term commitment, sustained political will and leadership are necessary to enable changes to embed over time. This needs to be combined with an approach that values bottom-up innovation within a top-down framework in order to provide an enabling environment for changes that align governance and incentive structures.

3. Participation and support across all stakeholders in health and other sectors (including policy-makers, managers, professionals, community groups and service users) is vital for success since a system-wide approach is needed using multiple policy instruments simultaneously applied to the different levels of the health system (the macro, meso and micro levels).

Since achieving people-centred and integrated health services results from a range of activities undertaken at multiple levels, it is not surprising that investigations into how best to develop effective strategies describe the process as long-term and “complex” *(123,124,125)*. System leaders must adopt strategies for change to ensure the effective alignment of strategies and processes that promote people-centred and integrated care *(126)*. Key challenges to this task include: the unequal distribution of power between stakeholders and the subsequent difficulties in balancing different interests; meeting high demands and expectations when the policy-making process and ability to influence behaviour change is slow; the ability to find and mobilize resources; and the difficulty of people adopting whole-system thinking when working in pre-existing organizational and professional silos.

10.2 Change management

Proactive change management is needed since people-centred and integrated health services are unlikely to emerge naturally as a solution to today’s evolving health challenges. Given the range of competing interests within health systems that can override rational priority setting and service redesign, the approach requires strong policies and political leadership to transform care delivery.

All managers in health and social care need to adopt or adapt processes in the face of the many challenges they face, whether these be driven by new technologies, demographical changes, environmental pressures, rising demands and costs, or changing political ideologies and public opinion. Achieving people-centred and integrated health services requires the application of complex service innovations, necessitating the need for an underlying change management strategy.

Whilst there is growing understanding of the different components or competencies that will be required to develop people-centred and integrated health services, there is a general lack of knowledge about how best to apply (and combine) the various strategies and approaches in practice. Since people-centred and integrated health services imply fundamental changes at the political, regulatory, organizational, professional, service and personal levels, a fundamental shift in mind sets, behaviours and ways of working is required *(127)*. Such "second-order" change is typically multidimensional, multilevel and discontinuous, resulting in a necessary paradigm shift *(128)*. However, the field of people-centred and integrated health services is currently weak in terms of the implementation science that might generate the necessary knowledge to help guide policy-makers and practitioners through the process *(113,129)*.

Box 14. Difficulties in implementing integrated health care networks in Brazil

Regional-based integrated health care networks have been promoted in Brazil since 2006 to overcome the fragmentations that resulted from health system decentralization to the municipal level. Key characteristics include:
- population-based networks;
- integrated service delivery networks encompassing primary care, outpatient and inpatient hospital care, emergency care, health surveillance and psychosocial care;
- public–private partnerships, preferably with non-profit organizations, to supplement public services;
- inter-organizational "alliances" and public health consortia brokered through new contracts between public
- funders and private and public providers; and
- coordination of care based at a primary care-level but responsible for care along the continuum of service provision.

However, weaknesses in implementation have meant that progress has been limited. Of specific concern has been:
- the lack of agreement on policy design across different levels of government;
- the difficulty in creating incentives for collaboration between municipalities;
- the lack of capacity within municipalities to manage the complex task of integration; and
- high political turnover leading to a lack of clear strategic direction.

As a result, policy-makers still consider the policy in Brazil as "under construction".

Source: *(130)*.

10.3 Quality improvement

A useful guide that offers a systematic process for designing and implementing effective interventions to promote quality in health systems was developed by WHO in 2006 *(131)*. Conceived as a capacity-building tool, it recognizes that despite the propensity in health systems for change, insufficient attention is often paid at a policy-level to supporting strategic action. The WHO process for building a strategy to support quality improvement (Fig. 1) has two key aspects.

1. Policy-makers or senior leaders must properly engage health service providers, communities and service users. This is because health service providers and local communities need to influence the way in which services will be provided so that they best meet people's needs and expectations.

2. The process of implementation needs to be a cyclical process of building and re-building strategies for change involving three steps: analysing the problem; developing the strategy; and then implementing and assessing progress.

Fig. 1. A process for building a strategy for quality improvement

Source: *(131)*.

11. Monitoring, learning and evaluation

11.1 Key measures and indicators for people-centred and integrated health services

In many countries, the introduction of policy reforms to support people-centred and integrated health services has been accompanied by the development of a set of quality indicators through which to monitor system performance.

- In England, United Kingdom, a range of generic indicators for measuring the quality of integrated care has also been developed. This includes 35 specific indicators across six key domains of quality *(132)*.

- In New Zealand, an integrated performance and incentive framework was drafted in 2013 containing an inventory of measures to support District Health Boards to identify and use locally-relevant system-level measurements indicating progress towards care integration and improved health and equity for all population groups *(133)*.

- In the USA, National Quality Forum indicators relevant to patient-centred and integrated care include a range of endorsed measurements of patient-centred care and care coordination *(134)*. The Agency for Healthcare Research and Quality has also created a framework through which to assess care coordination, including a range of measurement domains *(135)*.

- Internationally, the Organisation for Economic Co-operation and Development (OECD) Health Care Quality Indicators project has collected readily-available health services indicators, promoted the improvement of international information systems and indicator comparability, and conducted collaborative research on priority indicator areas *(136)*. Currently, about 40 health care quality indicators are considered suitable for cross-national data collection, some of which are relevant to people-centred and integrated health services.

- A systematic review of the methods used to assess integrated health care identified 24 different measurement methods in use, reflecting a wide range of concepts of integration and data sources *(137)*.

- The WHO is, in addition, developing its own global reference list of core indicators to evaluate health system performance.

The development of measures and indicators through which to assess people-centred and integrated health services is currently characterized by heterogeneity. The complexity and requisite variety in how people-centred and integrated health services strategies need to be taken forward in different country contexts means that measures and indicators need to be chosen to suit local and national contexts and priorities. A balanced selection will address the concepts of people-focused and continuous care, for example, by measuring the degree to which people have the same provider over time, have strong interpersonal relationships with providers, communicate patient's needs or have a common management plan across providers. It will also cover key areas of primary care (such as preventive care, chronic disease management, acute care and safety), as well as appropriate public health and population-based measures (such as health promotion, public safety, and water and sanitation services) and hospital care.

Given the multifaceted nature of people-centred and integrated health services which spans many care dimensions, settings and user groups, it is not possible to set an optimum number or set of indicators – just as it is not possible to do this easily for public health. The nature of the indicators that different countries, regions and localities may wish to use will vary depending on many factors including the target audience (from policy-makers to professionals), the aim of using the indicators (for performance assessment or quality improvement), the nature of the local context (local priorities and target groups), and the available data sources and analytical capacity.

Drawing from existing work on the development of measures and indicators, it is possible to create a composite set of potential indicators that have been put forward within different countries as ways to examine the impact of people-centred and integrated health services (see Annex 3). This indicator set presents a range of potential measures across six key domains.

1. *System-level measures of community well-being and population health* including reductions in avoidable deaths for treatable conditions, improved mental health and well-being, and the proportion of populations engaged in healthy lifestyle behaviour.

2. *Service proxies for improved health outcomes* such as avoidable admissions to hospitals, lengths of hospital stays and reductions in adverse events.

3. *Personal health outcomes for people and communities*, primarily relating to measures of improved quality of life, remaining independent and reducing risk factors to better manage existing health conditions.

4. *Resource utilization* measures that demonstrate the reorientation of activities towards primary and community care, for example in terms of the balance of financial and human resources.

5. *Organizational processes and characteristics* that support evidence that systems to support high-quality people-centred and integrated health services are in place, for example in improving access to care, care planning, better care transitions, self-care support, care management and medications reconciliation.

6. *User and carer experiences* of, for example, shared decision-making, care planning, communication and information sharing, and care coordination.

The indicator domains and list of potential measures in Annex 3 should not be seen as definitive but rather treated as a "menu" of possible options. What the evidence strongly suggests is that the development of measures and indicators in specific country-contexts needs to be locally-developed and negotiated.

11.2 Building engagement through co-producing measures of quality

One advantage to the local development of measures and indicators is that the process of selecting measures through which to judge performance or monitor progress provides an opportunity for engagement with key actors across a health system including the Ministry of Health, patients and community groups (such as civil society organizations and consumer rights groups), health professionals, hospital or health service organizations, and health financing organizations (such as the Ministry of Finance and health insurance organizations).

Including key stakeholders in deciding how care systems will be held to account supports an inclusive process for developing a vision and driving change for people-centred and integrated health services. The engagement of stakeholders in the development of measures also has the advantage that it helps to ensure that outcomes frameworks are people-centred and include indicators that reflect this.

11.3 Building quality improvement into health system reform

The proactive use of data and information, whether derived from quality indicators or implementation learning, is an important element in driving improvements in health system functioning. The use of an agreed set of performance measures is a key aspect of any performance improvement process since it helps identify what is going well, what could be improved and whether initiatives and interventions are having the desired effect *(138)*.

In general, despite the growing availability of data and information that might inform care systems on their performance, evidence is not routinely and proactively used to support quality improvement. There is no "magic bullet" for quality improvement *(139)* nor any definitive evidence that any single approach is superior since the effects are highly context-specific *(140,141)*. Nevertheless, passive education appears to be the least effective approach and multifaceted interventions the most effective, especially when sustained over time *(142)*.

It is often suggested, with some justification, that data-driven quality improvement processes lack relevance in low- and middle-income countries due to the lack of information systems that can generate intelligence to support collective learning.

However, several country examples show that it is possible. For example, the Mozambique Population Health Implementation and Training Partnership focuses on improving the quality of routine data and its use through: appropriate tools to facilitate decision-making by health system managers; strengthening management and planning capacity and funding district health plans; and building capacity for operations research to guide system-strengthening efforts *(143)*.

What does appear to be critical is the development of an enabling environment – one of the five key strategic directions outlined – in which policy-makers and regulators set key measurable goals for health systems and put in place robust systems of evaluation and monitoring. Within this, there is the potential to create specific standards of care using measures of quality that have been derived through consultation with professional representative bodies and local communities. The barriers to effective quality improvement in health system reform may often seem insurmountable given the competing tensions that exist amongst health care providers and professionals, but fostering a culture of transparency and a commitment to continuous quality improvement will be a necessary feature of reforms that seek to embed people-centred and integrated health services. Fundamentally, the quality improvement agenda towards people-centred and integrated health services must be agreed and owned at the grass-roots level, and that will require significant political, professional and community leadership and commitment.

References

1. WHO global strategy on people-centred and integrated health service: interim report. Geneva: World Health Organization; 2015.
2. Le G et al. The impact of universal health coverage, people centred care and integrated service delivery on key health system outcomes: a literature review in support of the WHO strategy on high quality, people-centred and integrated care to achieve universal health coverage. Leeds: University of Leeds; 2014.
3. Borgermans L et al. Evidence-based policies, programmes and interventions conducive to universal health coverage with high quality people-centred and integrated care. Report submitted to WHO. Brussels: Vrije Universiteit Brussel; 2013.
4. Kruk ME, Porignon D, Rockers PC, Van Lerberghe W. The contribution of primary care to health and health systems in low- and middle-income countries: a critical review of major primary care initiatives. Soc Sci Med. 2010;70(6):904–11.
5. Dudley L, Garner P. Strategies for integrating primary health services in low- and middle-income countries at the point of delivery. Cochrane Database Syst Rev. 2011;(7):CD003318.
6. Selke HM, Kimaiyo S, Sidle JE, Vedanthan R, Tierney WM, Shen C et al. Task-shifting of antiretroviral delivery from health care workers to persons living with HIV/AIDS: clinical outcomes of a community-based program in Kenya. J Acquir Immune Defic Syndr. 2010;55(4):483–90
7. Bedell JR, Cohen NL, Sullivan A. Case management: the current best practices and the next generation of innovation. Community Ment Health J. 2000;36(2):179–94.
8. Scott IA. Chronic disease management: a primer for physicians. Intern Med J. 2008;38(6):427–37.
9. Okamoto E, Miyamoto M, Hara K, Yoshida J, Muto M, Hirai A, et al. Integrated care through disease-oriented critical paths: experience from Japan's regional health planning initiatives. Int J Integr Care. 2013;11(Spec 10th Anniversary Ed):e25.
10. Mason A, Goddard M, Weatherby H. Financial mechanisms for integrating funds for health and social care: an evidence review. CHE research paper 97. York: Centre for Health Economics, University of York; 2014.
11. Health systems in Africa: community perceptions and perspectives. The report of a multi-country study. Brazzaville: WHO Regional Office for Africa; 2012.
12. World health report 2008: primary health care, now more than ever. Geneva: World Health Organization; 2008.
13. Njoroge A. Presentation at Geneva Health Forum 2014 [video]. Geneva: Geneva Health Forum; 2014 (https://www.youtube.com/watch?v=jk-NDRj8r_k, accessed 16 February 2016).
14. Patel V, Saxena S, De Silva M, Samele C. Transforming lives, enhancing communities: innovations in mental health. Report of the Mental Health Working Group 2013. Doha: World Innovation Summit for Health; 2013.
15. ICCM and malaria. In: UNICEF Eastern and Southern Africa Regional Office/Young child survival and development [website]. Nairobi: UNICEF Eastern and Southern Africa Regional Office; 2015 (http://www.unicef.org/esaro/5479_iccm-malaria.html, accessed 16 February 2015).
16. Matsudo SM, Matsudo VR, Andrade DR, Araujo TL, Andrade E, de Oliveira L et al. Physical activity promotion: experiences and evaluation of the Agita Sao Paolo Program using the ecological mobile model. Journal of Physical Activity and Health. 2004;1:81–97.
17. Preventing chronic disease: a vital investment. WHO global report. Geneva: World Health Organization; 2005.
18. Fu D, Fu H, McGowan P, Shen YE, Zhu L, Yang H et al. Implementation and quantitative evaluation of chronic disease self-management programme in Shanghai, China: randomized controlled trial. Bull World Health Organ. 2003;81:174–82.
19. Vijayakumar V, John RK, Datta D, Thulasiraj RD, Nirmalan PK. Quality of life after community-based rehabilitation for blind persons in a rural

population of South Indi. Indian J Ophthalmol. 2004;52(4):331–5.

20. Bollini P, Venkateswaran C, Sureshkumar K. Palliative care in Kerala, India: a model for resource-poor settings. Onkologie. 2004;27:138–142.

21. Miguel-Baquilod M, Fishburn B, Santos J, Jones NR, Warren CW. Tobacco use among students aged 13–15 years: Philippines, 2000 and 2003. Morb Mortal Weekly Rep. 2005;54:94–97.

22. Coleman R, Gill G, Wilkinson D. Noncommunicable disease management in resource-poor settings: a primary care model from rural South Africa. Bull World Health Organ. 1998;76:633–640.

23. Renewing health. In: South Karelia Social and Health Care District [website]. (http://www.renewinghealth.eu/south-karelia-social-and-health-care-district, accessed 16 February 2015).

24. Sonola L, Thiel V, Goodwin N, Kodner D (2014) South Devon and Torbay: proactive case management using the community virtual ward and the Devon predictive model. London: The King's Fund; 2014.

25. Patients for Patient Safety: partnerships for safer care. Geneva: World Health Organization; 2014.

26. Morton RL, Tong A, Howard K, Snelling P, Webster AC et al. The views of patients and carers in treatment decision making for chronic kidney disease: systematic review and thematic synthesis of qualitative studies. BMJ. 2010; 340: c112.

27. Belanger E, Rodriguez C, Groleau D. Shared decision-making in palliative care: a systematic mixed studies review using narrative synthesis. Palliat Med. 2011; 25 (3): 242–61.

28. Ditewig JB, Blok H, Havers J, van Veenendaal H. Effectiveness of self-management interventions on mortality, hospital readmissions, chronic heart failure hospitalization rate and quality of life in patients with chronic heart failure: a systematic review. Patient Educ Couns. 2010; 78 (3):297–315.

29. Jovicic A, Holroyd-Leduc JM, Straus SE. Effects of self-management intervention on health outcomes of patients with heart failure: a systematic review of randomized controlled trials. BMC Cardiovasc Disord. 2006; 6:43.

30. Barber SL, Gertler PJ. Empowering women to obtain high quality care: evidence from an evaluation of Mexico's conditional cash transfer programme. Health Policy Plan. 2009; 24 (1):18–25.

31. Ricciardi L, Mostashari F, Murphy J, Daniel JG, Siminerio EP. A national action plan to support consumer engagement via e-health. Health Aff (Millwood). 2013; 32 (2): 376–84.

32. Prey JE, Woollen J, Wilcox L, Sackeim AD, Hripcsak G, Bakken S et al. Patient engagement in the inpatient setting: a systematic review. J Am Med Inform Assoc. 2014;21(4):742–50.

33. Wiljer D, Urowitz S, Apatu E, DeLenardo C, Eysenbach G, Harth T et al. Patient accessible electronic health records: exploring recommendations for successful implementation strategies. J Med Internet Res. 2008;10(4):e34.

34. Howe D, Dimopolous-Bick T. Conference abstract. The CHOICE project: integrating peer support and shared decision making in youth mental health services. Int J Integr Care 2014; WCIC Conf Suppl; URN:NBN:NL:UI:10-1-116631.

35. Lu Z, Cao S, Chai Y, Liang Y, Bachmann M, Suhrcke M et al. Effectiveness of interventions for hypertension care in the community – a meta– analysis of controlled studies in China. BMC Health Serv Res. 2012;12:216.

36. Tadesse Y, Yesuf M, Williams V. Evaluating the output of transformational patient-centred nurse training in Ethiopia. The Int J Tuberc Lung Dis. 2013;17(Suppl 1):9–14(6)

37. Lawang W, Horey D, Blackford J. Family caregivers of adults with acquired physical disability: Thai case-control study. Int J Nurs Prac. 2015; 21:70–77.

38. Langwell K, Keene C, Le Beaux K, Chioma Ogu L, Zullo M. Conference abstract. Implementation of a tribal participatory chronic care model (TP-CCM): integrating primary and community-based care to coordinate diabetes management on Wind River Indian Reservation, Wyoming USA. Int J Integr Care 2014; WCIC Conf Suppl; URN:NBN:NL:UI:10-1-116618.

39. Sandoval C, Caceres CF. Influence of health rights discourses and community organizing on equitable access to health: the case of HIV, tuberculosis and cancer in Peru. Global Health. 2013; 9:23.

40. Murthy P. Health literacy and sustainable development. UN Chronical [online]. 2009; 46(1/2) (http://unchronicle.un.org/article/health-literacy-and-sustainable-development/, accessed 16 February 2015).

41. Arole M, Rajanikant A. Jamkhed: A comprehensive rural health project. London: Macmillan; 1994.

42. Millennium Villages Project. In: Millennium Villages [website]. New York NY: Millennium Villages; 2015 (http://millenniumvillages.org/the-villages/, accessed 16 February 2015).

43. Attree P, French B, Milton B, Povall S, Whitehead M, Popay J. The experience of community engagement for individuals: a rapid review of evidence. Health Soc Care Community. 2011; 19 (3): 250–60.

44. Blomfield M, Cayton H. Community engagement: a report for the Health Foundation. London: The Health Foundation; 2009.

45. Rifkin SB. Examining the links between community participation and health outcomes: a review of the literature. Health Policy Plan. 2014; 29 (Supp 2); ii98–ii106.

46. Molyneux S, Atela M, Angwenyi V, Goodman C. Community accountability at peripheral health facilities: a review of the empirical literature and development of a conceptual framework, Health Pol Plan. 2012;27(7):541–554

47. MacGregor JC, Kothari A, LeMoine K, Labelle J. Linking research to action for youth violence prevention: community capacity to acquire, assess, adapt and apply research evidence. Can J Public Health. 2013; 104(5):e394–9.

48. Kamanda A, Embleton L, Ayuku D, Atwoli L, Gisore P, Ayaya S et al. Harnessing the power of the grassroots to conduct public health research in sub-Saharan Africa: a case study from western Kenya in the adaptation of community-based participatory research (CBPR) approaches. BMC Public Health. 2013;13:91.

49. Blankenship KM, West BS, Kershaw TS, Biradavolu MR. Power, community mobilization, and condom use practices among female sex workers in Andhra Pradesh, India. AIDS. 2008;22(Suppl 5):S109–16.

50. Ford N, Singh K, Cooke GS, Mills EJ, von Schoen-Angerer T, Kamarulzaman A et al. Expanding access to treatment for hepatitis C in resource-limited settings: lessons from HIV/AIDS. Clin Infect Dis. 2012; 54 (10): 1465–72.

51. World report on disability. Geneva: World Health Organization; 2011.

52. Nomura M, Makimoto K, Kato M, Shiba T, Matsuura C, Shigenobu K et al. Empowering older people with early dementia and family caregivers: a participatory action research study. Int J Nurs Stud. 2009; 46 (4): 431–441.

53. Buffardi A, Cabello R, Garcia P. Towards greater inclusion: lessons from Peru in confronting challenges of multi-sector collaboration. Rev Panam Salud Publica. 2012; 32 (3): 245–250.

54. Hodgson I, Nakiyemba A, Seeley J, Bitira D, Gitau-Mburu D. Only connect: the role of PLHIV group networks in increasing the effectiveness of Ugandan HIV services. AIDS Care. 2012; 24(11): 1368–74.

55. Co-creating Health. In: The Health Foundation [website]. London: The health Foundation; 2015 (http://www.health.org.uk/areas-of-work/programmes/co-creating-health/ accessed 16 February 2015).

56. Flood CM, May K. A patient charter of rights: how to avoid a toothless tiger and achieve system improvement. CMAJ. 2012;184(14):1583–7.

57. Ramiro LS, Castillo FA, Tan-Torres T, Torres CE, Tayag JG, Talampas RG et al. Community participation in local health boards in a decentralized setting: cases from the Philippines. Health Policy Plan. 2001;16 (Suppl 2): 61–9.

58. Berlan D, Shiffman J. Holding health providers in developing countries accountable to consumers: a synthesis of relevant scholarship. Health Policy Plan. 2012; 27(4): 271–80.

59. McNamara P. Provider-specific report cards: a tool for health sector accountability in developing countries. Health Policy Plan. 2006; 21(2):101–9.

60. Loevinsohn B, Harding A. Buying results? Contracting for health service delivery in developing countries. Lancet. 2005; 366 (9486): 676–81.

61. Schoen C, Osborn R, Doty MM, Squires D, Peugh J, Applebaum S. A survey of primary care physicians in eleven countries, 2009: perspectives on care, costs, and experiences. Health Aff (Millwood). 2009; 28 (6): w1171–83.

62. Soeters R, Habineza C, Peerenboom PB. Performance-based financing and changing the district health system: experience from Rwanda. Bull World Health Organ. 2006;84(11):884–9.

63. Ireland M, Paul E, Dujardin B. Can performance-based financing be used to reform health systems in developing countries? Bull World Health Organ. 2011; 89 (9): 695–8.

64. Ruano A, Sebastian M, Hurtig A-K. The process of social participation in primary health care: the case of Palencia, Guatemala. Health Expect. 2014;17 (1): 93–103.

65. Gottlieb K. The Nuka system of care: improving health through ownership and relationships. Int J Circumpolar Health. 2013;72. doi: 10.3402/ijch.v72i0.21118 (http://www.circumpolarhealthjournal.net/index.php/ijch/article/view/21118, accessed 16 February 2015).

66. Addicott R, Gottlieb K. Southcentral Foundation's Nuka system of care [video]. London: The King's Fund; 2015 (http://www.kingsfund.org.uk/audio-video/southcentral-foundations-nuka-system-care, accessed 16 February 2015).

67. Leys M, Rodriguez J. Case study. Promoting integrated, people-centred service delivery in Tupiza, Bolivia. Unpublished report. Washington DC: Pan American Health Organization; 2013.

68. Hansen PM, Peters DH, Niayesh H, Singh LP, Dwivedi V, Burnham G. Measuring and managing progress in the establishment of basic health services: the Afghanistan health sector balanced

scorecard. Int J Health Plann Manage. 2008; 23 (2):107–17.

69. Chassin MR, Loeb JM, Schmaltz SP, Wachter RM. Accountability measures: using measurement to promote quality improvement. N Engl J Med. 2010;363(7):683–8.

70. Delnoij DM, Rademakers JJ, Groenewegen PP. The Dutch consumer quality index: an example of stakeholder involvement in indicator development. BMC Health Serv Res. 2010;10:88.

71. Marshall MN, Shekelle PG, Davies HT, Smith PC. Public reporting on quality in the United States and the United Kingdom. Health Aff (Millwood). 2003;22(3):134–48.

72. Peters DH, Noor AA, Singh LP, Kakar FK, Hansen PM, Burnhama G. A balanced scorecard for health services in Afghanistan. Bull World Health Organ. 2007;85(2):146–51.

73. Edward A et al. Feasibility research on community scorecards in Afghanistan. Unpublished report. Baltimore MD: Johns Hopkins Bloomberg School of Public Health, Future Health Systems Consortium; 2013.

77. Best A, Greenhalgh T, Lewis S, Saul JE, Carroll S, Bitz J. Large-system transformation in health care: a realist review. Milbank Q. 2012. 90(3):421–56.

75. Martin-Misener R, Valaitis R, Wong ST, Macdonald M, Meagher-Stewart D, Kaczorowski J et al. A scoping literature review of collaboration between primary care and public health. Prim Health Care Res Dev. 2012;13(4):327–46.

76. Hall JE. Professionalizing action research: a meaningful strategy for modernizing services? J Nurs Manag. 2006;14(3):195–200.

77. Hildebrandt H, Hermann C, Knittel R, Richter-Reichhelm M, Siegel A, Witzenrath W. Gesundes Kinzigtal integrated care: improving population health by a shared health gain approach and a shared savings contract. International Journal of Integrated Care. 2010;10:ISSN 1568–4156.

78. Mills A, Brugha R, Hanson K, McPake B. What can be done about the private health sector in low-income countries? Bull World Health Organ. 2002;80:325–330.

79. Sandhu S, Veinot P, Embuldeniya G, Brooks S, Sale J, Huang S et al. Peer-to-peer mentoring for individuals with early inflammatory arthritis: feasibility pilot. BMJ Open. 2013; 3 (3):ii:e002267.

80. Sattoe JN, Jedeloo S, van Staa A. Effective peer-to-peer support for young people with end-stage renal disease: a mixed methods evaluation of Camp COOL. BMC Nephrol. 2013;14:279.

81. Sazawal S, Black RE. Effect of pneumonia case management on mortality in neonates, infants, and preschool children: a meta-analysis of community-based trials. Lancet Infect Dis. 2003;3(9):547–56.

82. Brumley RD, Enguidanos S, Cherin DA. Effectiveness of a home-based palliative care program for end-of-life. J Palliat Med. 2003; 6 (5): 715–24.

83. Zapart S, Kenny P, Hall J, Servis B, Wiley S. Home-based palliative care in Sydney, Australia: the carer's perspective on the provision of informal care. Health Soc Care Community. 2007;15 (2): 97–107.

84. Pongsupap Y. Family medicine and community orientation as a new approach to quality primary and person-centered care in Thailand. International Journal of Integrated Care. 2013; 3 (3): 243–247. ISSN 2043 7749.

85. Rechel B, McKee M. Health reform in central and eastern Europe and the former Soviet Union. Lancet. 2009; 374 (9696):1186–95.

86. Pallas SW, Minhas D, Pérez-Escamilla R, Taylor L, Curry L, Bradley EH. Community health workers in low- and middle-income countries: what do we know about scaling up and sustainability? Am J Public Health. 2013;103(7):e74–82

87. Haines A, Sanders D, Lehmann U, Rowe AK, Lawn JE, Jan S et al. Achieving child survival goals: potential contribution of community health workers. Lancet. 2007;369(9579):2121–31.

88. Lambdin BH, Micek MA, Sherr K, Gimbel S, Karagianis M, Lara J et al. Integration of HIV care and treatment in primary health care centers and patient retention in central Mozambique: a retrospective cohort study. J Acquir Immune Defic Syndr. 2013;62(5):e146–e152.

89. Piette J, Lun KC, Moura LA Jr, Fraser HS, Mechael PN, Powell J et al. Impacts of e-health on the outcomes of care in low-and middle-income countries: where do we go from here? Bull World Health Organ. 2012;90:365–372.

90. Snyder CF, Wu AW, Miller RS, Jensen RE, Bantug ET, Wolff AC. The role of informatics in promoting patient-centered care. The Cancer Journal. 2011;17(4):211–218.

91. Shojania KG, McDonald KM, Wachter RM, Owens DK. Closing the quality gap: a critical analysis of quality improvement strategies. Technical Reviews 9.1. Rockville, MD: Agency for Healthcare Research and Quality; 2004.

92. Van Houdt S, Heyrman J, Vanhaecht K, Sermeus W, De Lepeleire J. An in-depth analysis of theoretical frameworks for the study of care coordination. Int. J Integr Care. 2013;13:e024..

93. Hofmarcher MM, Oxley H, Rusticelli E. Improved health system performance through better care coordination. In: OECD health working paper 30.

Paris: Organisation for Economic Co-operation and Development; 2007.

94. Goodwin N, Sonola L, Thiel V, Kodner DL. Co-ordinated care for people with complex chronic conditions: key lessons and markers for success. London: The King's Fund; 2013.

95. Øvretveit J. Does clinical co-ordination improve quality and save money? London: The Health Foundation; 2011.

96. Singh D. Transforming chronic care: evidence about improving care for people with long-term conditions. Birmingham: University of Birmingham; 2005.

97. Ross S, Curry N, Goodwin N. Case management: what it is and how it can best be implemented. London: The King's Fund; 2011.

98. Naylor C, Imison C, Addicott R, Buck D, Goodwin N, Harrison T et al. Transforming our health care system: ten priorities for commissioners. London: The King's Fund; 2013.

99. Pimouguet C, Lavaud T, Dartigues JF, Helmer C. Dementia case management effectiveness on health care costs and resource utilization: a systematic review of randomized controlled trials. J Nutr Health Aging. 2010;14(8):669–76.

100. Allen D, Gillen E, Rixson L. Systematic review of the effectiveness of integrated care pathways: what works, for whom, in which circumstances? Int J Evid Based Healthc. 2009;7(2):61–74.

101. Leigheb F, Vanhaecht K, Sermeus W, Lodewijckx C, Deneckere S, Boonen S et al. The effect of care pathways for hip fractures: a systematic review. Calcif Tissue Int. 2012;91(1):1–14.

102. Kent P, Chalmers Y. A decade on: has the use of integrated care pathways made a difference in Lanarkshire? J Nurs Manag. 2006;14(7):508–20.

103. Ansari WE. When meanings blur, do differences matter? Initiatives for improving the quality and integration of care: conceptual matrix or measurement maze? Journal of Integrated Care. 2011;19(3):5–22.

104. Atun R, Bennett S, Duran A. When do stand alone (vertical) services have a place in health systems?, In: Permanend G, editor. Health systems and policy analysis. Copenhagen: WHO Regional Office for Europe 2008.

105. Lambdin BH, Micek MA, Sherr K, Gimbel S, Karagianis M, Lara J et al. Integration of HIV care and treatment in primary health care centers and patient retention in central Mozambique: a retrospective cohort study. J Acquir Immune Defic Syndr. 2013;62(5):e146–52.

106. Cheng K, Chan C, Wong R, Leung K, Mui J, Chui W et al. Integrated care pathway for the personalized care programme for patients with severe mental illness in Hong Kong. International Journal of Care Coordination. 2012;16(3):72–75.

107. Coordinated/integrated health services delivery (CIHSD): eastern Lithuanian cardiology programme. Unpublished report. Copenhagen: WHO Regional Office for Europe; 2014.

108. Tsouros A. City leadership for health and sustainable development: the World Health Organization European Healthy Cities Network. Health Promot Int. 2009; 24 (Suppl 1): i4–i10.

109. Moore S, Smith C, Simpson T, Minke SW. The influence of partnership centrality on organizational perceptions of support: a case study of the AHLN structure. BMC Health Serv Res. 2006; 6:141.

110. WHO traditional medicine strategy 2014–2023. Geneva: World Health Organization; 2013.

111. Bodeker G. Lessons on integration from the developing world's experience. BMJ. 2001; 322 (7279):164–7.

112. Chi C. Integrating traditional medicine into modern health care systems: examining the role of Chinese medicine in Taiwan. Soc Sci Med. 1994;39(3):307–21.

113. Engineer C, Aswani M, Bennett S, Peters D, Gundlach A-M. Change management across healthcare organizations: a structured rapid review. Baltimore MD: Johns Hopkins Bloomberg School of Public Health; 2014.

114. Poksinska B. The current state of Lean implementation in health care: literature review. Qual Manag Health Care. 2010;19 (4): 319–29.

115. Lawn S, Battersby M, Lindner H, Mathews R, Morris S, Wells L, et al. What skills do primary health care professionals need to provide effective self-management support? Seeking consumer perspectives. Australian Journal of Primary Health. 2009;15:37–44.

116. Baker DP, Gustafson S, Beaubien JM, Salas E, Barach P. Medical team training programs in health care. In: Henriksen K, Battles JB, Marks ES, Lewin DI, editors. Advances in patient safety: from research to implementation (volume 4: Programs, tools, and products). Rockville MD: Agency for Healthcare Research and Quality; 2005.

117. The world health report 2006. Working together for health. Geneva, World Health Organization, 2006.

118. Preparing a healthcare workforce for the 21st century: the challenge of chronic conditions. Geneva: World Health Organization; 2005.

119. Sistemas de salud basados en la atención primaria de salud: estrategias para el desarrollo de los equipos de APS. Washington DC: Organización Panamericana de la Salud; 2008.

120. Struijs JN, Baan CA. Integrating care through bundled payments: lessons from the Netherlands. N Engl J Med. 2011; 364(11):990–1.

121. Schrijvers G. Zorginnovatie volgens het cappuccinomodel. The Netherlands: Theoris; 2014.

122. Montenegro H, Ramagem C, Kawar R, Matheson D, Bengoa R, Fábrega Lacoa R et al. Making progress in people-centred care: country experiences and lessons learned. The International Journal of Person Centered Medicine. 2012; 2 (1):64–72.

123. Edgren L, Barnard K. Applying a complex adaptive systems approach to the management of integrated care. International Journal of Integrated Care. 2009; 9 (Suppl): e125.

124. Goodwin N. Understanding integrated care: a complex process, a fundamental principle. Int J Integr Care. 2013;13:e011.

125. Minkman MN. Developing integrated care. Towards a development model for integrated care. Thesis review. International Journal of Integrated Care. 2012;12:e197.

126. Valentijn PP, Schepman SM, Opheij W, Bruijnzeels MA. Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care. Int J Integr Care. 2013;13:e010.

127. Anderson D, Anderson, LA. Beyond change management: advanced strategies for today's transformational leaders. San Francisco, CA: Jossey-Bass; 2001.

128. Kezar AJ. Understanding and facilitating organizational change in the 21st century: recent research and conceptualizations. ASHE-ERIC higher education report 28(4). San Francisco, CA: Jossey-Bass; 2001.

129. Goodwin N. How do you build programmes of integrated care? The need to broaden our conceptual and empirical understanding. Int J Integr Care. 2013;13:e040.

130. Vargas I, Mogollón-Pérez AS, Unger JP, da-Silva MR, De Paepe P, Vázquez ML. Regional-based integrated healthcare network policy in Brazil: from formulation to practice. Health Pol Plan. 2014; Jun 23: ii: czu048 [Epub ahead of print].

131. Quality of care: a process for making strategic choices in health systems. Geneva: World Health Organization; 2006:14.

132. Raleigh V, Bardsley M, Smith P, Wistow G, Wittenberg R, Erens B et al. Integrated care and support pioneers: indicators for measuring the quality of integrated care. Final report. London: Policy Innovation Research Unit; 2014.

133. Description and outline of potential measures. Draft integrated performance and incentive framework (IPIF). New Zealand: Health Improvement and Innovation Resource Framework; 2013 (http://www.hiirc.org.nz/page/42610, accessed 16 February 2015).

134. NQF-endorsed measures for care coordination: phase 3, 2014. Draft report for comment, April 29, 2014. Washington DC: National Quality Forum; 2014 (http://www.apic.org/Resource_/TinyMceFileManager/Advocacy-PDFs/care_coordination_draft_report.pdf, accessed 16 February 2015).

135. McDonald KM, Schultz E, Albin L, Pineda N, Lonhart J, Sundaram V et al. Care coordination atlas version 3. Rockville, MD: Agency for Healthcare Research and Quality; 2010.

136. Kelley E, Hurst J. Health care quality indicators project: conceptual framework paper. In: OECD health working papers 23. Paris: Organisation for Economic Co-operation and Development; 2006.

137. Strandberg-Larsen M, Krasnik A. Measurement of integrated healthcare delivery: a systematic review of methods and future research directions. Int J Integr Care. 2009; 9:e01.

138. Terner M, D'Silva J, Tipper B, Krylova O, Webster G. Assessing primary healthcare using pan-Canadian indicators of health and health system performance. Healthc Q. 2013;16(2):9–12.

139. Oxman A, Thomson M, Davis D, Haynes R. No magic bullets: a systematic review of 102 trials of interventions to improve professional practice. CMAJ. 1995;153(10):1423–1431.

140. Boaden R, Harvey G, Moxham C, Proudlove N. Quality improvement: theory and practice in healthcare. Coventry: NHS Institute for Innovation and Improvement; 2008.

141. Walshe K, Freeman T. Effectiveness of quality improvement: learning from evaluations. Qual Saf Health Care. 2002;11:85–87.

142. Bero L, Grilli R, Grimshaw JM, Harvey E, Oxman AD, editors. Effective professional practice and organisation of care module. Cochrane Database of Systematic Reviews. The Cochrane Library. The Cochrane Collaboration; Issue 4. Oxford: Update Software; 1997.

143. Sherr K, Cuembelo F, Michel C, Gimbel S, Micek M, Kariaganis M, et al. Strengthening integrated primary health care in Sofala, Mozambique. BMC Health Serv Res. 2013; 13 (Suppl 2): S4.

Annex 1. Glossary of key terms

Accountability: the obligation to report, or give account of, one's actions – for example, to a governing authority through scrutiny, contract, management, regulation and/or to an electorate

Ambulatory care sensitive conditions: chronic conditions for which it is possible to prevent acute exacerbations and reduce the need for hospital admission through active management in primary care settings – for example, vaccination, screening, self-management and lifestyle intervention

Amenable morbidity: disease state or the incidence of illness in people and communities considered avoidable by health care interventions

Amenable mortality: deaths considered avoidable by health care interventions

Care coordination: a proactive approach in bringing care professionals and providers together around the needs of service users to ensure that people receive integrated and person-focused care across various settings

Case management: a targeted, community-based and proactive approach to care that involves case-finding, assessment, care planning and care coordination to integrate services around the needs of people with long-term conditions

Change management: an approach to transitioning individuals, teams, organizations and systems to a desired future state

Collaborative care: care that brings together professionals and/or organizations to work in partnership with people to achieve a common purpose

Community health worker: people who provide health and medical care to members of their local community, often in partnership with health professionals. Alternatively known as a: village health worker; community health aide/promoter; lay health advisor; expert patient; and/or community volunteer

Continuity of care: the degree to which a series of discrete health care events is experienced by people as coherent and interconnected over time, and consistent with their health needs and preferences

Continuous care: care that is provided to people over time across their life course

Co-production of health: care that is delivered in an equal and reciprocal relationship between professionals, people using care services, their families and the communities to which they belong. Co-production implies a long-term relationship between people, providers and health systems where information, decision-making and service delivery become shared

Chronic care: medical care which addresses the needs of people with pre-existing or long-term illnesses

Disease management: a system of coordinated health care interventions and communications to populations with conditions in which people's self-care efforts are significant to managing their health

E-health: information and communication technologies that support the remote management of people and communities with a range of health care needs through supporting self-care and enabling electronic communications between health care professionals and patients

Empowerment: the process of supporting people and communities to take control of their own health needs resulting, for example, in the uptake of healthier behaviours or the ability to self-manage illnesses

Engagement: involving people and communities in the design, planning and delivery of health services that, for example, enable them to make choices about care and treatment options or to participate in strategic decision-making on how health resources be spent

Goal-oriented care: each individual is encouraged to achieve the highest possible level of health as defined by that individual

High quality care: care that is safe, effective, people-centred, timely, efficient, equitable and integrated

Holistic care: care to the "whole person" that considers psychological, social and environmental factors rather than just the symptoms of disease or ill-health

Indicators: explicitly defined and measurable items which help to assess the structure, process or outcomes of care

Integrated health services: the management and delivery of health services such that people receive a continuum of health promotion, disease prevention, diagnosis, treatment, disease-management, rehabilitation and palliative care services, through the different levels and sites of care within the health system, and according to their needs throughout the life course

Intersectoral action: the inclusion of several sectors, in addition to health, when designing and implementing public policies that seek to improve health care and quality of life

Mutual (shared) accountability: the process by which two (or multiple) partners agree to be held responsible for the commitments that they have made to each other

Noncommunicable disease: a medical condition or disease which is non-infectious and non-transmissible among people

People-centred care: an approach to care that consciously adopts individuals', carers', families' and communities' perspectives as participants in, and beneficiaries of, trusted health systems that respond to their needs and preferences in humane and holistic ways. People-centred care also requires that people have the education and support they need to make decisions and participate in their own care. It is organized around the health needs and expectations of people rather than diseases

Person-centred care: care approaches and practices that see the person as a whole with many levels of needs and goals, with these needs coming from their own personal social determinants of health

Population health: an approach to health care that seeks to improve the health outcomes of a group of individuals, including the distribution of such outcomes within the group

Primary care: a key process in the health system that supports first-contact, accessible, continued, comprehensive and coordinated care to people and communities

Primary health care: refers to the concept elaborated in the 1978 Declaration of Alma-Ata, which is based on the principles of equity, participation, intersectoral action, appropriate technology and a central role played by the health system

Stewardship: an ethical responsibility for the effective planning and management of health resources to safeguard equity, population health and well-being

Supported self-care: individuals, families and communities are supported and empowered to take responsibility to manage their own health and well-being

Transformational change: a complete paradigm shift in the underlying strategies, cultures and processes within which a system operates in order to bring about significant and enduring improvements

Universal health coverage: ensuring that all people have access to needed promotive, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship

Vertical programmes: focused on people and populations with specific (single) health conditions, vertical programmes have three core components: intervention strategies, monitoring and evaluation, and intervention delivery

Whole-system thinking: the process of understanding how things, regarded as systems, influence one another within a whole

Annex 2. Selected evidence of the positive benefits of different strategies to support people-centred and integrated health services

Empowering and engaging individuals and families

Type of intervention	Evidence of positive benefits
Health education programmes	**Educational packages and lifestyle programmes** Increase in physical activity and fitness *(1,2,3)* Decrease in body mass index and blood pressure *(4)* Smoking cessation *(5,6,7,8)* Better management of coronary heart disease *(9)* Improved control of diabetes and its complications and more cost-effective care provision *(10)* **Targeted educational programmes with professional or lay support** Improved self-management of physical activity through goal-setting *(1)* Improved engagement with people suffering from depression *(11)* Improved management of stroke and associated mood and depression *(12)* Computer-based education programmes across a range of conditions *(13)* **Lay, parental and family-led advice and support** Parental involvement and behaviour change techniques help control childhood obesity *(14)* Lay health workers help increase uptake of childhood immunizations *(15)* Counselling amongst peers can support a range of benefits including uptake of screening in cancer patients *(16)*, testing for sexually transmitted infections (STIs) *(17)* Outreach to patients and families can reduce health care utilization *(18,19)* **Telephone reminders, counselling and e-learning** Ability to reduce all-cause mortality in people with chronic heart failure *(20)* Improved diagnostic accuracy, reduced wait times and improved patient satisfaction through teledermatology *(21)* Online therapeutic intervention can help to improve and control disease symptoms *(22)* and health behaviours *(23)*
Shared decision-making	**Shared decision-making with health professionals** Improves people's satisfaction with care *(24,25)* Promotes greater independence and knowledge in people of their conditions *(25,26)* Supports more appropriate treatments and enables resources to be better allocated to needs *(24,26)* Reduces misdiagnosis and improves referral quality *(27)* **Decision support aids (e.g. leaflets, videos, point of care information)** Assists people with shared decision-making with professionals by increasing knowledge *(28)*, and facilitating choices, for example in pregnant women *(29)*, cancer care *(30)* and in emergency care *(31)* **Health coaching** Coaching sessions and tools are effective in developing active participation in self-care strategies, though not all people value the approach *(32,33,34)*

Type of intervention	Evidence of positive benefits
Shared decision-making	**Giving people access to their medical records** Helps to improve satisfaction with care and support people to feel more in control of their health so reducing anxiety *(35, 36, 37)*
Supporting self-management	**Supported self-management to people with long-term conditions** Improvements in health literacy and understanding of conditions *(38)* Greater motivation to self-manage *(39, 40)* Ability to reduce the severity of symptoms, reduce stress and better manage chronic illness independently *(40, 41, 42, 43)* including for HIV/AIDS *(44)* Ability to reduce emergency admissions and overall utilization of hospital care *(41, 45, 46)* Ability to take up healthy behaviours, such as better diet and exercise *(38)* **Lay-led self-management courses** Improvements in self-efficacy, physical activity and depression scores *(47)*, though potentially in short-term only *(48)* **Interactive online self-management programmes and telehealth** Information websites enable improvement in decision-making skills *(49)* Computer-based self-management programmes can be effective for a range of conditions *(50)* such as diabetes *(51)* and computerized cognitive behaviour therapy Reviews of telehealth and telecare show they can improve the self-management of long-term conditions, clinical effectiveness of care, and user/carer experiences *(52)*
Personal care assessments and planning	Comprehensive and holistic assessments of needs, including the development of personalized care plans, have been associated with greater patient satisfaction, improved care coordination and reduced cost of care in older people and those with complex care needs *(53,54)*

Empowering and engaging communities

Type of intervention	Evidence of positive benefits
Community engagement	**Community participation** Community participation in planning and goal setting is a key factor in supporting health improvements *(55)*, for example in: • the control of infectious disease • reducing maternal deaths and improved birth outcomes *(56)* • enabling better health seeking behaviours *(57,58)* • improving quality of life by promoting healthy environments through improvements to housing and crime, and building social cohesion *(59)* Community involvement in the planning and design of health interventions can support more responsive providers – for example, in Bangladesh, Nepal, Papua New Guinea and Thailand *(60)* Multifaceted interventions across schools, community groups, community centres and in people's homes can help to raise awareness and increase people's access to care *(61)* **Community awareness** Interventions that support education and awareness with participatory groups can improve health outcomes, for example in the proportion of healthy births through women's groups *(62)* Culturally-appropriate programmes of care can help raise awareness to tackle health problems such as alcohol, substance misuse, obesity and chronic disease, e.g. *(63)*

Empowering and engaging communities

Type of intervention	Evidence of positive benefits
Community-delivered care	The use of community health workers can increase the acceptability of services to local communities *(64)* and support improved identification of people with diseases such as tuberculosis (TB) The role of community health workers has been reported to improve a range of care outcomes, for example: • reductions in child mortality through case management of ill children *(65)*; • maternal and infant wellbeing *(66)* • prescriptions management *(67)* Culturally-sensitive programmes of care (e.g. by race and/or gender) can help to increase access to care, improve care experiences and improve outcomes, e.g. *(47, 63, 68, 69, 70)* Pregnant women receiving coordinated care from community midwives are significantly less likely to suffer from fetal loss and analgesia, more likely to have safer births without the needs for instruments or episiotomy, and more likely to initiate breastfeeding *(71)* Members of the local community should be seen as integral to the care-giving process. Building community awareness and trust promotes legitimacy and engagement, which can provide an essential resource within care coordination programmes *(54)*
Supporting community development	Creating social networks and social integration can help to engage to improve health services delivery in the face of economic problems and other adversity *(72)*

Promoting governance and accountability

Type of intervention	Evidence of positive benefits
Listening to the voice of local communities	Patient reported outcomes can improve relationships between patients and providers and support improved clinical quality of care including the diagnosis and management of people's conditions *(73, 74, 75)* Interventions that seek to improve the satisfaction of people in patient surveys can lead to positive changes in care provision leading to better clinical outcomes, patient safety and reduced utilization of unnecessary resources *(76)* Community consultations, for example through committees and participatory groups, can have a range of positive influences including: • care that is more responsive to community needs *(77, 60)* • improved provider behaviour and better access to care *(60)*
Providing information	Communities armed with information are better able at influencing providers in making care more people-centred *(60)* Information helps educates people on their rights and responsibilities to health care – for example by promoting solidarity for universal health coverage and the promotion of insurance coverage *(78)*
Patient charters	Patient charters enshrine the rights and responsibilities of citizens to health care and what they should expect to receive. They have the power to improve the quality of care and drive positive system change *(79)*

Reorienting the model of health care

Type of intervention	Evidence of positive benefits
Primary health care	Investment in extending services available in primary health care has been associated with a range of positive benefits, for example: • improved access to care and enhanced equity *(80)* • reduction in child mortality, e.g. *(81)* • reduced use of the hospital sector through improved disease prevention and control, e.g. *(82)* • reduced health care costs per capita, e.g. *(83, 84)* Longer consultations in primary care are associated with better outcomes *(85)*
Community-based multi-disciplinary teams	Multidisciplinary teams of doctors, nurses and other professions such as health workers is associated with many benefits, for example: • Improved staff morale and job satisfaction *(86, 87)* • Improved communication and efficiency in the use of resources *(86)* • Greater satisfaction with quality of care in health clinics when care is provided by a team of professionals *(88)* • Better outcomes for patients through reduced medical errors and adverse events *(89, 90)* • Improved workloads and reduced burnout *(91)* • Improved decision-making and social justice *(87)*
Outreach services	Outreach services can help to provide access to a range of services to remote and marginalized communities *(92, 93, 94)* M-health technologies can overcome barriers of distance and language to support care in remote and rural communities *(95)*
Community-based rehabilitation	Community-based rehabilitation services have shown to be effective in supporting people with a range of physical health problems, including: • enabling stroke patients to live independently at home *(96)* • reducing mortality for heart failure patients through cardiac rehabilitation *(97, 98)* • reducing pain and improving function in people with chronic back pain *(99)*
Integrated health promotion and disease management	Combining top-down strategies of health promotion (e.g. taxes and media campaigns) with bottom-up strategies for disease management and/or behavioural change can be effective, for example in smoking cessation and the management of people with long term conditions *(100, 101)*
Integrated mental and physical care	The cost of managing people with mental and physical co-morbidities can be significantly reduced, and the quality of care improved, through strategies to integrate mental and physical health care provision in primary and community care settings *(103)*

Coordination of care between health care professionals and providers

Type of intervention	**Evidence of positive benefits**
Vertical integration between primary and specialist care	Greater care coordination between the primary and hospital care sectors has been shown to be associated with a range of benefits including: • reduced hospital admissions • reduced lengths of stay • reduced readmissions rates • improvements in recovery • improvement in quality of life e.g. *(102, 104, 105, 106)*
Integrating vertical programmes of care	Evidence suggests that integrating vertical programmes of care enables improved access to care, greater community satisfaction and improved health outcomes *(107)*. Examples include: • increased accessibility to HIV clinics leading to an improved uptake of antiretroviral drugs *(108)* • integrated TB and HIV programmes have improved access to care, prevention, treatment and outcomes, e.g. *(109)* • integrated STI and HIV prevention programmes in sub-Saharan Africa showed improvements in the quality of family planning *(110)* • integrated family planning and HIV care increased the use of condom use in Kenya *(111, 112)* • the creation of the *Sistema Unico de Salud* in Brazil resulted in significant reductions in infant mortality, diarrhoea incidence amongst children, hospitalizations for strokes and acute respiratory infections between 1990 and 2002 *(113)*

References

1. Ashford S, Edmunds J, French DP. What is the best way to change self-efficacy to promote lifestyle and recreational physical activity? A systematic review with meta-analysis. Br J Health Psychol. 2010; 15 (2): 265–288.
2. Bravata DM, Smith-Spangler C, Sundaram V, Gienger AL, Lin N, Lewis R, Stave CD, Olkin I, Sirard JR. Using pedometers to increase physical activity and improve health - a systematic review. JAMA. 2007; 298 (19): 2296–2304.
3. Sorensen JB, Skovgaard T, Puggaard L. Exercise on prescription in general practice: a systematic review. Scand J Prim Health Care. 2006; 24 (2): 69–74.
4. Eakin EG, Bull SS, Glasgow RE, Mason M. Reaching those most in need: a review of diabetes self-management interventions in disadvantaged populations. Diabetes Metab Res Rev. 2002; 18 (1): 26–35.
5. Walters ST, Wright JA, Shegog R. A review of computer and Internet-based interventions for smoking behavior. Addict Behav. 2006; 31 (2): 264–277.
6. Coleman T, Agboola S, Leonardi-Bee J, Taylor M, McEwen A, McNeill A. Relapse prevention in UK Stop Smoking Services: current practice, systematic reviews of effectiveness and cost-effectiveness analysis. Health Technol Assess. 2010;14 (49):1–152.
7. Kerr S, Lawrence M, Darbyshire C, Middleton AR, Fitzsimmons L. Tobacco and alcohol-related interventions for people with mild/moderate intellectual disabilities: a systematic review of the literature. J Intellect Disabil Res. 2013; 57 (5): 393–408.
8. Stead LF, Hartmann-Boyce J, Perera R, Lancaster T. Telephone counselling for smoking cessation. Cochrane Database Syst Rev. 2013; 8: CD002850.
9. Brown JP, Clark AM, Dalal H, Welch K, Taylor RS. Effect of patient education in the management of coronary heart disease: a systematic review and meta-analysis of randomized controlled trials. Eur J Prev Cardiol. 2013; 20 (4): 701–714
10. Li R, Zhang P, Barker LE, Chowdhury FM, Zhang X. Cost-effectiveness of interventions to prevent and control diabetes mellitus: a systematic review. Diabetes Care. 2010;33(8):1872–1894.
11. Interian A, Lewis-Fernández R, Dixon LB. Improving treatment engagement of underserved U.S. racial-ethnic groups: a review of recent interventions. Psychiatr Serv. 2013; 64 (3): 212–222.
12. Smith J, Forster A, House A, Knapp P, Wright J, Young J. Information provision for stroke patients and their caregivers. Cochrane Database Syst Rev. 2008; (2): CD001919.
13. Fox MP. A systematic review of the literature reporting on studies that examined the impact of interactive, computer-based patient education programs. Patient Educ Couns. 2009; 77 (1): 6–13.
14. Van der Kruk JJ, Kortekaas F, Lucas C, Jager-Wittenaar H. Obesity: a systematic review on parental involvement in long-term European childhood weight control interventions with a nutritional focus. Health Promot Int. 2012; 27 (2): 238–49.
15. Glenton C, Scheel IB, Lewin S, Swingler GH. Can lay health workers increase the uptake of childhood immunisation? Systematic review and typology. Trop Med Int Health. 2011;16 (9): 1044–1053.22.
16. Hou SI, Sealy DA, Kabiru CW. Closing the disparity gap: cancer screening interventions among Asians–a systematic literature review. Asian Pac J Cancer Prev. 2011;12 (11): 3133–3139.
17. Lorenc T, Marrero-Guillam½n I, Aggleton P, Cooper C, Llewellyn A, Lehmann A, Lindsay C. Promoting the uptake of HIV testing among men who have sex with men: systematic review of effectiveness and cost-effectiveness. Sex Transm Infect. 2011; 87 (4): 272–278.
18. Arksey H, O'Malley L, Baldwin S, Harris J, Mason A, Golder S. Services to support carers of people with mental health problems. London: National Coordinating Centre for NHS Service Delivery and Organisation; 2002.

19. Fawole OA, Dy SM, Wilson RF, Lau BD, Martinez KA, Apostol CC, et al. A systematic review of communication quality improvement interventions for patients with advanced and serious illness. J Gen Intern Med. 2013; 28 (4): 570–577.
20. Clark RA, Inglis SC, McAlister FA, Cleland JGF, Stewart S. Telemonitoring or structured telephone support programs for patients with chronic heart failure: systematic review and meta-analysis. BMJ. 2007; 334 (7600): 942.
21. Deshpande A, Khoja S, Lorca J, McKibbon A, Rizo C, Jadad AR. Asynchronous telehealth: systematic review of analytic studies and environmental scan of relevant initiatives. Ottawa: Canadian Agency for Drugs and Technologies in Health, 2008.
22. Beatty L, Lambert S. A systematic review of internet-based self-help therapeutic interventions to improve distress and disease-control among adults with chronic health conditions. Clin Psychol Rev. 2013; 33 (4): 609–622.
23. Wantland DJ, Portillo CJ, Holzemer WL, Slaughter R, McGhee EM. The effectiveness of web-based vs. non-web-based interventions: a meta-analysis of behavioral change outcomes. J Med Internet Res. 2004 Nov 10; 6 (4): e40.
24. Coulter A. Do patients want a choice and does it work? BMJ. 2010; 341: c4989.
25. Helping people share decision making. London: the Health Foundation; 2012.
26. Alakeson V. Active patient: the case for self-direction in health care. Policy paper. Birmingham: The Centre for Welfare Reform and Health Services Management Centre, University of Birmingham; 2011.
27. Mulley A, Trimble C, Elwyn G. Patients' preferences matter: stop the silent misdiagnosis. London: The King's Fund; 2012.
28. Leatherman S, Warrick L. Effectiveness of decision aids: A review of the evidence. Med Care Res Rev. 2008; 65 (6 Suppl): 79S–116S.
29. Dugas M, Shorten A, Dubé E, Wassef M, Bujold E, Chaillet N. Decision aid tools to support women's decision making in pregnancy and birth: a systematic review and meta-analysis. Soc Sci Med. 2012; 74 (12): 1968–1978
30. O'Brien MA, Whelan TJ, Villasis-Keever M, Gafni A, Charles C, Roberts R, et al. Are cancer-related decision aids effective? A systematic review and meta-analysis. J Clin Oncol. 2009; 27 (6): 974–985.
31. Flynn D, Knoedler MA, Hess EP, Murad MH, Erwin PJ, Montori VM, et al. Engaging patients in health care decisions in the emergency department through shared decision-making: a systematic review. Acad Emerg Med. 2012 Aug; 19 (8): 959-67.
32. Hunt JD, Griffin M, Hall R, Doherty SE. Peer coaching: an intervention for individuals struggling with diabetes. Diabetes Educator. 2001; 27: 703–710.
33. Gaston CM, Mitchell G. Information giving and decision-making in patients with advanced cancer: a systematic review. Soc Sci Med. 2005; 61 (10): 2252–2264.
34. Wetzels R, Harmsen M, Van Weel C, Grol R, Wensing M. Interventions for improving older patients' involvement in primary care episodes. Cochrane Database Syst Rev. 2007; (1): CD004273.
35. Rowe RE, Garcia J, Macfarlane AJ, Davidson LL. Improving communication between health professionals and women in maternity care: a structured review. Health Expect. 2002; 5 (1): 63–83.
36. Brown HC, Smith HJ. Giving women their own case notes to carry during pregnancy. Cochrane Database Syst Rev 2004; (2): CD002856.
37. Pitkethly M, MacGillivray S, Ryan R. Recordings or summaries of consultations for people with cancer. Cochrane Database Syst Rev. 2008; (3): CD001539.
38. De Silva D. Helping people help themselves: a review of the evidence considering whether it is worthwhile to support self-management. London: The Health Foundation; 2011.
39. Wallace LM, Turner A, Kosmala-Anderson J, Sharma S, Jesuthasan J, Bourne C et al. Co-creating health: evaluation of first phase. An independent evaluation of the Health Foundation's Co-creating Health improvement programme. London: The Health Foundation; 2012.
40. Boyers D, McNamee P, Clarke A, Jones D, Martin D, Schofield P et al. Cost-effectiveness of self-management methods for the treatment of chronic pain in an aging adult population: a systematic review of the literature. Clin J Pain. 2013; 29 (4): 366–75
41. Sheridan SL, Halpern DJ, Viera AJ, Berkman ND, Donahue KE, Crotty K. Interventions for individuals with low health literacy: a systematic review. J Health Commun. 2011;16 (Suppl 3): 30–54.
42. Brady TJ, Murphy L, O'Colmain BJ, Beauchesne D, Daniels B, Greenberg M, et al. A meta-analysis of health status, health behaviors, and healthcare utilization outcomes of the chronic disease self-management program. Prev Chronic Dis. 2013; 10: 120112.
43. Brennan A, Browne JP, Horgan M. A systematic review of health service interventions to improve linkage with or retention in HIV care. AIDS Care 2014; 26 (7): 804-12.

44. Millard T, Elliott J, Girdler S. Self-management education programs for people living with HIV/AIDS: a systematic review. AIDS Patient Care STDS. 2013; 27 (2): 103–113.
45. Bodenheimer T, Lorig K, Holman H, Grumbach K. Patient self-management of chronic disease in primary care. JAMA. 2002; 288 (19): 2469–75.
46. Wolf F, Guevara J, Grum C, Clark N, Cates C. Educational interventions for asthma in children. Cochrane Database Syst Rev. 2003; (1): CD000326. Review.
47. Henderson S, Kendall E, See L. The effectiveness of culturally appropriate interventions to manage or prevent chronic disease in culturally and linguistically diverse communities: a systematic literature review. Health Soc Care Community. 2011; 19 (3): 225–249.
48. Foster G, Taylor SJC, Eldridge SE, Ramsay J, Griffiths CJ. Self-management education programmes by lay leaders for people with chronic conditions. Cochrane Database Syst Rev. 2007; (4): CD005108.
49. Gremeaux V, Coudeyre E. The Internet and the therapeutic education of patients: A systematic review of the literature. Ann Phys Rehabil Med. 2010; 53 (10): 669–692.
50. McDermott MS, While AE. Maximizing the healthcare environment: a systematic review exploring the potential of computer technology to promote self-management of chronic illness in healthcare settings. Patient Educ Couns. 2013; 92 (1):13–22.
51. Hind D, Cotter J, Thake A, Bradburn M, Cooper C, Isaac C et al. Cognitive behavioural therapy for the treatment of depression in people with multiple sclerosis: a systematic review and meta-analysis. BMC Psychiatry. 2014; 14:5.
52. Royer S, Goodwin N. What impact does telehealth have on long-term conditions management [Prezi presentation]. London: The King's Fund; 2012.
53. Ellis G, Whitehead MA, Robinson D, O'Neill D, Langhorne P. Comprehensive geriatric assessment for older adults admitted to hospital: meta-analysis of randomised controlled trials. BMJ. 2011; 343: d6553.
54. Goodwin N, Dixon A, Anderson G, Wodchis W. Providing integrated care for older people with complex needs: lessons from seven international case studies. The London: The King's Fund; 2014.
55. Rifkin S. Examining the links between community participation and health outcomes: a review of the literature. Health Pol Plan. 2014; 29 (Suppl 2) ii98–ii106.
56. Prost A, Colbourn T, Seward N, Azad K, Coomarasamy A, Copas A et al. Women's groups practising participatory learning and action to improve maternal and newborn health in low-resource settings: a systematic review and meta-analysis. Lancet. 2013; 381 (9879): 1736–46.
57. Anuruang S1, Hickman LD, Jackson D, Dharmendra T, Van Balen J, Davidson PM Community-based interventions to promote management for older people: an integrative review. J Clin Nurs. 2014 Aug; 23 (15–16): 2110–20.
58. Attree at al. The experience of community engagement for individuals: a rapid review of evidence. Health Soc Care Community. 2011; 19 (3): 250–60.
59. Attree P, French B, Milton B, Povall S, Whitehead M, Popay J. The experience of community engagement for individuals: a rapid review of evidence. Health Soc Care Community. 2011; 19 (3): 250–60.
60. Berlan D, Shiffman J. Holding health providers in developing countries accountable to consumers: a synthesis of relevant scholarship. Health Policy Plan. 2012; 27 (4): 271–280.
61. Ganann R, Fitzpatrick-Lewis D, Ciliska D, Peirson L. Community-based interventions for enhancing access to or consumption of fruit and vegetables among five to 18-year olds: a scoping review. BMC Public Health. 2012; 12: 711.
62. Manandhar DS, Osrin D, Shrestha BP, Mesko N, Morrison J, Tumbahangphe KM et al. Effect of participatory intervention with women's groups on birth outcomes in Nepal: cluster-randomised controlled trial. The Lancet. 2004; 364: 970–9.
63. Renzaho 2010 missing. Renzaho AMN, Romios P, Crock C, SΩnderlund L. The effectiveness of cultural competence programs in ethnic minority patient centered health care: a systematic review of the literature. Int J Qual Health Care. 2013; 25 (3): 261–269.
64. Gender, women and primary health care renewal: a discussion paper. Geneva: World Health Organization; 2010.
65. Haines A, Sanders D, Lehmann U, Rowe AK, Lawn JE, Jan S, et al. 2007. Achieving child survival goals: potential contribution of community health workers. The Lancet. 2007; 369: 2121–31.
66. Le Roux IM, Tomlinson M, Harwood JM, O'Connor MJ, Worthman CM, Mbewu N et al. Outcomes of home visits for pregnant mothers and their infants: a cluster randomized controlled trial. AIDS. 2013; 27 (9): 1461–71.
67. Mash R, Levitt NS, Van Vuuren U, Martell R. Improving the annual review of diabetic patients in primary care: an appreciative inquiry in the Cape Town District Health Services. South African Family Practice. 2008; 50 (5).
68. Jefferson L, Bloor K, Birks Y, Hewitt C, Bland M. Effect of physicians' gender on communication

and consultation length: a systematic review and meta-analysis. J Health Serv Res Policy. 2013; 18 (4): 242–248.

69. Hall JA, Blanch-Hartigan D, Roter DL. Patients' satisfaction with male versus female physicians: a meta-analysis. Med Care. 2011; 49 (7): 611–617.

70. Janssen SM, Lagro-Janssen AL. Physician's gender, communication style, patient preferences and patient satisfaction in gynecology and obstetrics: a systematic review. Patient Educ Couns. 2012; 89 (2): 221–226.

71. Sandall J, Devane D, Soltani H, Hatem M, Gates S. Improving quality and safety in maternity care: the contribution of midwife-led care. J Midwifery Women's Health. 2010; 55 (3): 255–61.

72. Working with communities, developing communities: guidance for primary care. London: RCGP Centre for Commissioning; 2013.

73. Chen J. Public reporting improves healthcare. Sydney: Bureau of Health Information; 2010.

74. Chen J, Ou L, Hollis SJ. A systematic review of the impact of routine collection of patient reported outcome measures on patients, providers and health organisations in an oncologic setting. BMC Health Serv Res. 2013;13: 211.

75. Haywood K, Marshall S, Fitzpatrick R. Patient participation in the consultation process: A structured review of intervention strategies. Patient Educ Couns. 2006; 63 (1–2): 12–23.

76. Davies E, Shaller D, Edgman-Levitan S, Safran DG, Oftedahl G, Sakowski J et al. Evaluating the use of a modified CAHPS survey to support improvements in patient-centred care: lessons from a quality improvement collaborative. Health Expect. 2008;11 (2):160–76.

77. Ramiro LS, Castillo FA, Tan-Torres T, Torres CE, Tayag JG, Talampas RG et al. Community participation in local health boards in a decentralized setting: cases from the Philippines. Health Policy Plan. 2001; 16 (Suppl 2): 61–9.

78. Khan J, Ahmed S. Impact of educational intervention on willingness-to-pay for health insurance: a study of informal sector workers in urban Bangladesh. Health Econ Rev. 2013; 3:12.

79. Flood CM, May K. A patient charter of rights: how to avoid a toothless tiger and achieve system improvement. CMAJ. 2012; 184 (14):1583.

80. Browne A, Varcoe CM, Wong ST, Smye VL, Lavoie J, Littlejohn D et al. Closing the health equity gap: evidence-based strategies for primary health care organizations. Int J Equity Health. 2012;11: 59.

81. Kruk ME, Porignon D, Rockers PC, Van Lerberghe W. The contribution of primary care to health and health systems in low- and middle-income countries: a critical review of major primary care initiatives. Soc Sci Med. 2010; 70 (6): 904–11.

82. Ibraimova, A, et al. Kyrgyzstan: health system review. Health Systems in Transition. 2011;13 (3).

83. Briggs CJ, Garner P. Strategies for integrating primary health services in middle- and low-income countries at the point of delivery. Cochrane Database Syst Rev. 2006; 2: CD003318.

84. Tatara K, Okamoto E. Health system review. Health Systems in Transition. 2009;11 (5).

85. Wilson A, Childs S. The relationship between consultation length, process and outcomes in general practice: a systematic review. Br J Gen Pract. 2002; 52 (485): 1012–1020.

86. Adams A, Bond S. Hospital nurses' job satisfaction, individual and organizational characteristics. Journal of Advanced Nursing. 2001; 32 (3): 536–543.

87. Esty K, Griffin R, Schorr-Hirsh M. Workplace diversity: a managers guide to solving problems and turning diversity into a competitive advantage. Avon, MA: Adams Media Corporation; 1995.

88. Vo BN, Cohen CR, Smith RM, Bukusi EA, Onono M, Doolan K et al. Patient satisfaction with integrated HIV and antenatal care services in rural Kenya. AIDS Care. 2012; 24 (11): 1442–1447.

89. Clements D, Dault M, Priest A. Effective teamwork in healthcare: research and reality. Healthc Pap. 2007; 7 (Spec No): 26–34.

90. Estryn-Béhar M, Van der Heijden BI, Ogińska H, Camerino D, Le Nézet O, Conway PM et al. The impact of social work environment, teamwork characteristics, burnout, and personal factors upon intent to leave among European nurses. Medical Care. 2007; 45 (10): 939–50.

91. Mickan SM, Rodger SA. Effective health care teams: a model of six characteristics developed from shared perceptions. J Interprof Care. 2005;19 (4): 358–70.

92. Gruen RL, Weeramanthri TS, Bailie RS. Outreach and improved access to specialist services for indigenous people in remote Australia: the requirements for sustainability. J Epidemiol Community Health. 2002; 56 (7): 517–521.

93. Pradhan N, Ryman TK, Varkey S, Ranjan A, Gupta SK, Krishna G, et al. Expanding and improving urban outreach immunization in Patna, India. Tropical Med Int Health. 2012; 17 (3): 292–299.

94. Fairall LR, Zwarenstein M, Bateman ED, Bachmann M, Lombard C, Majara BP, et al. Effect of educational outreach to nurses on tuberculosis case detection and primary care of respiratory illness: pragmatic cluster randomised controlled trial. BMJ. 2005; 331 (7519): 750–754.

95. Piette J Lun KC, Moura LA Jr, Fraser HS, Mechael PN, Powell J, et al. Impacts of e-health on the outcomes of care in low-and middle-income countries: where do we go from here? Bull World Health Organ. 2012; 90: 365–372.

96. Outpatient service trialists. Therapy-based rehabilitation services for stroke patients at home. Cochrane Database Syst Rev. 2003; 1: CD002925.

97. Jolliffe J, Rees K, Taylor RRS, Thompson DR, Oldridge N, Ebrahim S. Exercise-based rehabilitation for coronary heart disease. Cochrane Database Syst Rev. 2001; 1: CD001800.

98. Oldridge NB, Guyatt GH, Fischer ME, Rimm AA. Cardiac rehabilitation after myocardial infarction: combined experience of randomized clinical trials. JAMA. 1988; 260: 945–950.

99. Guzmán J, Esmail R, Karjalainen K, Malmivaara A, Irvin E, Bombardier C. Multidisciplinary bio-psycho-social rehabilitation for chronic low back pain. Cochrane Database Syst Rev. 2002; (1): CD000963.

100. Higashi H, Khuong TA, Ngo AD, Hill PS. 2011 Population-level approaches to universal health coverage in resource-poor settings: Lessons from tobacco control policy in Vietnam. MEDICC Review 13 (3): 39–42.

101. Hodgson I, Nakiyemba A, Seeley J, Bitira D, Gitau-Mburu D. et al. Only connect—the role of PLHIV group networks in increasing the effectiveness of Ugandan HIV services. AIDS Care. 2012; 24 (11):1368–74.

102. Nguyen QN, Pham ST, Nguyen VL, Wall S, Weinehall L, Bonita R, et al. Implementing a hypertension management programme in a rural area: local approaches and experiences from Ba-Vi district, Vietnam. BMC Public Health. 2011; 11: 325.

103. Nguyen QN, Pham ST, Nguyen VL, Weinehall L, Wall S, Bonita R, et al. Effectiveness of community-based comprehensive healthy lifestyle promotion on cardiovascular disease risk factors in a rural Vietnamese population: a quasi-experimental study. BMC Cardiovasc Disord. 2012; 12: 56.

104. Naylor K, Ward J, Polite BN. Interventions to improve care related to colorectal cancer among racial and ethnic minorities: a systematic review. J Gen Intern Med. 2012; 27 (8):1033–1046.

105. Kaambwa B, Stirling B, Barton P, Parker H, Martin G, Hewitt G, et al. Costs and health outcomes of intermediate care: results from five UK case study sites. Health Soc Care Community. 2008;16 (6): 573–581.

106. Lin Y-T, Parlaktürk, AK, Swaminathan JM. Vertical integration under competition: forward, backward, or no integration? Production and Operations Management. 2014; 23: 19–35.

107. Hesselink G, Shoonhoven L, Barach P, Spijker A, Gademan P, Kalkman C et al. Improving patient handovers from hospital to primary care: A systematic review. Ann Intern Med. 2012; 157 (6): 417–428.

108. Peters DH, Noor AA, Singh LP, Kakar FK, Hansen PM, Burnham G. A balanced scorecard for health services in Afghanistan. Bull World Health Organ. 2007; 85 (2): 146–151.

109. Moshabela M, Schneider H, Cleary S, Silal S. Factors associated with patterns of plural healthcare utilization among patients taking antiretroviral therapy in rural and urban South Africa: a cross-sectional study. BMC Health Serv Res. 2012; 12: 182.

110. Njoroge A. Presentation at Geneva Health Forum 2014 [video]. Geneva: Geneva Health Forum; 2014 (https://www.youtube.com/watch?v=jk-NDRj8r_k, accessed 16 February 2016).

111. Church K, Mayhew S. Integration of STI and HIV prevention, care, and treatment into family planning services: a review of the literature. Stud Fam Plann. 2009; 40 (3):171–86.

112. Kosgei RJ, Lubano KM, Shen C, Wools-Kaloustian KK, Musick BS, Siika AM et al. Impact of integrated family planning and HIV care services on contraceptive use and pregnancy outcomes: a retrospective cohort study. J Acquir Immune Defic Syndr. 201115; 58 (5): e121–6.

113. Gragnolati M, Lindelow M, Couttolenc M. Twenty years of health system reform in Brazil: an assessment of the sistema unico de saude. Washington DC; World Bank: 2008.

Annex 3. Examples of potential measures of people-centred and integrated health services

Domain 1. System level measures of community well-being and population health

Area	Examples of potential measures
Amenable mortality	Numbers of avoidable deaths for treatable conditions, including: • infections • cancers • cardiovascular disease • diabetes • injuries • maternal and infant conditions *(1)* Excess winter deaths *(2)* Excess mortality for people with severe mental illness and schizophrenia *(3)*
Healthy lifestyles	Amenable morbidity (obesity) *(1)* Proportion of physically active and inactive adults *(2)*, and children Proportion of the population experiencing positive mental health *(1)* Proportion of the population engaged in responsible sexual behavior *(1)* Proportion of the population engaged in substance misuse *(1)* Proportion of the population engaged in healthy behaviours (composite measure) *(1)* Smoking rates: • Smoking status • Percentage of smokers given or referred to cessation support • Percentage of hospitalized smokers provided with cessation advice • Smoking rates in people with asthma *(1)* Proportion of the population that experience injury *(1)*, including self-harm
Population health	Prevalence of mortality for chronic disease *(1)* Healthy births – e.g. measured by low birth weight *(1)* Vaccination coverage: • For influenza in older people *(1, 3)* • For measles in children *(3)* • For pertussis in children *(3)* Management of skin infections in primary care *(3)*

Domain 2. Service proxies for population health outcomes

Area	Examples of potential measures
Hospital admissions	Numbers of emergency admissions, stratified by age and risk group *(2)* Avoidable inpatient activity for people with ambulatory condition sensitive (ACS) admissions *(2)* ACS hospital admissions that could have been avoided in both children and adults *(1)*: • asthma in older adults *(1)* • asthma in young children *(1)* • asthma hospital admission rates *(3)* • chronic obstructive pulmonary disease (COPD) in older adults *(1)* • COPD hospital admission rates *(3)* • heart failure admission rates *(1, 3)* • angina without procedure admission rates *(1)* • hypertension admission rates *(1)* • diabetes short-term and long-term complications admission rates *(1)* • uncontrolled diabetes admission rates *(1)* • overall diabetes admission rates *(3)* • bacterial pneumonia admission rates *(1)* • urinary tract infection (UTI) admission rates *(1)* Acute care hospitalization, risk adjusted *(4)* Acute care hospitalization rate for ACS conditions *(5)* Average lengths of stay *(1)* Occupied bed days *(1)*
Hospital readmissions	People with multiple admissions to hospital per year by specific age group and prior conditions *(2)* Readmission rates for selected patient groups *(2)*: • Diabetes readmission rate *(1)* • Heart failure readmission rate *(1)* • Mental health readmission rate *(1)* Unplanned or unexpected hospital readmissions *(1)* Emergency readmissions to hospital within 28 days of discharge *(5)* Overall numbers of hospital readmissions *(3)*
Community-based care	Persons discharged from hospital for rehabilitation per 100 000 of the older population *(2)* Deaths after discharge from suicide among people with severe mental disorders *(3)* Quality of family planning services: • informed choice to users • contraceptive methods mix offered in care facilities *(5)*
Patient safety	Reduction in adverse events *(1)* Unintended harm from medications in people aged over 65 dispensed with five or more long-term medications *(1)* NSAID use in older people *(1)*

Domain 3. Personal health outcomes

Area	Examples of potential measures
Quality of life	Self-reported quality of life *(2)* Carer-reported quality of life *(2)* Improved mental health status and mood
Independent living	Proportion of older people (> 65) who remain in own home after 91 days after discharge from hospital into rehabilitation services *(2)* Injuries due to falls in people aged over 65 *(2)* Proportion of patients with fragility fractures recovering to their previous levels of mobility *(2)* Improved mobility and independence (EQ5D)
Self-management	Proportion of people feeling supported to manage their (long term) condition *(2)* People aged over 65 with more than 8 long-term conditions *(1)* Management of risk factors in chronic disease (quality and outcomes framework): • blood glucose and cholesterol control in people with diabetes • blood pressure control in people with stroke, transient ischemic attack, heart disease, chronic kidney disease and hypertension • diet, nutrition and weight management in under/overweight

Domain 4. Resource utilization

Area	Examples of potential measures
Hospital utilization	Bed days for selected patient types *(2)* Hospital use in last 100 days of life *(2)* • in last six months of life *(1)*
Residential and long term care utilization	Gross residential and nursing care expenditures per 100 000 older population *(2)* Numbers receiving long-term community-based care as a proportion of total numbers of people receiving long-term care services *(2)* Numbers receiving long-term social care as a proportion of the sum of numbers receiving emergency hospital care and numbers receiving long term social care *(2)* Numbers of people receiving long-term community-based social care relative to population *(2)*
Primary care utilization	Enrolment in a general practice (GP)/primary care practice *(1)* • for infants in the first four weeks of life *(1)*
Health care costs	Health care cost per capita *(1)* Rational use of finite resources/value for money and effectiveness *(1)* GP referred pharmaceutical expenditure *(1)* Alignment of resources to population needs *(3)*
Balance of care	Ratio of primary care professionals (e.g. GPs) to specialists Relative spend on primary, community, secondary and tertiary care

Domain 5. Organizational process and system characteristics

Area	**Examples of potential measures**
Access to care	Improved access to primary care services/GPs *(2)* Access to health care *(1)*: • percentage in general practice *(1)* • screening *(1)* • time to access GP or community services *(1)* • timely initiation of care *(4)* • waiting times for urgent treatment – especially cancer *(1)* • severe mental health access *(1)* • waiting times for elective treatment *(1)* • waiting time of more than four weeks to see a specialist *(6)*
Hospital use	Attendances at accident and emergency *(2)* Attendances at accident and emergency without hospitalization *(4)* Acute care hospitalization *(4)*
Care transitions	Delayed transfers of care from hospital *(2)* Transition record with specified elements received (hospital to home or any other site of care) *(4)* Timeliness of transition (hospital to home or any other site of care) *(4)*
Care planning	Holistic needs assessment Personalized care plans Advanced care plan *(4)*
Medications management	Medication review in older adults *(4)* Medications reconciliation *(4)* Medications conciliation post-discharge *(4)*
Care coordination	Primary health care organizations who currently coordinate patient care with other health care organizations using protocols *(5)* Quality of care processes based on best practice guidelines • look at integration of care across settings - chart reviews, medical records *(3, 7)* Quality of clinical integration and/or coordination activities in multi-professional teams *(7)* • various survey methods Administrative communication *(4)* • percentage of patients transferred to another health care facility whose medical documentation indicated that administrative information was communicated prior to departure Presence of key coordination activities *(3)*: • accountable provider or professional with responsibility for care coordination • clarity of responsibility • communicate – quality of interpersonal communication and information transfer • facilitate transfers across settings and as coordination needs change • assess needs and goals • proactive care plans • monitor, follow-up and respond to change • support for self-management • links to community resources – provide information and guidance on care outside of health system • multidisciplinary teams in primary and community care • home care support • care management – case management and disease management • medications management • information and communication technology (ICT)-enabled care coordination (telehealth)

Domain 6. User and carer experiences

Area	**Examples of potential measures**
Experiences	Improved people's experiences of care *(1,2)* Patient reported satisfaction with care coordination/integrated care *(2, 3)* The proportion of people who use services who say these services had made them feel safe and secure *(2)*
Continuity of care	Proportion of people who use services who report that they have as much social contact as they would like *(2)* Person or family reports confusion or hassle *(4)*
Supporting holistic goals and outcomes	Proportion of people dying at home or a place of their choosing *(2)* Proportion of people with long-term conditions reporting they had enough support to manage their conditions *(2)* Proportion of people who feel confident in managing their own health *(2)* People reporting that all their needs were taken into account *(8)* People reporting they were supported to achieve my own goals *(8)* People reporting that the care they received helped them to live their life to the best of their ability *(8)* Carers and family members needs taken into account *(8)*
Communication and information	Ability and knowledge on who to contact for care, especially when primary care services are closed *(2)* Doctor spending enough time with the patient *(6)* Doctor giving easy to understand explanations *(6)* Doctor giving time to raise concerns *(6)* People reporting that they: • were always kept informed about what the next steps in their care would be *(8)* • the professionals involved talked to each other and worked as a team *(8)* • knew who was the main person in charge of their care *(8)* • had one first point of contact *(8)*, who understood the person and their condition(s) *(8)*; could go to the care professional with questions at any time *(8)*; and get other services and help, and to put everything together *(8)* • had the information and support needed in order to remain as independent as possible *(7, 8)* • see personal health and care records at any time to check what was going on *(8)* – ability to decide who to share them with and correct any mistakes in the information • information given at the right times, appropriate to person's condition and circumstances, easy to understand, and up to date *(8)* • told about the other services that were available, including local and national support organizations *(8)* • not left alone to make sense of information *(8)* • ability to meet (or phone/email) a professional when needed to ask more questions or discuss the options *(8)*
Shared decision-making	Doctor/nurse involving patients in decisions about care and treatment *(6)* People reporting they could choose the kind of care and support they needed and how they might receive it *(8)*
Care planning	When being discharged from hospital, was the family or home situation taking into account when planning discharge *(2)* Participation in care planning *(6, 7)*: • knowing what is in the care plan *(8)* • care plan entered onto patient record *(8)* • regular reviews of care plan *(8)* • comprehensive reviews of medicines *(8)* • care plan known in advance by professionals when using a new service, and respected *(8)*

Area	Examples of potential measures
Care delivery and transitions	Patients report unnecessary care (e.g. tests, procedures, emergency room visits and hospitalizations) *(3)* Patients report gaps in scheduled care – e.g. missed consultations, medical test, and/or prescribed medications (6) Clear plan when moving from one service to another *(8)* Transitions undertaken without delays *(8)* Advance knowledge of care transitions and next steps in care *(8)* New service providers knew details of person and their preferences and circumstances *(8)* Entitlements to care protected when moving from one jurisdiction to another *(8)*
Emergencies	People reporting they could plan ahead and could stay in control during emergencies *(8)* People reporting they had systems in place so they could get help at an early stage to avoid a crisis (or crisis escalation) *(8)*

Sources of measures and indicators used in above tables

1. Draft integrated performance and incentive framework: Description and outline of potential measures. Health Improvement and Innovation Resource Centre, 2013 (available at http://www.hiirc.org.nz/page/42610, accessed 14 February 2015).

2. Raleigh V, Bardsley M, Smith P, Wistow G, Wittenberg R, Erens B, et al. Integrated care and support pioneers: indicators for measuring the quality of integrated care: final report. London: Policy Innovation Research Unit; 2014.

3. McDonald KM, Schultz E, Albin L, Pineda N, Lonhart J, Sundaram V, et al. Care coordination measures atlas update. Rockville, MD: Agency for Healthcare Research and Quality; November 2010 (available at http://www.ahrq.gov/professionals/prevention-chronic-care/improve/coordination/atlas2014/index.html, accessed 14 February 2015).

4. NQF-endorsed measures for care coordination: phase 3, 2014. Draft report for comment, April 29 2014. Washington, DC: National Quality Forum; 2014 (available at: http://www.apic.org/Resource_/TinyMceFileManager/Advocacy-PDFs/care_coordination_draft_report.pdf, accessed 14 February 2015).

5. Global reference list of 100 core health indicators. Second round of comments received end of July 2014 and implications, WHO, 12 August. Geneva: World Health Organization; 2014 (available at http://www.who.int/healthinfo/indicators/en/, accessed 14 February 2015).

6. Health care quality indicators. Paris: Organisation for Economic Co-operation and Development (OECD); 2014 (available at http://www.oecd.org/els/health-systems/health-care-quality-indicators.htm accessed 14 February 2015).

7. Strandberg-Larsen M, Krasnik A. Measurement of integrated healthcare delivery: a systematic review of methods and future research directions. Int J Integr Care. 2009;9:e01.

8. A narrative for person-centred coordinated (‘integrated’) care. London: National Voices; 2012 (available at: http://www.nationalvoices.org.uk/sites/www.nationalvoices.org.uk/files/narrative-coordinated-care.pdf, accessed 14 February 2015).

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