



# Delivering healthcare services closer to home

An international look at out of hospital,  
community-based healthcare services

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# Executive summary



Health systems around the world face intense pressure from escalating demand. This is particularly visible in hospital emergency departments. We know from the evidence that many of these patients could be treated and cared for in settings outside the hospital. Well-functioning out of hospital, community-based services keep people well, help them to live independently, and ease pressure elsewhere in the health system.

As is often the case, many of the answers to this crucial issue are already in place somewhere globally. This report looks at successful, out of hospital, community-based solutions in several geographies – initiatives that we believe could be implemented more widely. We incorporate these based on our own experience, plus interviews with health leaders and clinicians from a range of countries. Despite the wide variation in systems, politics and funding, the research highlights a series of common challenges and solutions.

Out of hospital (OOH), community-based services can play a vital role in the move to broader integrated care networks that place the individual at the center. The benefits can be significant, from improving care outcomes to reducing costs, and alleviating pressures on hospitals.

This change does not require structural solutions, but it does need a change in thinking and attitude. High-performing health services focus on improving individual health outcomes by working in partnership across the system.

Finally, this improvement requires strong primary care to be part of the integrated care network, with an emphasis on using technology to connect and transform services.

The following pages set out a world of possibilities to improve out of hospital, community-based services by focusing on what works. We are confident that the insights from this report can help you identify opportunities to introduce these crucial elements in your own health system.

**Gary Belfield**  
KPMG in Australia  
Executive Director



If integrated care networks are to flourish, it is vital that out of hospital, community-based services are at the center of these plans.”

**Anna van Poucke**  
KPMG in Netherlands  
Partner and National  
Healthcare Lead



This paper is aimed at policymakers, health service transformation leads, health service planners and payors who are tasked with designing and implementing integrated care networks, and need to make effective use of available and future health resources (funding, workforce and infrastructure).”



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# Care System Redesign: Integrated Care Networks/Systems

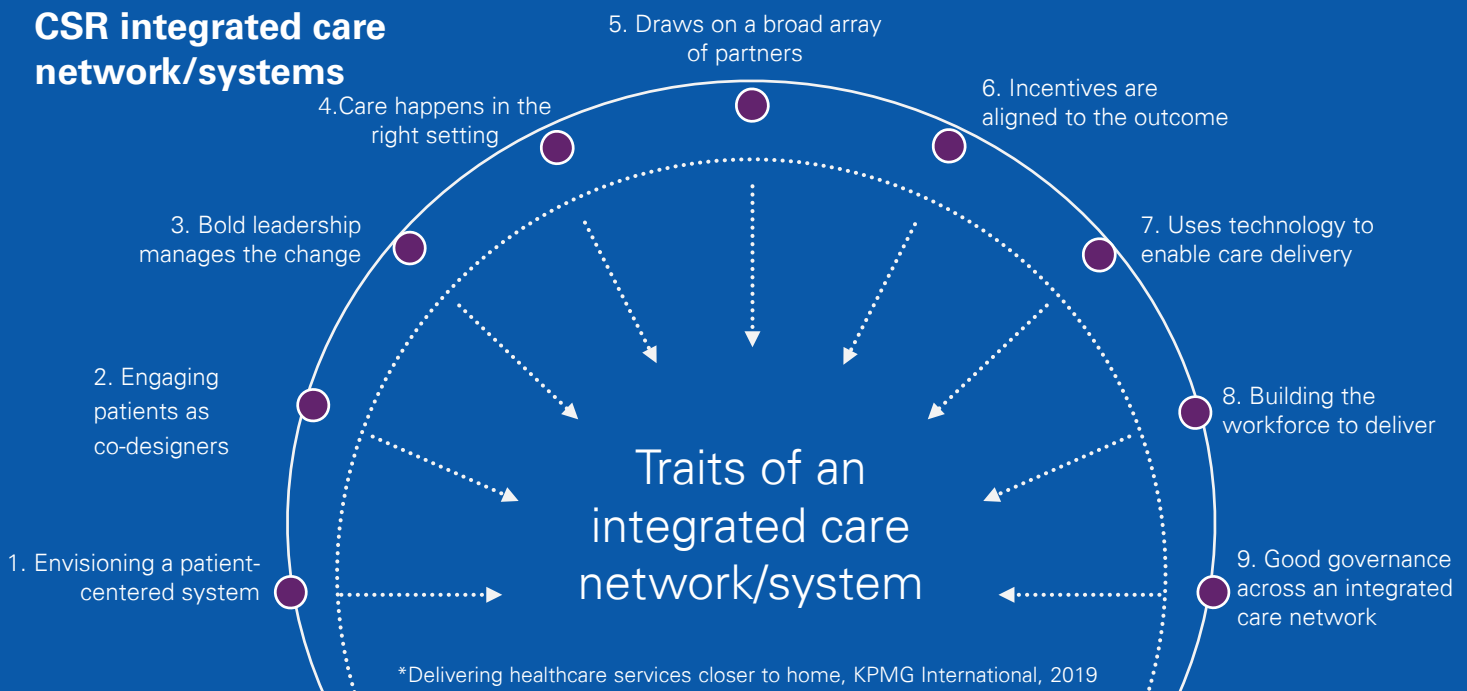
If Integrated Care Networks/Systems are to flourish, it is vital to deliver more care in the community and at home. Integrated care brings together the different groups involved in patient care to help ensure, from the patient's perspective, that the services delivered are consistent and coordinated. Too often, providers focus on single episodes of treatment, rather than on the patient's overall well-being. By taking a more comprehensive approach, integrated care offers patients higher-quality, more efficient care that can better meet their needs. In many cases, increased efficiency also helps control costs.

Many healthcare systems are still reactive, and the imbalance between specialty hospital-based care and community-based care still exists. Our systems are often configured to treat people at times of crisis in hospitals and are poorly designed to prevent hospitalization or proactively treat people in the right care setting. Many politicians and system leaders believe out of hospital, community-based services are a vital component in shifting the provision of care and alleviating the financial and operational pressures in hospitals. However, the real driver for community services is to promote good population health and prevention at scale, increase easy access to services, and to reduce system-wide costs.

In this paper, we argue that the shift to create Integrated Care Networks (ICNs) and Integrated Care Systems (ICSs) provides an excellent opportunity to fundamentally redesign OOH services. Although there is a great deal of innovative work going on across the globe, this is mainly happening through small-scale, innovative projects and interventions rather than system-wide transformations programs.

Every transformation is unique. Our care system redesign (CSR) global proposition focuses on how models of care are designed, paid for and provided across a defined geographical area. KPMG member firms help clients transform health and care systems to achieve a triple aim: improved health outcomes for a local population, improved quality of care and lower costs. There are nine key traits that describe "what good looks like" for an integrated care network. KPMG CSR professionals/specialists around the globe have shaped this approach through work delivered across multiple geographies worldwide, and have used this framework to help clients move towards delivering high-performing integrated services.

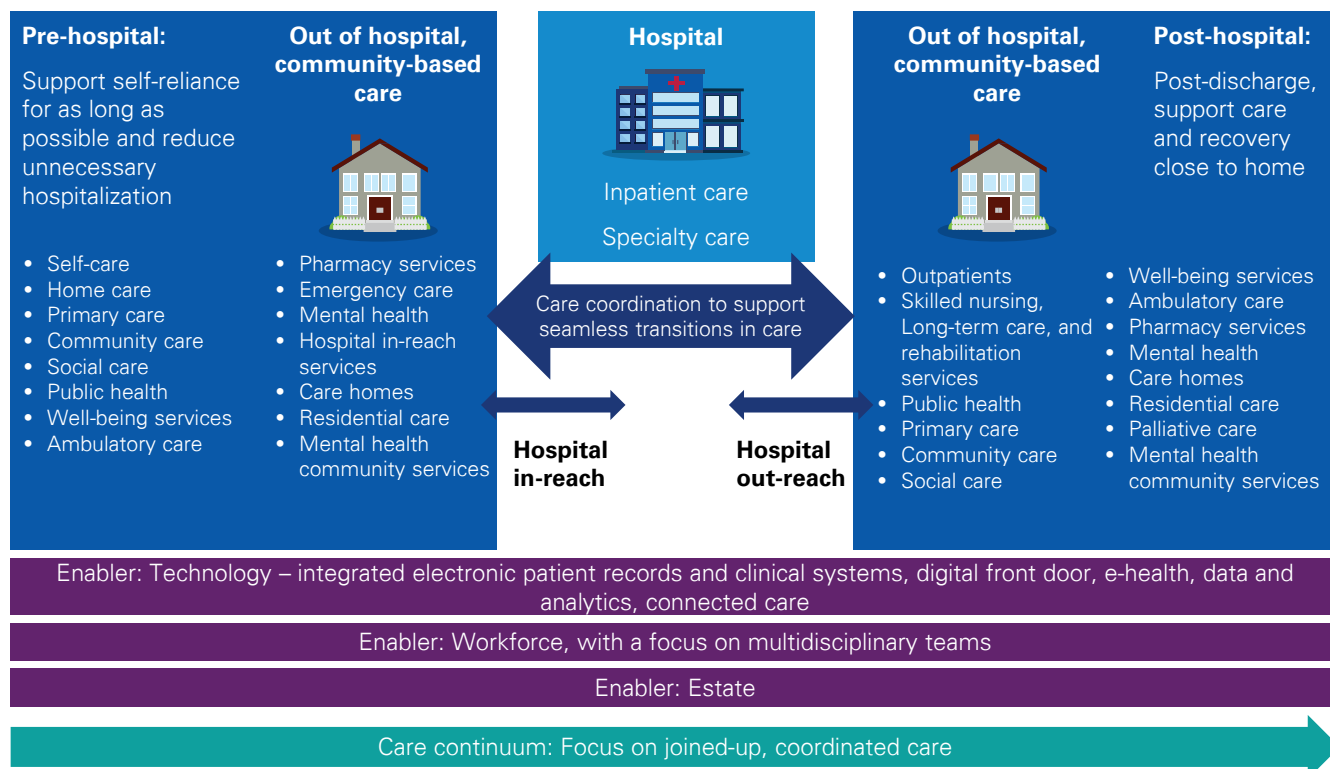
## CSR integrated care network/systems



- Faced with competing priorities, health system leaders need to propagate and sustain transformation efforts. They recognize incremental solutions may not be enough, but often struggle to know where to start their transformation journey.
- Definition: During our research, we noted that the terms ICN and ICS are sometimes used interchangeably. From the case studies we examined, ICNs often appear to focus on a small group of providers, with the ICS often covering larger geographic populations. Irrespective of terminology, there is still a focus on joining up care.

# Out of hospital, community-based care

Examples of services that fall under the definition of out of hospital, community-based care.



Out of hospital (OOH), community-based services are not sufficiently understood or prioritized at national or local levels, despite keeping people well, living independently (even with serious, complex conditions) and easing pressures on other services. Support on the ground has failed to match the rhetoric, leaving many OOH providers marginalized, underfunded and short-staffed. The pressures facing health systems are well known (increasing demand, changing and aging profiles, fiscal constraints, lack of workforce, etc.) and the volume and the complexity of cases requiring treatment in the community continues to grow.

For this report, we define OOH care as primary care, community care, social care, and mental health. National differences in classification and service delivery of mental health services can make meaningful recommendations difficult. However, the international research suggests that the number of mental health conditions a person has often rises with the number of physical conditions they have. Consequently, these services are key to any truly integrated network/system.<sup>1</sup>

We have kept Human Services out of the scope of this report as this was too broad an area for our market audience, but we do encourage greater integration between health and these services (e.g. child and family services, employment, disability, housing, etc.)

There are wide variations in the way OOH care is delivered, and data limitations mean that comparisons between countries and regions should be treated with caution. However, data and evidence of best practices do provide valuable insights and spark useful debate about the best way forward for system leaders. Better care, closer to home seems to be the optimum way to sustain or improve care quality. Improving the OOH offering needs bold leadership, long-term political commitment, and a collaborative approach to change.

In this report, we examine how leading healthcare organizations and systems around the world are successfully building and sustaining OOH care services, often with a focus on pre-hospital services, which can lead to the reduction of system-wide costs. The three areas are:

- Pre-hospital: promoting self-care, run prevention programs, and delivering excellent joined-up integrated OOH services designed around service users
- Pre-hospital: reducing unnecessary hospital attendances and admissions
- Post-hospital: giving admitted patients a planned and timely discharge to the right care setting.

# Global trends: challenges and solutions

Health systems around the world face unprecedented pressures that require policymakers, payers, providers and suppliers to rethink how they work. Small-scale interventions are unlikely to be enough, with whole system transformation needed.

## Increasing demand and aging populations are putting a strain on services

By 2030, the number of people in the world aged 60 years and above will have grown to 1.4 billion. In OECD countries, citizens aged 80-plus are over six times more likely to receive long-term care than those aged 65-79. Today, 125 million people are 80 years or older. By 2050, there will be 434 million people in this age group worldwide. As the aging population grows disproportionately to the overall population, demand for services will increase.<sup>2</sup>

Worldwide statistics suggest that more than three-quarters (80 percent) of healthcare costs serve only a fraction of the population. Thus, frequent users of healthcare services account for a small proportion of the patient population, yet they use more than half of the healthcare and social services available.<sup>3</sup>

There is increasing evidence that the relationship between age and healthcare is confounded by multimorbidity (more than one long-term condition). Increasing multimorbidity – rather than age alone – is the prime driver of higher healthcare costs.<sup>4</sup>

## The trend of decentralizing care, and moving care closer to home, looks set to continue

More hospital-level care can be provided in alternative care settings. For some conditions, this means lower costs than inpatient care, with fewer complications, lower mortality and higher patient satisfaction.<sup>5</sup>

Supply of staff for OOH services has not kept pace with demand. There are worrying shortages in key groups such as primary care physicians, community nursing, social workers and health visitors.<sup>6,7</sup>

In some countries, OOH services have a low profile, which makes it even harder to recruit and retain workers.

Early discharge from hospital into community-based care settings is associated with better patient satisfaction and quality of life scores.<sup>8</sup>

## Technology is disrupting traditional models of care, and is a vital component in joining up services to integrate care networks/systems

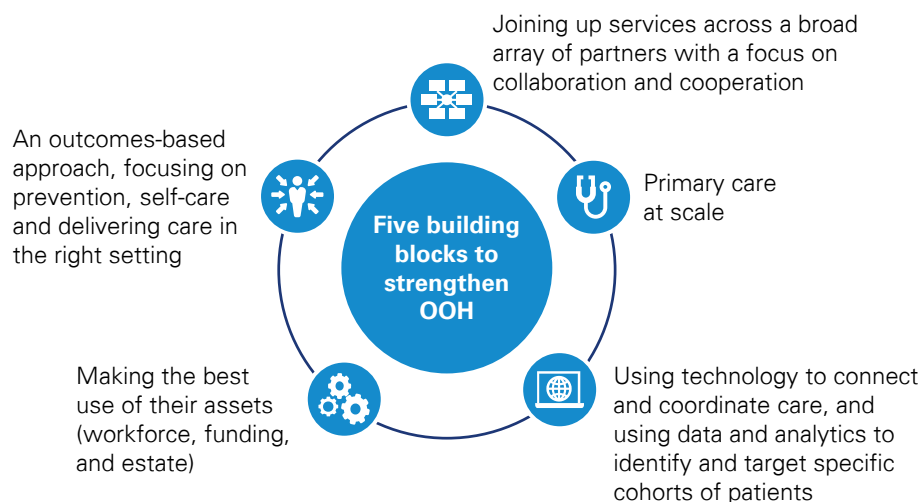
Fragmentation of services can lead to communication gaps and poorer patient outcomes. It is also associated with higher rates of emergency department visits and hospital admissions, as well as greater costs.<sup>9</sup>

Technology-enabled care is playing a significant role in redesigning OOH care delivery. However, as the technological possibilities increase, there is expected to be a greater need for connected care.

There is a tremendous opportunity for the healthcare industry to make services more accessible, faster and cheaper, and to improve quality.

Patients with long-term conditions spend less than 1 percent of their time in contact with health professionals. The majority of their care – like monitoring symptoms and administering medication and treatment – comprises of tasks they or their carers manage on a daily basis. Technology plays a key role in enabling this.<sup>10</sup>

**While there are differences in the configuration of OOH services across the globe, there are common traits that lead to high-performing services. These are:**



# How can hospitals help deliver the vision?

Hospitals face significant challenges. With rising demand for their services, and the changing needs of their population, they can no longer work alone. Instead, hospital executives need to embrace a system-wide perspective and collaborate closely with primary care, community services, social care, mental health services and others.

Moving care closer to home does not mean the end of hospital-based care. At this time, however, it is difficult to see how many hospitals can carry on in their current form. Given the current intense focus on the future shape and function of hospitals, healthcare systems should consider the most appropriate configuration of their hospitals so that their clinical services are fit for purpose, sustainable, accessible and can deliver best possible care.

The trend of decentralizing care looks set to continue, with patients who were once treated in a hospital now seen in alternative settings. Examples of this are:

- elderly patients previously cared for on long-stay geriatric wards
- cancer patients who no longer need to receive chemotherapy in hospital
- hip and knee replacement patients who can be seen in ambulatory clinics
- mothers who select home births or mothers who give birth in alternative, non-acute settings

Internationally, hospitals are responding to the decentralization of care in a number of ways. Some examples are:

- becoming regional centers with a greater focus on specialized services
- taking the lead in bringing together the various OOH stakeholders to redesign health, care and well-being services and pathways, with an aim to reduce demand from frequent users (FUs)/high utilizers of healthcare services
- developing 'hospital at home' services, which have proven effective in reducing attendances and readmissions, while delivering better patient care
- hospitals working with post-acute care (PAC) partners to provide coordinated care



# A patient's story

OOH care covers an extensive and diverse range of activities, and there is no single model of provision. However, health systems should integrate services around the user's needs and make the best use of their assets (workforce, technology, estate) to improve care delivery. So, what could a patient's model of care look like?

## Daniel



We all want to live longer, healthier lives and none of us likes being in a hospital. To make our healthcare systems sustainable, we should focus on prevention and self-care and integrate services to reduce hospitalization. Let's see how technology can be used to improve Daniel's care. He is 76 years old and his family no longer lives nearby. He has been diagnosed with Type 2 diabetes, is overweight and smokes. He has been admitted to hospital recently after a series of falls and knows he must control his blood sugar levels. One of his main fears is losing a toe, foot or leg to diabetes.

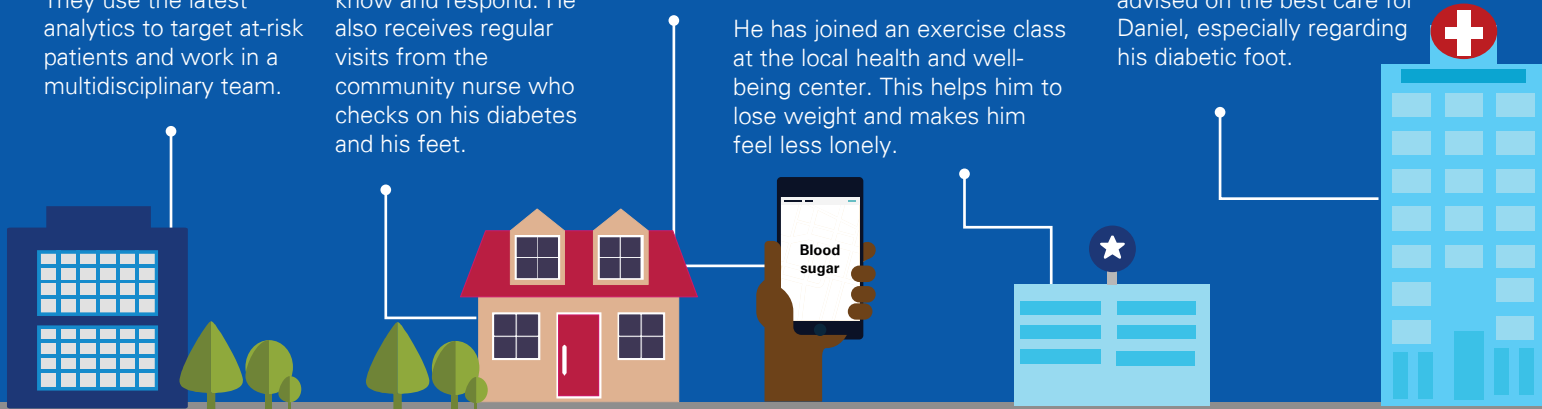
Primary care, community care, social care and mental healthcare have created a local integrated care hub for their population. They use the latest analytics to target at-risk patients and work in a multidisciplinary team.

Daniel has remote monitoring in his home. These sensors give him confidence that if he falls, the local integrated care hub will know and respond. He also receives regular visits from the community nurse who checks on his diabetes and his feet.

Daniel uses a diabetes app, which lets him log his blood glucose level, carb intake, medication doses, exercise levels and more. He shares this with the integrated care hub.

He has joined an exercise class at the local health and well-being center. This helps him to lose weight and makes him feel less lonely.

The hospital has access to shared patient records with the integrated hub and has developed digital pathways. Specialists regularly work with generalists and have advised on the best care for Daniel, especially regarding his diabetic foot.



## Using technology to deliver care in the right setting

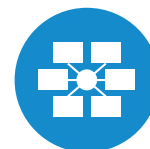
KPMG in Australia supported an aged care service provider in the southern part of the country to build a community care solution. This provider has a particular focus on delivering care to people in their homes for as long as possible, necessitating a sophisticated clinical care approach. The provider has also recently purchased an 80-bed hospital with the intention to convert it to a short-stay, OOH care environment. The aim is to help prevent people entering a hospital and getting stuck in a cycle where they are delayed in returning home.

The provider worked with us to build an end-to-end customer relationship solution that also supported community-based clinical care. The challenge the provider observed was that many clinical solutions on the market

today are designed around an episode of care within a hospital setting. In a community context, the solution should be modeled around perpetual care rather than episodic care. Specifically, this means that information needs to be structured so that care activities are directly based on an evolving set of outcomes and goals. The solution also allows organizations to effortlessly share data between the front and back office, enabling quality service delivery and reporting.

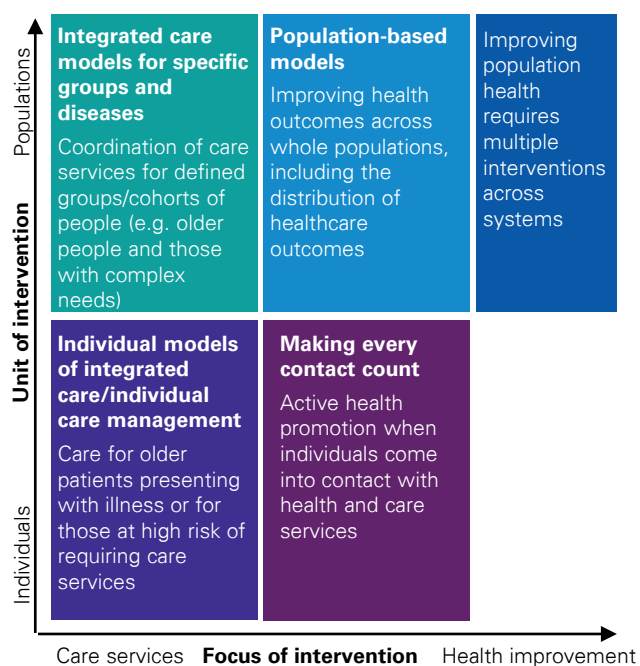
We are now working closely with the provider to further define the system specifications, and build a roadmap to fully deploy the community care solution within the next 12-18 months.





# A focus on joining up care

Health service transformation leads, service planners and payers tasked with implementing integrated care networks/systems should make effective use of available and future health resources (funding, workforce and infrastructure). Integrated care can take different forms based on different conceptual frameworks. What is essential is a commitment to overcoming fragmented care, and to meeting complex care needs through ongoing and co-productive partnerships and networks. Fragmentation of care can lead to communication gaps and poorer patient outcomes. It is also associated with higher rates of emergency department visits and hospital admissions, as well as greater costs.



Source: Based on the King's Fund and the World Health Organization (WHO) integrated care models

**Making integrated care a reality**

- Globally OOH care services are seeking to join up services to improve care coordination and reduce service fragmentation
- There are various forms of integrated care:
  - o Horizontal integration is where one organization takes over another that operates at the same level of the value chain, usually as part of a business expansion strategy
  - o Vertical integration is a type of business expansion strategy, where an organization acquires various entities engaged in different stages of the value chain (e.g. integrated care across primary, community, hospital and tertiary care services)
  - o Integrated care can also only occur within one sector (e.g. within community health services through multi-professional teams or networks)
- We have annotated the King's Fund model of integrated care and the World Health Organization (WHO) three types of integrated models of care, to allow stakeholders to map and then discuss the level of integration aligned to strategic objectives<sup>11</sup>
- Systems should start by focusing on integrating services on those population or patient groups most likely to derive the greatest benefit.

## Israel HMOs

The Israeli health system delivers exceptional results. Life expectancy is high, and mortality due to cancer and among Israel's children is well below the OECD average. The system covers 8.5 million residents and is widely recognized as one of the most efficient globally. In the Bloomberg 2018 analysis of health efficiency across 56 countries, Israel ranked in sixth place. The total cost of healthcare constitutes 7.5 percent of GDP, lower than most other OECD countries.<sup>12</sup>

### Clalit

In Israel, care is organized by four non-profit Health Maintenance Organizations (HMOs) of which Clalit is the largest, with more than 4 million members. Each HMO has its own network of primary care clinics, continuing care centers, home care and telehealth teams that provide care around the clock. Some HMOs also

own hospitals, but secondary care is a mix of 'in-network' acute facilities and 'non-network' private or for-profit hospitals, from which they purchase services on a contract basis.

Clalit owns 1,500 clinics, 14 hospitals (including three geriatric and rehabilitation hospitals and two mental health care hospitals) and 30 percent of the beds in the country.

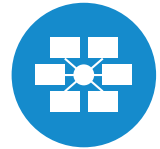
### Primary care at scale, and OOH services

Clalit has a number of community care centers. Clinics and primary care are a first point of call for patients and act as effective gatekeepers to both hospital and specialist care. Notable successes are:

- Primary care services are highly accessible and on most occasions waiting time for an appointment does not exceed 3 days, with two-

thirds of patients seen by a primary care practice on the same day

- Population satisfaction from primary care services is consistently high
- Integrated primary care community clinics include nurses, administrators, pharmacists, social workers, and allied health professionals all in one setting
- Direct hospital-to-community communication is enabled by Clalit's fully interoperable data-sharing system including online health records and results
- Proactive nurse-led health and wellness activities are informed by intelligent health data.



# Models of care from around the world


OOH services cover an extensive and diverse range of activities. There is no single model of provision; the range and configuration of services vary depending on the local population, geography and nature of other local services. However, from interviewing health system leaders for this report, there are some common goals.

“ People want to have as little disruption of care as possible throughout their care journey. We should aim to provide seamless delivery across care settings and caregivers.”

Dr. Arend Arends, Clinical Geriatrician and also head of the medical board for Haven 2.0, Netherlands

“ As system leaders, we need to align healthcare resources across care settings, orchestrated in a way that delivers the best healthcare services and value possible for a defined population.”

Andrew Morgan, Chief Executive, Lincolnshire Community Health Services, UK

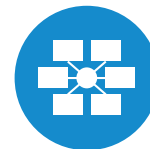


The World Health Organization (WHO) characterizes three types of integrated models of care.<sup>13</sup>

- Individual models of integrated care
- Group and disease-specific models
- Population-based models.

Below we look at innovative models of how out of hospital, community-based services are delivered and how this is leading to greater service integration:

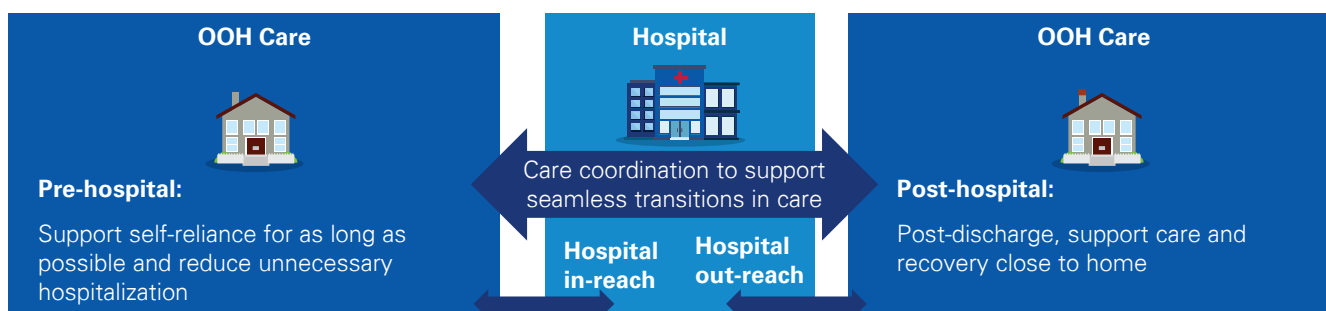
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| Move towards integrated care | <p><b>Health and social care in-reach teams</b></p> <p>In the UK, joint health and social care community in-reach teams are embedded within the Emergency Department (ED). The team’s role is to prevent unnecessary admission to hospital following ED treatment by ensuring that patients, particularly older people and those with disabilities, receive the right community health and social care at home as soon as they leave hospital.</p>  | <p><b>Hospital at home models</b></p> <p>Many US hospitals now work closely with patients’ primary care physicians to ensure their team of doctors, registered nurses, dietitians, case managers, pharmacists and other medical support staff can visit patients as needed, in their own homes. With regular home visits, patients have their health needs met, often preventing a trip to the emergency room or hospital.</p>   |
|                              | <p><b>One-stop shop health ‘plazas’</b></p> <p>In the Netherlands, there has been the creation of health, wellness and retail ‘plazas’ which integrate services for varying needs. There is one point of entry for health and well-being for patients and citizens.</p>   | <p><b>Multispecialty community providers and locality hubs</b></p> <p>In the UK multispecialty community providers are moving specialist care out of hospitals into the community. Many of these models create hub services which see multidisciplinary, integrated teams of primary care, community care, mental health and social care staff care for their local population. The hubs often focus on older people with frailty and patients with multiple long-term conditions.</p>                   |
|                              | <p><b>District health board in New Zealand</b></p> <p>Canterbury District Health Board (DHB) is a high-performing healthcare organization that has focused its quality improvement work on integrating health and social care to tackle growing demand for hospital care from an aging population. The DHB’s leaders are committed to building on the strengths of primary care and to investing in services that help avoid hospital admissions and facilitate early discharge where appropriate. These and many other initiatives, have enabled the DHB to stem the increase in hospital use.</p> | <p><b>Accountable care organizations</b></p> <p>In the US, many accountable care organizations (ACOs) have shown early signs of success, and the care delivery model continues to undergo change to meet the needs of providers who strive to improve care and reduce costs. An ACO is a network of healthcare providers (physicians, hospitals, non-physician providers, etc.) that come together and agree to take responsibility for the financial and quality outcomes for a defined population.</p> |



# Case studies

Across the globe, there are instances of innovative solutions to help improve patient care and deliver better OOH services. Here are three international case studies that look at:

- promoting prevention and self-care
- reducing unnecessary hospitalization
- ensuring patients who are admitted have a planned and timely discharge to a suitable care setting.



## Frail elderly 'one-stop shop'

In Rotterdam, demand from the elderly population for services is growing, and these patients are consuming a significant proportion of healthcare resources and costs. After a small hospital in the middle of the city went into financial distress, four nearby hospitals stepped in to collectively design a plan to take care of the patients. After undertaking analysis, they realized that younger people would find their way to one of the other hospitals in the city, but their main concern was the continuation of care close to home for the elderly population.

Together, the relevant stakeholders have created a vision for a new innovative care center focused on elderly people. Important aspects of the vision are: early detection, prevention, and remote care through the use of data and technology to ensure patients can be treated in their own homes; a 'one-stop shop' service where citizens have easy access to patient information and well-being services; multidisciplinary teams and integrated care pathways with a focus on complex patients; and a center for the region accumulating knowledge and expertise about treating the elderly.

The vision will be challenging to achieve, given the complexity of change, the necessary investments and the number of stakeholders involved. Consequently, those involved are committed to taking a stepped approach.<sup>14</sup>

## Reducing length of stay for COPD patients

Home2Day is a pilot program in East Toronto that delivers integrated care for low-risk chronic obstructive pulmonary disease (COPD) patients. The program tests a bundled care model for acute episodes of chronic care, by transferring money to community partners, and is an example of how to create supportive policies and incentives to provide more appropriate and sustainable care.

By analyzing the existing health data for COPD patients, one East Toronto provider concluded that low-risk patients could be safely transferred to their homes, with appropriate support, on the second day after receiving acute care. This helps not only in a faster transition from hospital to home care (i.e. reduction in length of stay), but also reduces the cost of care and the risk of hospital acquired diseases.

Home2Day relies on evidence-based tools to identify low-risk patients, with a standardized transition pathway to deliver wraparound care, education, and navigation. The model consists of in-home care, which is driven by the needs of the patient, and services include physiological monitoring, virtual consultation, case management, a 24/7 emergency contact number and access to a rapid-response clinic. At discharge, some patients are also linked to traditional homecare support.

The partnership network in East Toronto is planning to build upon the early success of the Home2Day program to scale it to the entire region's chronic disease population.<sup>15</sup>

## Managing the transition between inpatient hospital settings to the most appropriate place of care

The patient's care experience does not end when they are discharged from hospital. It continues as the patient transitions to the next care setting. Patients are often ready for discharge, but due to poor care coordination of services, end up staying in hospital longer than they should.

KPMG in the US has been working with providers to ensure effective discharge planning. This is a process that aims to improve the coordination of services after discharge, by considering the patient's needs. It seeks to bridge the gap between the hospital and the place to which the patient is discharged, reduce the length of stay and minimize unplanned readmissions.

In the US, there has been a growth in acute to post-acute care (PAC) partnerships and networks.<sup>16</sup> Effective transition of patients to a trusted, high-quality PAC network can offer significant opportunity for upside savings in target episode prices, improve quality outcomes and reduce readmissions penalties.

This is an evolving market and we have seen that relationships are taking different forms, such as joint ventures (JVs), leasing beds and preferred referral networks.

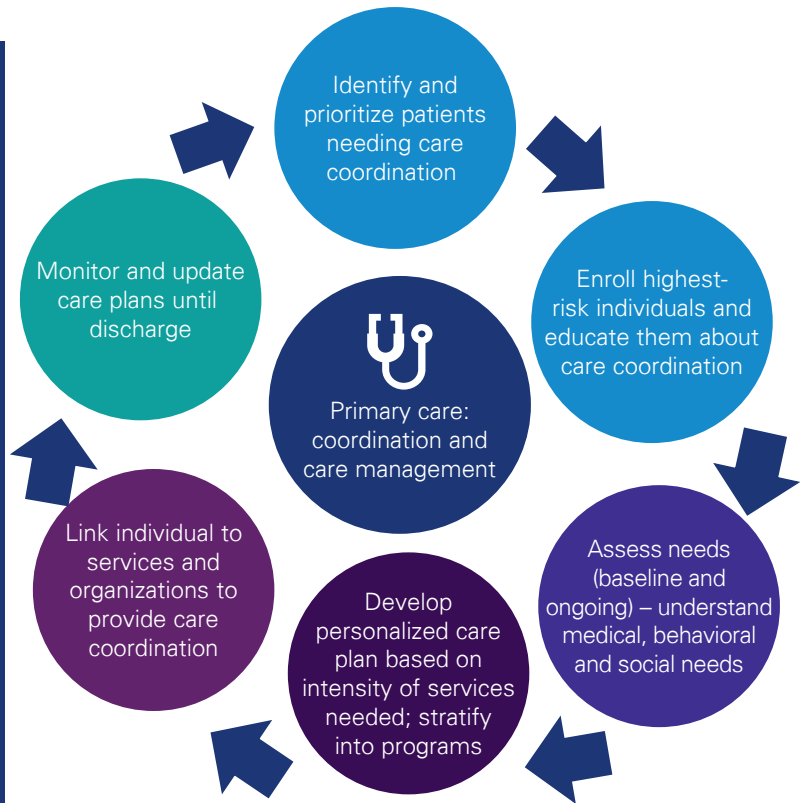


# Primary care has a crucial role to play in care coordination and care management

Evidence shows that health systems with a high-performing primary care sector achieve better health outcomes, better equity, lower mortality rates and lower overall costs of health care.<sup>17</sup>

## Primary care should take a leadership role in a OOH integrated care network

- Primary care is better placed to address chronic health problems early and to prevent minor conditions progressing into serious ones (e.g. diabetes, obesity and coronary heart disease).
- Case management (CM) is an intervention to improve care integration for frequent users and to reduce healthcare costs.
- Extending preventive, promotive and curative health services into communities is a critical aspect of high-quality OOH care. However, despite growing momentum and country-level progress, community health programs are still underfunded.<sup>18</sup> This can lead to fractured approaches, insufficient community ownership and poor integration with the rest of the care system.
- A common reason for frequent use of healthcare services is the complex healthcare needs of individuals suffering from multiple chronic conditions, especially in combination with mental health comorbidities and social vulnerability. Evidence also shows that frequent users of healthcare services are more at risk of disability, loss of quality of life and mortality.
- Internationally, we have seen many primary care practices now working at scale (joining-up practice groups to form 'super practices' or working in federations).
- Some of the key benefits of working at scale are improved access, economies of scale, enhanced care and new services, and a more efficient way of utilizing scarce skills in the workforce.



Modality Partnership is an award-winning GP partnership that operates nationally in the UK. In 2018, it had about 400,000 patients and was thought to be the largest practice in England. Such large practices are often described as a 'super-partnership'. A super-partnership is made up of GP practices who come together to form one single partnership and by being part of a larger group of practices, they can be more efficient in the way they work.<sup>19</sup>

## Make the most of your assets and try doing something different

- There is a growing body of evidence that attributes as much as 40 percent of health outcomes to social determinants of health such as housing, education, poverty and nutrition. Involving a broad array of partners can help to improve outcomes.<sup>20</sup>
- KPMG's Accelerated Continuous Improvement program (KACI) is a rapid-cycle implementation approach, which empowers and engages frontline staff to deliver strategic objectives on the ground. In New York State, KACI was deployed to help reduce avoidable hospital use and address underlying 'drivers of utilization' for individual patients. Over a 3-year period, KPMG in the US worked with a number of hospital-based teams across New York State and implemented a series of interventions focused on 'doing something different' for high-utilizer patients – using only existing staff and resources and focusing particularly on behavioral health and social needs.
- For each cycle of the program, each team worked through three action-packed workshops over 8 months to design and implement targeted, achievable action plans. Within our period of support, new ways of working were launched, and embraced by staff, and new relationships were formed across a broad array of partners (including hospital, community and social care stakeholders). We helped deliver significant process and outcome change; many of the teams involved achieved relative reductions in inpatient admissions of over 20 percent for their target populations within the first year of their work.





# Using digital technology to connect and coordinate care

Digital transformation is far too central to future models of healthcare to leave to technologists alone. Systems and organizations should have a clear digital strategy with a focus on connecting care. Patients often experience poorly managed transitions in care and fragmented services. Technology is a key enabler in joining up care, but to do this, providers will need to make sure they have the foundational technology infrastructure and skilled capabilities in place. The benefits can be to:

- Facilitate care coordination and the exchange of information
- Integrate health information across multiple providers, and allow easy access to patient records
- Enable self-care; patients (citizens) can manage their sickness and their health independently (e.g. e-health and remote health monitoring)
- Anticipate needs and prompt early interventions based on advanced data and analytics and population risk profiles
- Enable staff to provide community health services in the right setting.

## The importance of foundational technology and capabilities in connecting care

Connected care aims to link every aspect of healthcare, giving professionals and individuals access to all the information they need. The World Health Organization (WHO) criticizes fragmented health systems and highlights how there is a mismatch between performance and rising expectations of service users,<sup>21</sup> which is putting pressure on health system leaders and politicians.

By encouraging patients to be involved in their own care, through continued health monitoring, it's possible to intervene before an issue becomes acute, resulting in fewer people requiring hospitalization and expensive interventions. Investing in the right foundational capabilities is an important first step.

OOH services have seen many instances of digital disruption to traditional care models (see below). In future, there will be an opportunity to connect and exchange information between organizations to allow more collaborative working across the local health system.

|   |   |   |  |
|---|---|---|--|
| <p><b>Care guidance</b></p> <p>Platforms that arm patients with relevant information and reminders at key points in their interaction with the healthcare system</p>   | <p><b>Connected medical devices/wearables</b></p> <p>Wearable technologies that help patients track and manage existing conditions and enable preventative techniques</p>  | <p><b>Remote telemedicine</b></p> <p>The remote diagnosis and treatment of patients using video conferencing over mobile device or a web portal, allowing them to access physicians, specialists or care professionals from their home</p>  | <p><b>Home health robots</b></p> <p>Machines programmed to provide 24-hour home care, especially to aged patients</p>                           |
| <p><b>Artificial intelligence (AI)</b></p> <p>A platform that analyzes multiple data points, including home environment, behaviors and biometric readings, and highlights changes in an individual's health</p>  | <p><b>Patient networks</b></p> <p>Health networks that help people find new treatments, connect with others and take action to improve their outcomes</p>                  | <p><b>Remote monitoring</b></p> <p>Continuous, automatic and remote monitoring of users via sensors, to enable people to continue living in their own homes</p>   | <p><b>Embedded vital monitors</b></p> <p>Small and flexible wearable sensors to collect and stream biometric data to physicians and nurses</p>  |

# Using digital technology to connect and coordinate care (cont.)



## ThuismeetService project (homemeasuring service project)

A project in the Netherlands is using new technology to allow more patients with chronic conditions to have care delivered in their home. An alliance between hospitals, elderly care and parties outside the traditional healthcare chain (Slingeland Ziekenhuis in the city of Doetinchem, home care provider Sensire and technology innovator FocusCura) has seen the creation of the ThuisMeet (homemeasuring) app, which connects an iPad to wireless measuring devices. Using this technology, patients make daily recorded measurements of vital signs, such as weight, blood pressure or heart rate. If the algorithm in the app detects an increased risk, an alarm signal is sent to a Medical Service Center (MSC), where a nurse can provide support by a video link. If necessary, a home nurse is sent around to visit the patient at home, or a medical specialist is notified in the hospital.

The benefits of the project are that patients feel more independent and experience fewer symptoms. The first groups targeted by this approach were chronic obstructive pulmonary disease (COPD) and heart failure (HF) patients. Consequently, outpatient clinic visits and readmission for these patient cohorts decreased by 26 percent and 28 percent respectively. Patient satisfaction has subsequently increased, and technology-enabled monitoring has shifted care from twice-yearly hospital visits, to daily digital monitoring. This has greatly increased patients' feelings of safety.<sup>22</sup>

## Telemonitoring enhanced care program for Chronic Heart Failure

Peninsula Health is the major metropolitan health service for Frankston and the Mornington Peninsula in Victoria, Australia. It cares for a population of 300,000 people, delivering acute, sub-acute and community-based services across five hospital and community health services campuses.

Peninsula Health established an innovative telemonitoring enhanced care program for chronic heart failure (ITEC-CHF), to improve guideline compliance and collaborative care. This program assists patients with CHF to comply with daily weight management recommended by the guidelines. To minimize the weight monitoring burdens for patients, and get to grip with technical difficulties, the program uses a 'zero-touch' design. Participants are not required to interact with the technology other than stepping onto a scale for weight measurement, and they do not need to learn extra knowledge and skills to receive the telemonitoring intervention.

The program is integrated with existing best-practice clinical workflows and an action plan to streamline intervention and make it seamless for care providers.

The ITEC-CHF program uses a stepped model of care, where care support and guidance is escalated if needed. For example, if a participant records a weight variation of 1 kilogram, they receive an automated digital response via text message. A series of clinical questions are asked, and if enough positive responses are recorded, a nurse makes direct contact with the participant to identify the appropriate action. Additionally, if participants are non-compliant (e.g. they do not weigh themselves daily), the telemonitoring system contacts the participant directly via phone, making note of non-compliance.

The initiative is currently being evaluated to understand its impact, but qualitative findings suggest that the telemonitoring approach has effectively improved patient outcomes and experience.<sup>23</sup>





# Making the best use of your workforce

We face a future of too much work with too few workers. By 2030, the world will be short of approximately 18 million health workers – a fifth of the required workforce needed to keep healthcare systems going.<sup>24</sup> Workforce challenges are leading to mounting pressure across OOH care services. The supply of staff has not kept pace with demand, and there are worrying shortages in key staff groups, like primary care physicians, community nursing, social workers and health visitors. The low profile of services also makes recruitment and retention harder. For many healthcare systems, an engaged and valued workforce can reduce variation and deliver real productivity that lasts.

## Areas of focus for OOH care

- |   |  |   |   |
|---|--|---|---|
| 1 | Create multidisciplinary teams of professionals from different disciplines in primary, community, social care, and mental health services, to work together to plan and coordinate patients' care. Support these teams with specialist medical input, particularly for older people and those with chronic conditions. | 5 | Train, educate and invest in staff to give existing and new staff flexibility and adaptability. Ask yourself the question: if the aim is to deliver as high-quality care as possible within the constraints of the available resources, what is the right balance between a specialist and a generalist orientation for your workforce? |
| 2 | Enable patients to be active partners in their care, taking greater responsibility for their well-being and care management.   | 6 | Embrace proven techniques to raise motivation and performance by staff, with a focus on leadership development programs.  |
| 3 | Encourage rapid and large-scale adoption of new models of care, with a focus on online communication and consultation services. These already exist in different parts of the world and can increase productivity and capacity to care.  | 7 | Use communities, volunteers and families, who already provide most of the care in society.  |
| 4 | Make the best use of data and intelligence to target specific patient cohorts who are high risk and need support.  | 8 | Empower professionals to practice at the upper limits of their clinical license (encouraged by regulators) and harness professional development, task shifting and technology.  |

## Buurtzorg Nederland: Dutch home-care organization

Buurtzorg Nederland is a Dutch home-care organization which has attracted international attention for its innovative use of independent nurse teams in delivering relatively low-cost care. The Buurtzorg model consists of small self-managing teams, each with a maximum of 12 nurses. Nurse-led teams provide coordinated care for a specific catchment area, typically consisting of between 40 to 60 patients.<sup>25</sup>

The composition of these teams in terms of specialty and level of practice varies according to the needs of each catchment area. By placing patient self-management at the heart of the operation, Buurtzorg has managed to provide excellent, patient-centered care at competitive rates.



# Delivering an estate fit for the future

Land and property is an important enabler of transformation in the health system and beyond, yet its potential is under-appreciated. This must change if we are to move towards integrated care networks/systems. By adopting a more strategic approach, systems can generate money to reinvest in new or updated premises for the benefit of patient care. Achieving real transformation will require a concerted effort to ensure that estate strategies align with local needs.

Ensuring the estate is fit for purpose in a rapidly digitizing world requires a strong and sustainable infrastructure. The lack of capital funding for maintenance and improvement presents a significant challenge across many health systems; however, maximizing buildings and land, and utilizing the existing estate more effectively, offers significant opportunities.

Often, the capital requirements to deliver the right estate for the health system cannot be delivered through public sector funding alone. System leaders should continue looking at alternative financing mechanisms for attracting investment into estates, including selling publicly-owned land and setting up strategic estate partnerships with the private sector.

Delivering an estate fit for the future is a challenging yet not an insurmountable task. Below we explore two examples from across the globe, where progress is being made in transforming estates and modernizing facilities, with a continued focus on efficiency, utilization and better patient pathways. In some areas, this has been supported by a reconfiguration of models of care to better match demand for services.

**Case study:** In some parts of England, primary care practice buildings are in a poor state, with half considered unfit.<sup>26</sup> In response to this, primary care practices have come together and have transformed into locality-based 'super hubs' with integrated primary care, community services, and out-of-hospital functions under one roof.

**Case study:** Patient hotels are a familiar sight in Scandinavia, offering state-funded comfort for patients who do not need to be in an inpatient ward in a hospital. The first patient hotel opened in the Lund University Hospital in Sweden in 1988 as a way to free up hospital beds for incoming patients. As well as offering a better experience for patients, these buildings represent value for money, since the hotel room is a third of the price of a hospital bed per night. Since the late 1980s, hotels – not hospitals – specifically designed for sick people have been popping up throughout Scandinavia.







# What works? Proven and evidenced-based interventions

In order to make a substantial change to improve well-being, increase prevention, self-care and early detection, health systems should learn from the emerging evidence on the effectiveness of particular interventions and solutions, and the outcomes they deliver.

## The evidence is growing on where to collaborate and focus

- The Nuffield Trust in the UK has written a report which highlights 27 initiatives to reduce hospital activity.<sup>27</sup> It looks at healthcare transformation plans from across England, and examines the most common initiatives to move care out of hospital. The successful schemes targeted particular groups of patients (such as those in care homes), actively involved patients in their care, supported and trained staff, and focused on gaps in services. The review found that many of the initiatives explored have the potential to improve patient outcomes and experience, but only seven of them were proven to save money. These included additional support to people in nursing homes, better support at the end of life, and giving primary care better access to specialist expertise like dermatologists.
- This list below is not exhaustive, but is based on a literature review and interviews with internationally recognized OOH experts.<sup>28</sup> It can be used to start the debate on where networks and systems should focus.

## Interventions delivered by integrated OOH care

|   |   |
|---|---|
| <p><b>Prevention at scale schemes</b></p>                   | <ul style="list-style-type: none"> <li>— Chronic disease self-management pathways</li> <li>— Domestic violence</li> <li>— Opioid prevention services</li> <li>— Smokers' services</li> <li>— Alcohol care teams</li> <li>— Diabetes</li> <li>— Overweight (physical activity)</li> <li>— Falls and fractures</li> <li>— Sexual/reproductive health</li> </ul> |
| <p><b>Reducing Emergency Department attendances</b></p>     | <ul style="list-style-type: none"> <li>— Primary care access to specialist services</li> <li>— Enhanced support to people in care homes (e.g. specialists in care homes)</li> <li>— Telemedicine triaging services</li> <li>— Paramedics in the community</li> <li>— Comprehensive multidisciplinary team case management</li> </ul>                          |
| <p><b>Reducing ambulatory surgery center admissions</b></p> | <ul style="list-style-type: none"> <li>— Condition-specific rehabilitation, (e.g. ophthalmology in the community)</li> <li>— Outpatients in the community</li> <li>— Ambulatory care model</li> </ul>   |
| <p><b>Reducing lengths of stay</b></p>                      | <ul style="list-style-type: none"> <li>— Multidisciplinary team discharge planning at the point of admission</li> <li>— In-reach and out-reach services</li> <li>— Hospital at home</li> </ul>  |



## Risk stratification using the latest analytics technologies

- Analytics will be one of the most valuable tools for transforming OOH care in the coming decade. The crucial first step is to systematically stratify your population so that you know where to focus your efforts. This will mean identifying high-cost, frequent users of services, and those with chronic diseases and multimorbidity.
- Population health data analytics and risk stratification tools can help segment the population based on age, need and geography.
- Most professionals within the system understand risk stratification but require support to ensure it is implemented effectively.

# Developing the delivery model

Is it best to coordinate patient care and transitions among different organizations? Or should you form a single, integrated care model? Redesigning OOH care services may require you to redefine your delivery model (sometimes referred to as developing the target operating model). How do you translate your strategy into a structure and show people where and how the critical work will get done across the healthcare system? Getting the delivery models right can lead to significant cost savings, increased efficiency and revenue generation. Here is an example of our approach:

|  |  |
|--|--|
| <b>1. Create and agree the vision</b>                        | <ul style="list-style-type: none"> <li>— There is a system/network consensus that OOH care is critical in delivering high-quality, sustainable health and care services that meet the changing needs of the population. There is a joint focus on prevention and self-care.</li> </ul>   |
| <b>2. Agree measures and outcomes</b>                        | <ul style="list-style-type: none"> <li>— Co-produce outcomes and measures. This is an excellent way to bring providers and key stakeholders together.</li> <li>— Understand how you will monitor and evaluate key performance indicators (KPIs) and outcomes.</li> </ul>   |
| <b>3. Outline governance and accountability arrangements</b> | <ul style="list-style-type: none"> <li>— Define governance arrangements; this is fundamental, as accountability means different things to different organizations.</li> <li>— For a board to be in control, the culture should focus on quality, responsibility and accountability of staff, optimized processes, and real-time measurement</li> <li>— It should include traditional fiduciary roles and clinical and quality governance.</li> </ul>   |
| <b>4. Agree design principles</b>                            | <ul style="list-style-type: none"> <li>— Design principles are statements, agreed by senior leaders, which guide you in the design and inform the development of potential solutions.</li> <li>— Design principles are critical for making difficult decisions. They allow stakeholders to understand boundaries (or 'red lines') that should not be crossed. They also act as a useful reference point through the change process.</li> </ul>   |
| <b>5. Co-produce services and solutions</b>                  | <ul style="list-style-type: none"> <li>— Patients and citizens need their voices heard and should be encouraged to become more active in the production process.</li> <li>— Review the evidence and facts together and be transparent with findings. This should help with the design of the model of care or integrated pathway.</li> <li>— Focus on how organizations can start to work in a more joined-up way, with a focus on developing ideas for care coordination, key initiatives/solutions and system changes that could support enhanced prevention, self-care and wellbeing. Ask yourself "is care delivered in the appropriate setting and will the solution avoid escalation?". Dare to do something different.</li> <li>— Outline risk-sharing agreements or outcomes-based contracts if applicable.</li> </ul> |
| <b>6. Implement</b>  | <ul style="list-style-type: none"> <li>— Define actions and implement as agreed.</li> <li>— Target 'quick wins'.</li> </ul>  |
| <b>7. Scale and sustain</b>                                  | <ul style="list-style-type: none"> <li>— If agencies/organizations have never before engaged in this way, it will take time, so trust each other.</li> <li>— Get feedback on your successes; it will help build and maintain momentum.</li> </ul>  |

## Lincolnshire health and care system: moving to an integrated community care model

With a challenging hospital-focused deficit, leaders from Lincolnshire health and care economy in the UK were keen to deliver more care closer to home and develop an OOH (integrated community care offer). KPMG in the UK was appointed to advise on potential models of care that would meet the challenge, and to work with system leaders to develop the case for change and the business case for delivering integrated care.

Importantly, Lincolnshire system leaders wanted a 'one provider, one organization, one workforce' model. We worked with the clinical, operational and system leaders to design a sustainable integrated community care offer. We

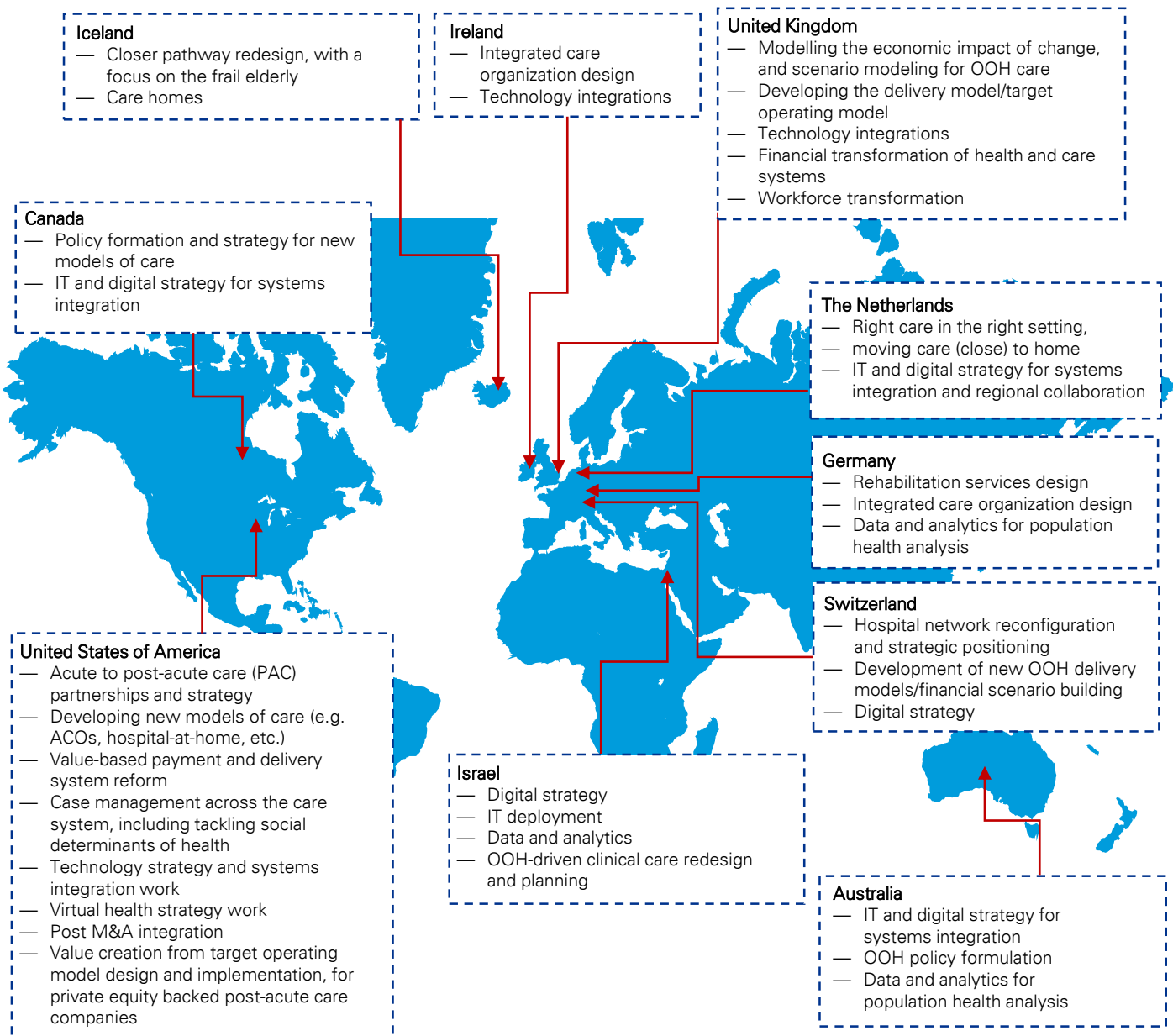
did this by drawing on national and international evidence and best practice on the interventions/change schemes that can shift care to a locality-based integrated community model. We then modeled the system finance and activity data, which enabled us to work with the providers to identify schemes that, when implemented, are designed to shift system expenditure from a deficit to a surplus. We also identified a series of OOH recommendations to guide system leaders on organizational form, commissioning and contracting arrangements, workforce, as well as critical infrastructure such as digital and information and management services.

# Around the world: hot topics in out of hospital care

As part of the research for this report, KPMG International commissioned a market assessment to understand the OOH services that are being bought by payers, providers and suppliers in country markets. The research found:

The 2017 OOH consulting market was US\$3.2 billion (6.2 percent of the total healthcare consulting market). A significant proportion of this is small, proof-of-concept and business case development work with fewer big system implementation projects, except in a few discrete areas such as telemedicine.

- The majority of OOH consulting revenue (59 percent) was generated by public sector clients (i.e. government agencies and public hospitals).
- There is a growing recognition that expanding OOH care will be a “must have” over the next 3-5 years to achieve system sustainability.
- Below, we examine the areas where countries are focusing their attention as they transform OOH services.



# Summary

01

If integrated care systems and networks are to flourish, it is vital that out of hospital (OOH), community-based services are at the center of these plans. When considering healthcare system design and delivery models, the priority should be improving the quality of care and care coordination, rather than structural or organizational solutions. There are successful international examples in this report that policymakers, payers, providers and suppliers can learn from.

02

OOH interventions and solutions can improve patient experience, alleviate system pressures and reduce costs. Successful interventions typically target particular groups of patients, actively involve patients in their care, reduce service fragmentation, support and train staff, and address gaps in services.

03

Focus on collaboration and coordination. Patients and service users are often in contact with multiple health and care professionals during their treatment. To deliver high-quality OOH care, you need to draw on a broad array of partners and develop multidisciplinary teams of health and social care professionals, who work together and look holistically at the patient's needs.

04

Primary care can play a lead role in coordinating care for patients with multiple needs, and evidence shows that health systems with a high-performing primary care sector achieve better health outcomes, better equity, lower mortality rates and lower overall costs of healthcare.

05

Digital transformation and connecting care technologies are vital components in delivering seamless OOH care. Digital disruption to traditional models of care creates excellent opportunities to deliver efficiencies, but health system leaders should carefully consider where to invest.

## How can we help?

KPMG member firms are uniquely situated to help healthcare system leaders and professionals. Some of the services we offer include:



Assistance writing a case for change/strategic blueprint/ acute to post-acute care strategy



Physician clinic scheduling, efficiency and capacity management (access)



Development of new contracting methods that incentivize outcomes



Political alignment and service user focused stakeholder engagement, to enable decision-making and buy-in



Workforce redesign



Digital strategy, and population health management analytics (including risk stratification)



Detailed design and implementation of OOH care, community-based models, and user-centered pathway design



Transformation roadmap and business change planning



Cost analysis and cost containment services plans

### KPMG's new Integrated Care Online Maturity Assessment

Learn more about KPMG's approach to integrated care. Take our Online Maturity Assessment to help understand where your system faces challenges and how our organization can help.

Access it [here](#).



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## Human: Solving the Global Workforce Crisis in Healthcare



Global Chairman for Healthcare, Government & Infrastructure, KPMG International, Partner, KPMG in the UK and award-winning author, Mark Britnell, uses his unique insights from advising governments, executives, and clinicians in 77 countries, to present possible solutions to this impending workforce crisis.

Human: Solving the Global Workforce Crisis in Healthcare, calls for a reframing of the global debate about health and national wealth, and invites us to deal with this problem in new and adaptive ways that drive economic and human prosperity. By harnessing technology, it asks us to reimagine new models of care and new levels of workforce agility.<sup>29</sup>

Drawing on experiences from across the world, Mark Britnell makes it clear what has worked and what has not. Short and concise, this book gives a truly global perspective on the fundamental workforce issues facing health systems today.

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