



COVID-19: Recovery and resilience in healthcare

Global insights, practical advice and tools to help healthcare leaders build and sustain a resilient new reality

KPMG International

—
November 2020

home.kpmg/healthcare



Introduction

Responding to the COVID-19 pandemic is the greatest test for healthcare in generations

Healthcare providers and systems have risen rapidly to address challenges that were almost unimaginable only a few short months ago. The speed and scale of the response has been remarkable, and the healthcare community should be proud of how it has reacted to the greatest global health emergency we have witnessed in a century.

The disruption will be profound and long-lasting, from deep scars on nations' health to more immediate threats surrounding the sustainability of provider organisations overwhelmed by the demand and impacts to existing care models. The unequal effects of COVID-19 risk exacerbating existing health inequalities, requiring wide-ranging responses.

Healthcare organisations face continued uncertainty over a period of years until a global vaccination campaign is fully underway. After the initial shock comes a difficult period of managing the impact, with continued adaptation of services to scale-up and scale-down the acute response while seeking to resume other services and reduce the backlog.

Healthcare won't go back to how it was, nor should it. Despite the difficulties, there are many useful examples of how providers and systems are taking steps to innovate and push forward necessary changes and modern approaches to care.

Based on interviews with healthcare leaders around the world, this global report from KPMG International's healthcare team provides a framework for how to successfully adapt, including:

- **Key themes and common challenges** — sharing emerging trends and best-practice from healthcare providers globally
- **Healthcare recovery framework** — setting out key areas and actions to focus resources and accelerate adaptation
- **Highlighting beneficial changes** — identifying opportunities and innovations that have come out of the crisis
- **Next steps and a recovery roadmap** — practical recommendations to help implement a resilient recovery

Despite the extraordinary challenges, there remain opportunities to drive positive change. KPMG healthcare specialists are experienced in building and sustaining change, and we would be proud to support you during these difficult times.

Sections

1

Global experience

2

Managing impact

3

Resilient recovery

4

Key actions

5

Connected Health

6

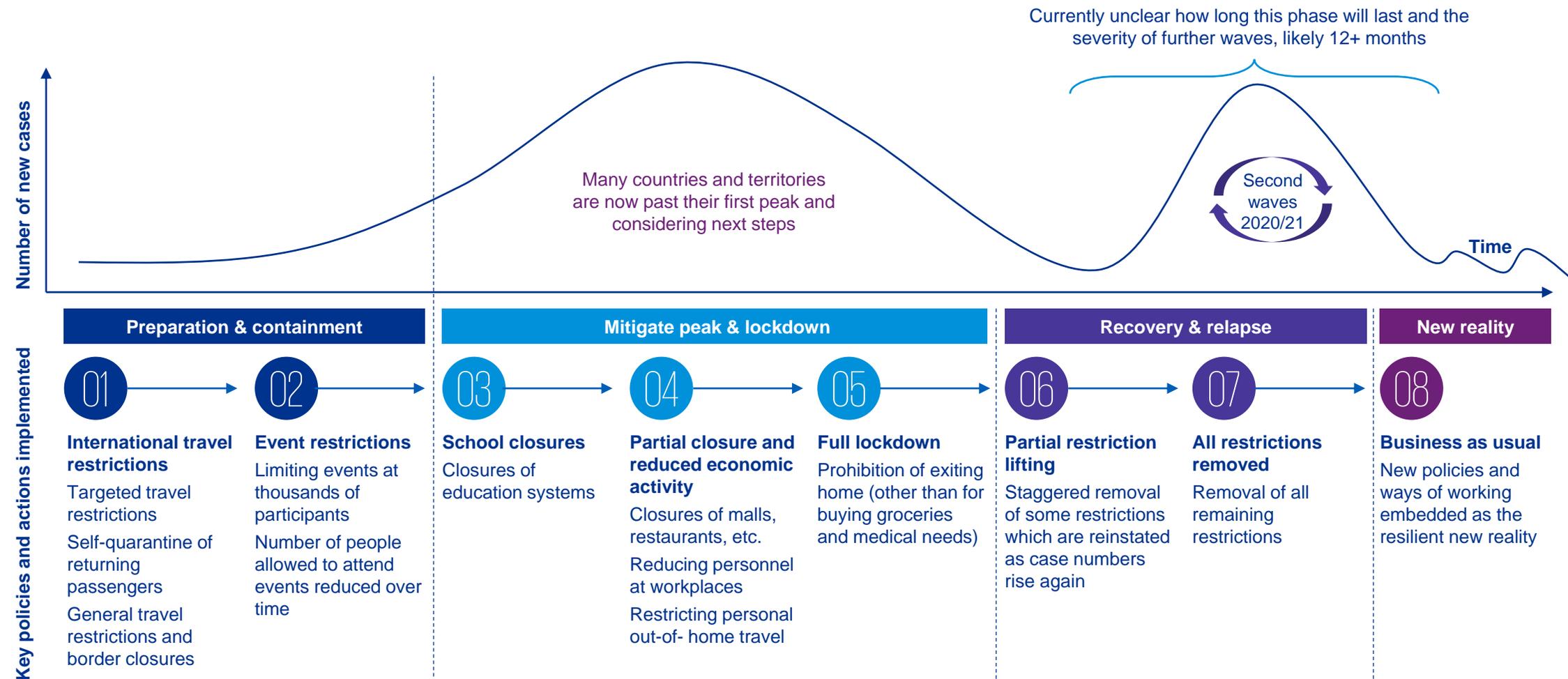
Maturity matrix

7

Recovery roadmap

Health systems follow similar paths as the pandemic evolves

Governments around the world will likely see 8 phases in managing the pandemic — from international travel restrictions, through vast closures and to the gradual easing of restrictions. These phases correlate and influence the rate of rise and decline of the pandemic:



COVID-19: Recovery and resilience in healthcare: Global insights, practical advice and tools to help healthcare leaders build and sustain a resilient new reality, KPMG International, 2020.

Global COVID-19 analysis: Client needs we are seeing globally

KPMG healthcare specialists work in more than 45 countries and territories and have been deeply involved in the pandemic response. Through regular global knowledge sharing calls we have been able to collaborate and share practical experience quickly. The following key client themes have emerged:

01

Digital front door is now the normal front door

- Remote consultations that enable nurses and doctors to care for patients in their own homes and other settings coupled with remote monitoring
- Integrated, interactive and inter-connected online health records

02

Separation of clean and dirty sites

- Increasing capacity to care through strict rules governing regular testing of staff and patients and their movement between clean and dirty sites
- Dedicated facilities and equipment with increased virtual staff communications

03

Hot and cold sites

- Rapidly developing new patient flows to protect ongoing elective care and diagnostics services including transfer to cold sites and use of other care settings including private facilities

04

Scaled up primary care and centralised specialty services

- Field hospitals to provide critical care for COVID-19 positive patients
- Centralised primary care hubs with capacity to see patients for face to face consultations who have been triaged first remotely

05

Aged care services

- Adopting and implementing global best practices to protect care home residents and staff including establishing dedicated quarantine facilities for self-isolation, regular testing of staff and new admissions, and housing care staff in private accommodation

06

Supply chain resilience and back office scale

- Digital supply networks using analytics and modelling to support operational decision making. Mitigating against critical bottlenecks through supplier diversification and repurposing of local manufacturing capacity

07

Command centres

- Combining real-time data to significantly improve operational efficiency and patient flow across national, regional and hospital systems, coordinating management of patients and resources across pathways

08

Agile workforce

- Harnessing remote working and flexible regulation to build new models that define roles by tasks and competencies. This allowed professionals to work at the top of their licence with support from other staff and trained volunteers

09

Institutional and health system governance

- Support for the wider health system resilience by enhancing cooperation and resource sharing through regional planning. Establishing operational command points for communications among central, regional and local authorities

10

Project management

- Need for more management and accelerated delivery capacity to help clients stand up their emergency COVID-19 responses and implementing essential initiatives rapidly at scale

Spotlight on worldwide best practices

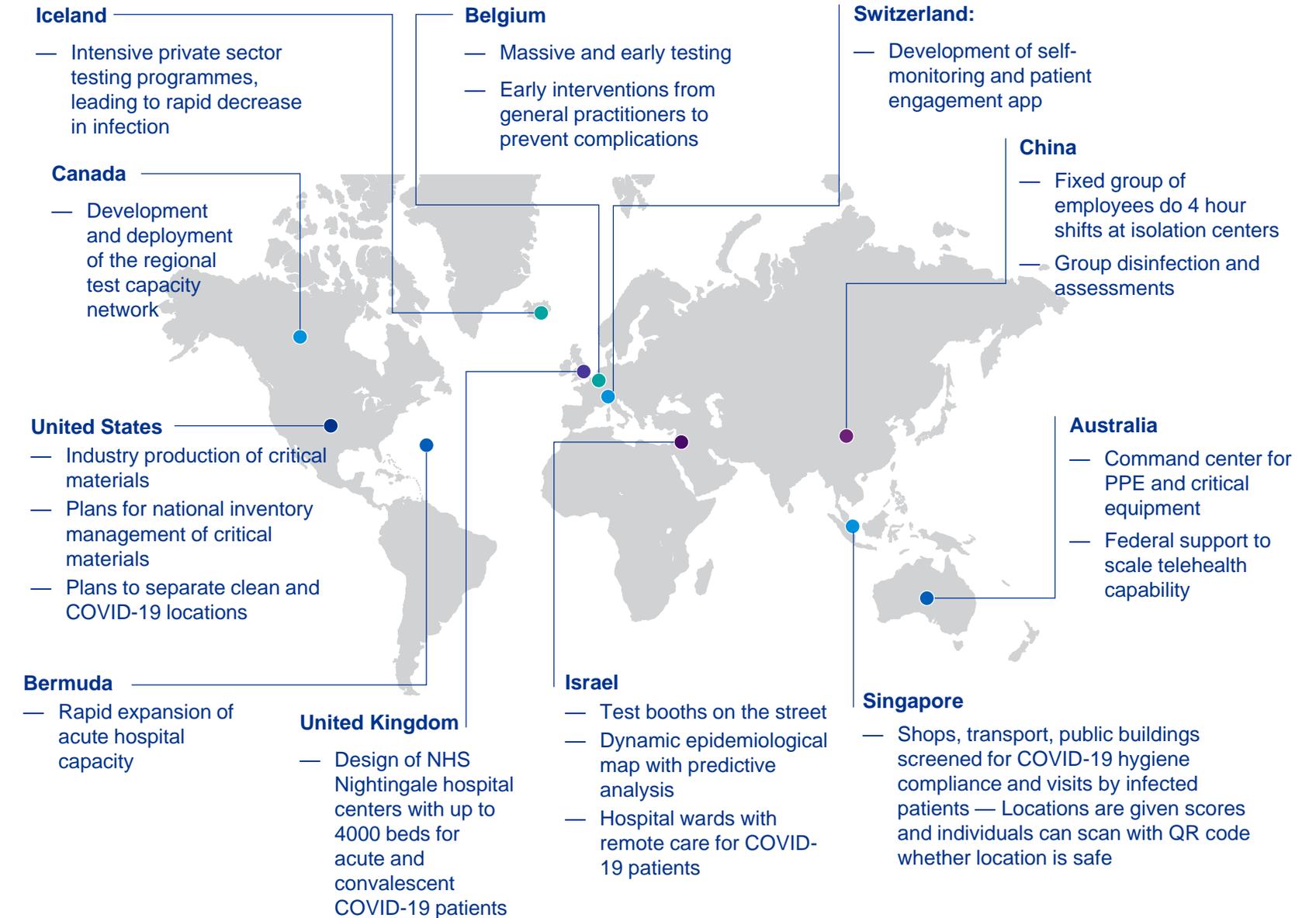
Health systems around the globe are responding to the immediate challenges of COVID-19.

Since March 2020, KPMG healthcare specialists have been working closely with both clients and each other to rapidly scale support and share best practice globally.

Wide-ranging support for providers and health systems has included:

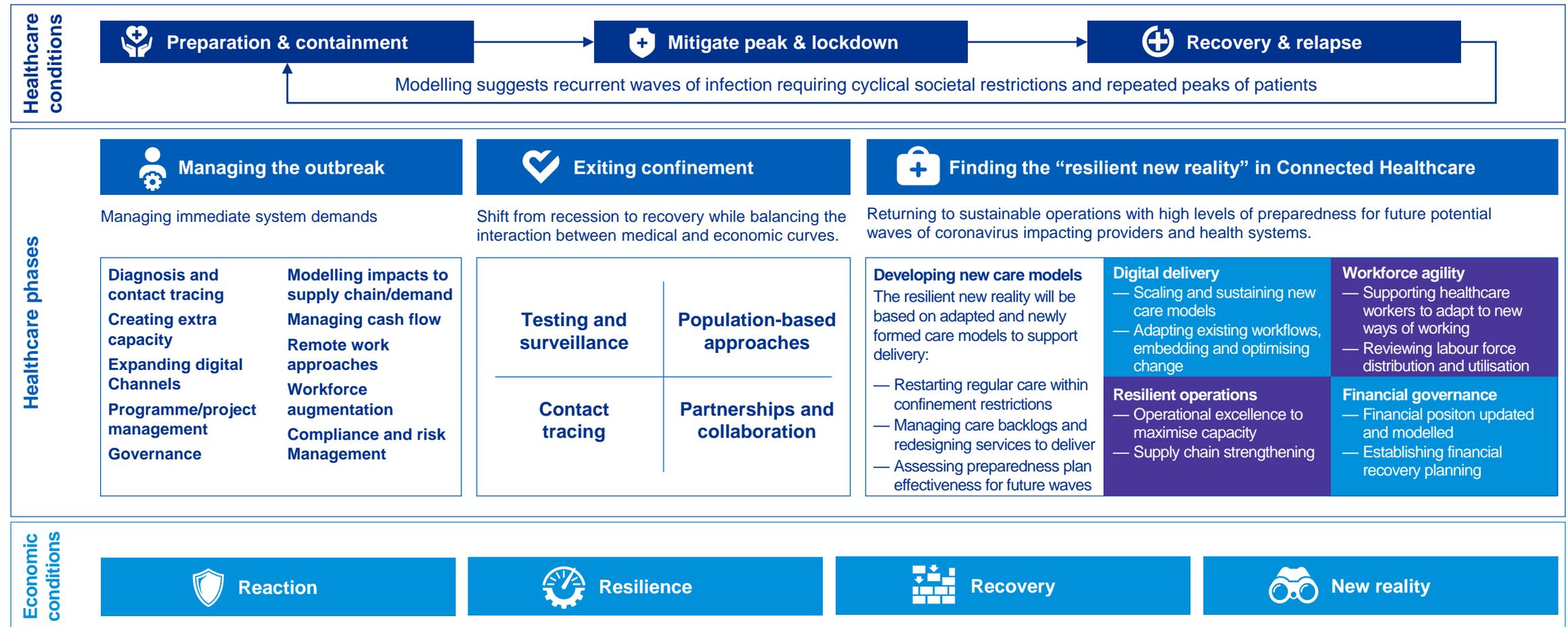
- Scaling testing capacity
- Advanced data and analytics to model provider and system PPE requirements
- Advanced supply chain support
- Scaling telehealth capability
- Supporting the rapid conversion of non-health facilities into major new hospitals

The diagram to the right outlines some examples of best practices worldwide.



COVID-19 healthcare recovery framework

Recovery from coronavirus will be a marathon not a sprint. The only true exit depends on an effective vaccine. Until then there will be recurrent waves of infection. Managing these will require health providers and systems to develop a 'resilient new reality'.



COVID-19: Recovery and resilience in healthcare: Global insights, practical advice and tools to help healthcare leaders build and sustain a resilient new reality, KPMG International, 2020.



Managing impact

Flattening the curve and exiting confinement



COVID-19 healthcare recovery framework

Recovery from coronavirus will be a marathon not a sprint. The only true exit depends on an effective vaccine. Until then there will be recurrent waves of infection. Managing these will require health providers and systems to develop a 'resilient new reality'.



01 | Confinement exit strategies



What we're seeing:

- A need to implement and scale reliable testing strategies to enable decision-making
- Development of robust contact tracing methods, including technology-enabled approaches
- Stratifying risks for specific demographics, communities and workplaces to appropriately phase an exit from confinement
- Harnessing of skills, capabilities, and lessons learned from other sectors and jurisdictions

Pillars to a flexible risk-based confinement exit approach



Testing and surveillance

- Mass testing to identify those with active infections and limiting only those without active infections to return to work or school
- Ongoing mass testing for COVID-19 antibodies (e.g. immunity) to inform population level policy and restrictions



Contact tracing

- Rapidly identifying who COVID-19 positive patients have interacted with (proximity and duration) to identify individuals who may be at risk and required to self-isolate



Population-based approaches

- Quantifying the risks of different individuals and different communities
- Allowing lower risk populations (based on age, gender, overall health, etc.) to have limited restrictions
- Adapt level of restrictions to reflect level of vulnerability of the particular population



Partnerships and collaboration

- Working with partners from across sectors, the community, and other jurisdictions to share learning and align policies
- Local, regional, national and international collaboration and knowledge sharing

02 | Managing risk in action

The impact of coronavirus will continue to be felt until a successful global vaccination campaign is underway. Beyond the short-term immediate actions to manage the initial response, careful risk management will be required over the longer-term. There are a number of factors and key facilitators to consider in successfully controlling and delivering this.

Baseline factors

Community Threat Level (CTL)

Identified hotspots i.e. number of positive tests in population

- The number of visits to outpatient clinics for COVID-like illness
- The rates of COVID-associated hospitalisations

Individual Risk Estimate (IRE)

Based on individual factors:

- Risk to transmit — The potential that an individual could transmit the virus.
- Risk to contract — The potential that an individual could contract the virus.

Examples variables:

- Demographic information (i.e., age and gender)
- Existence of pre-existing conditions
- Social determinant risk factors (i.e. housing, transportation, etc.)
- Date/results from a COVID-19 infection test and time lapse since last test
- Date/results of a positive anti-body test
- Vaccination (future)

Workplace Risk Estimate (WRE)

Based on the workplace and work undertaken, for example:

- Inherent risk in the work being undertaken
- Ability of workplace to adapt to social distancing

Key facilitators

Ramp-up COVID-19 testing

- Mass population testing at scale
- Rapid feedback of results
- Cyclical testing every 10-14 days

Enhanced contact tracing

- Increased tracing probability
- Population wide coverage
- Technology enabled

Treatments and vaccine

- Require development
- Will play a greater role with time
- Likely 12-18 month window to global availability

Bridge to vaccine

Flexible, intelligent and graduated implementation of traditional public health measures

Rapid suppression and containment:

- Based on community and individual
- Quarantine
- Self isolation
- Social distancing
- Lockdown



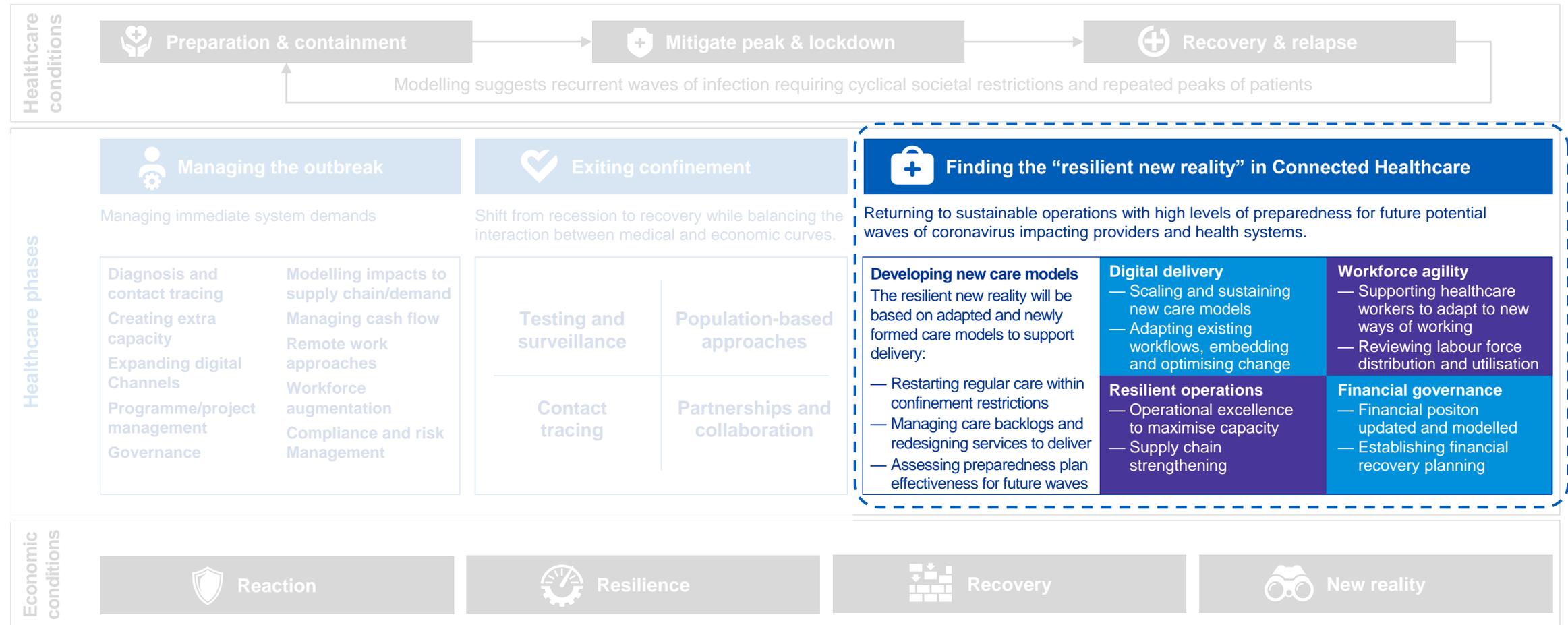
Resilient recovery

Delivering a resilient new reality in healthcare



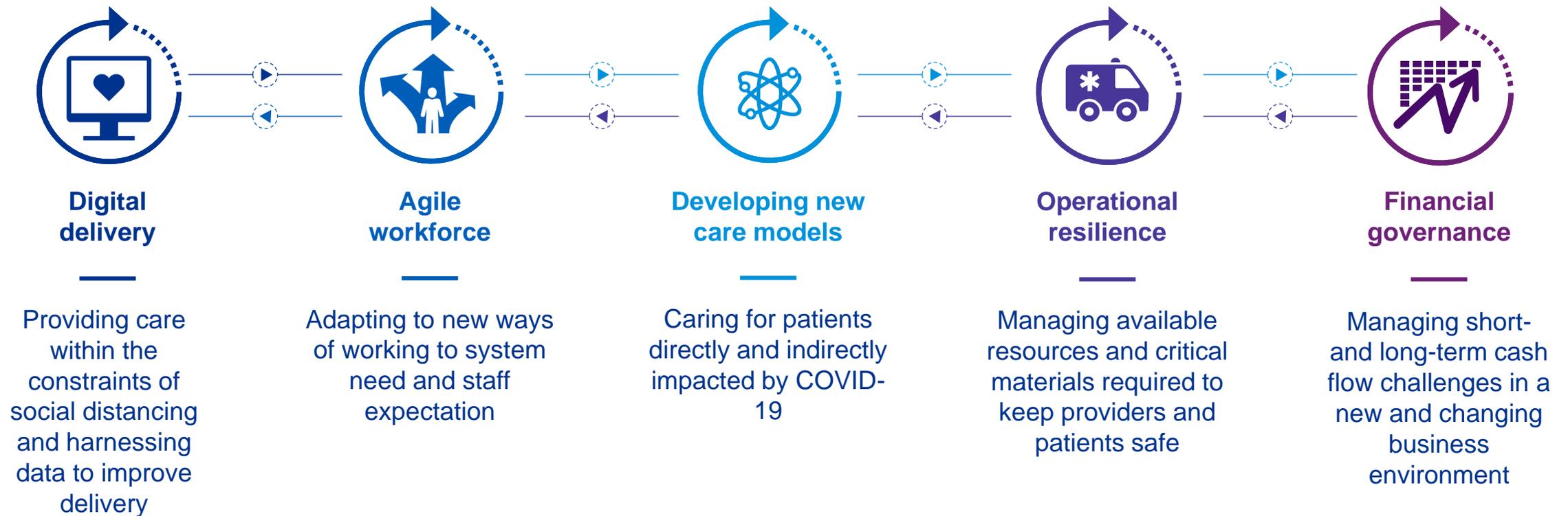
COVID-19 healthcare recovery framework

Recovery from coronavirus will be a marathon not a sprint. The only true exit depends on an effective vaccine. Until then there will be recurrent waves of infection. Managing these will require health providers and systems to develop a 'resilient new reality'.



Finding a resilient new reality for healthcare: Five priority areas

Health providers and systems are considering solutions to near-to-midterm challenges as they adjust to working in a 'resilient new reality'. There are five key areas to consider:



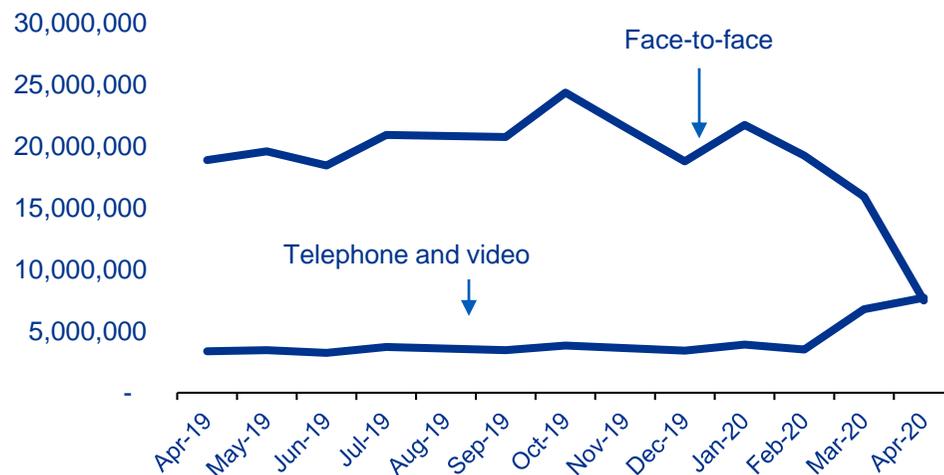
01 | Digital delivery



What we're seeing:

- Urgent shifts to digital-first care including remote consultations, monitoring and automation across all care settings in place of face-to-face contact
- Off-the-shelf technology adoption based on non-specific tools that are rapidly 'bolted-on' to existing services with compatibility and sustainability risks
- Establishing digital Command Centres using real-time data to improve operational efficiency and patient flow across systems to manage resources
- Regulatory dispensations to facilitate uptake of online services and monitoring including expanded services, prescribing waivers, etc.¹
- Demand for data and analytics modelling in all areas e.g. resources, supplies, demand
- Unmet needs to synthesise multiple data sources and models to provide actionable, operational insights at organisation and system levels

GP consultations in England: Rapid uptake of remote consults²



Future implications for healthcare:

- Continued and accelerated digital care model innovation and transformation across all providers and services while working to avoid digital exclusion and inequality
- Need to embed rapidly adopted solutions into revised care models, pathways and workflows to become safe, secure and sustainable
- Front-door and psychological health and wellbeing services may be vanguards for new digital service provision
- Rapid establishment of a 'digital workforce' through training and support to help staff adapt to new digital care models
- Greater role for connecting front, middle and back offices to support new care models
- Guiding provider and system management of patient flow and resources through a digital 'Command centre' approaches for providers and systems
- Reconfiguration of business and operating models based on the changes adopted including future reimbursement
- Greater focus on cybersecurity, privacy and data governance

01 | Digital delivery (continued)

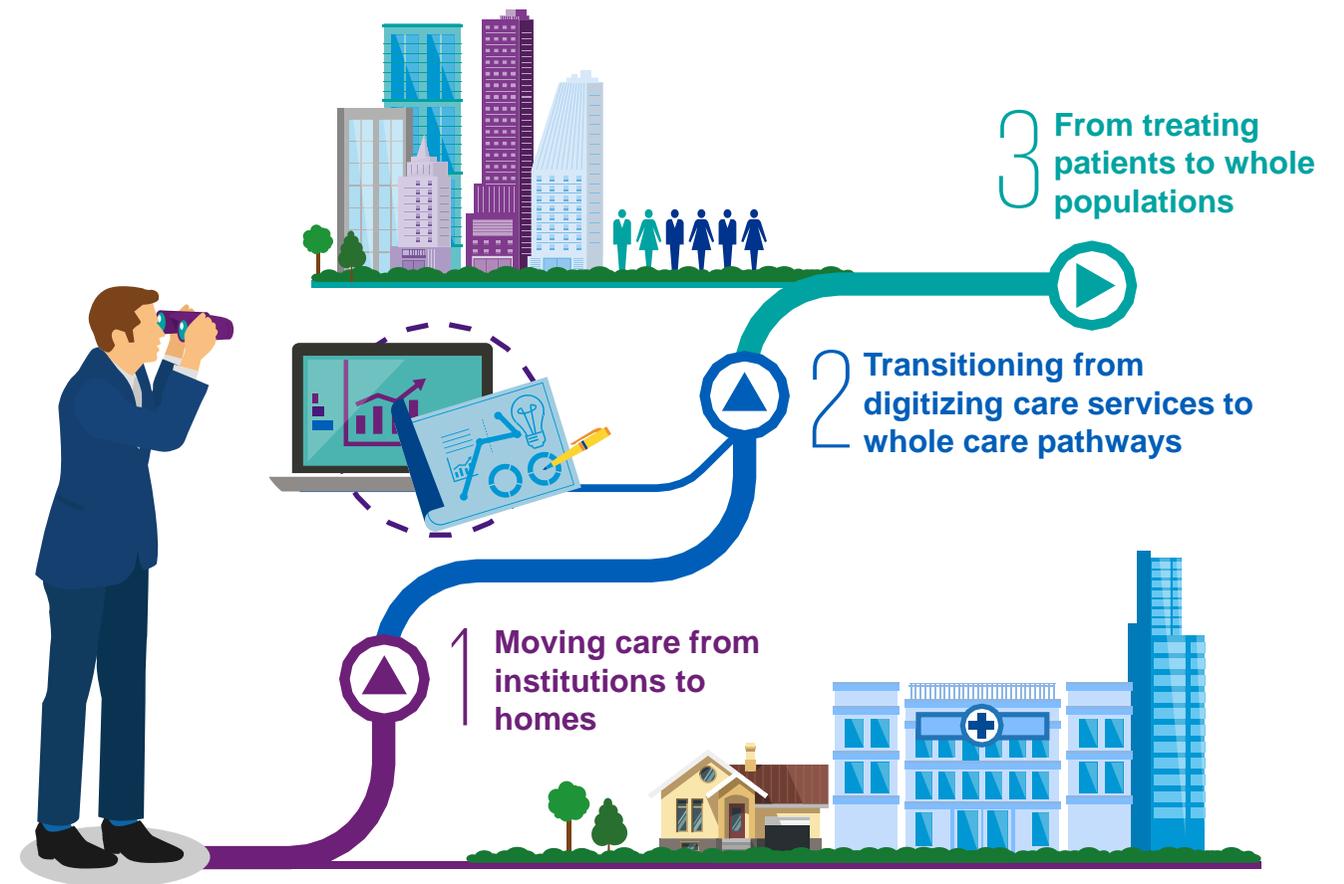
Investments in the digital front door



In Australia

- Expansion of Medicare-subsidised telehealth services for all Australians to provide access to quality healthcare in the home
- A new Medicare item for telehealth enables those who are isolated due to the virus to access medical services from home by audio or video
- Medical, nursing and mental health medical staff are available to deliver services over the phone or through a video conference

Changes on the horizon



02 | Agile workforce

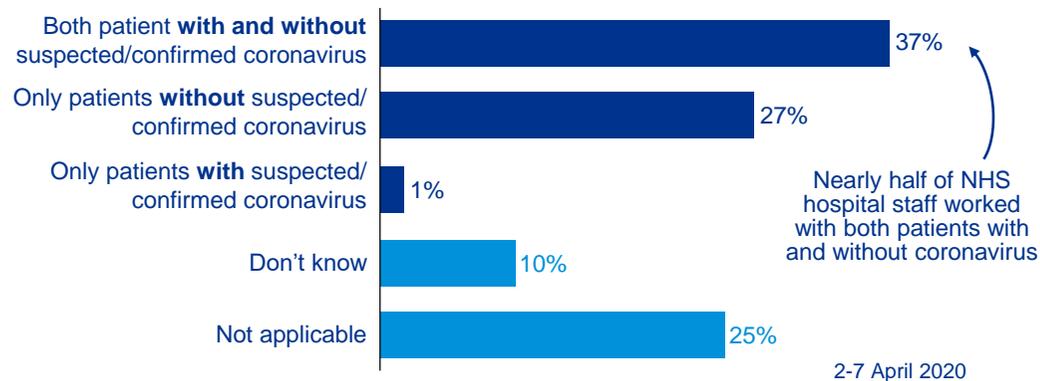


What we're seeing:

- Exacerbation of existing health worker shortages globally has increased focus on tasks and competencies rather than job titles
- Flexibility in current roles is driving cross-working and redeployment between departments and facilities, with greatly enhanced collaboration
- Relaxation of professional registration requirements and restrictions, including staffing ratios, and scope of work
- Increased coordinated use of public volunteers and third sector resources to provide flexible support and reduce the burden on existing staff
- Concerns around the growing impacts on physical and mental health, and greater recognition of existing inequalities in the healthcare workforce³
- Rapid optimisation of human resource functions including recruitment and onboarding
- Rapid and large-scale shift to flexible and remote working for non-frontline staff

In April 2020, 37% healthcare workers in the UK worked with both patients with and without COVID-19⁴

In the past weeks, which of the following best describes the patients you have worked with? (percentage of 855 patient-facing healthcare professionals)



Future implications for healthcare:

- Re-evaluation of workforce plans and forecasts needed for the rest of the year and beyond
- Re-thinking staffing models and deployment according to tasks and competencies rather than roles and job titles
- One of the major challenges going forward will be in clearing the backlog of elective cases, and how staffing is managed with a workforce that is potentially divided into “business as usual” and COVID-19 care streams
- Return of the generalist — development of rapid support and training to allow staff to be redeployed outside of their usual role
- Strengthened support services to reduce staff attrition and burnout
- Promotion of caring careers may lead to a rebound effect that providers should be ready to engage with, promoting future health and care worker recruitment
- Enhanced flexible and remote working arrangements including childcare
- Need to ‘lock in’ and boost the health workforce through the coordinated use of volunteers and third sector at scale during the pandemic

02 | Agile workforce (continued)

Given the profound challenges facing health systems and providers in responding to the crisis, there are a number of global best-practice workforce examples to learn from:



Rostering

In China, staff were divided into different teams, limited to a maximum of 4 hours of working in an isolation ward and rotated through isolation wards at different times.

Teams were assessed and disinfected as a group to reduce the frequency of staff moving in and out of isolation wards.

Before going off duty, staff had strict hygiene protocols to prevent possible infection.



Staff ratios

In UK, staffing ratios have been relaxed in order to ensure the appropriate available nurses and specialists to cover the surge in patients and anticipated staff absence rates of up to 20 percent.

Ratios of one nurse per patient in intensive care have been relaxed in favour of a team-based approach. This sees one specialist nurse for every six patients, supported by two non-specialist nurses and two healthcare assistants.



Reserve workforce

Iceland's Ministry of Health released a call for reserve workforce volunteers to individuals in 13 different health professions (not currently working frontline and medical students) as a reserve workforce.

To-date 1,000 professionals have signed up — a large number for Iceland's population — and a number of them have already been called for duty, mainly to assist in cases of outbreaks in smaller communities around the country.



Improved support

To support its more than 75,000 members, the **Canadian Medical Association** released a resource for maintaining physician wellness during the pandemic and recently launched a Wellness Support Line.

03 | Developing new care models



What we're seeing:

- Infection control measures are slowing down all processes and treatments, greatly reducing capacity and patient flow⁵
- Increasing use of innovative care models to counter this impact including online triage and patient pathways e.g. remote monitoring via virtual wards
- Growing use of non-traditional care settings including non-medical facilities such as hotels, conference centers, and other 'pop-up' facilities
- Rising backlogs of other conditions from cancer to acute medical conditions, with an estimated 28 million surgeries postponed globally⁶
- Challenges in separating patients so that COVID-19 positive or suspected cases are kept apart from those unaffected to prevent further spread
- Increased centralisation of pathway and resource management to coordinate use e.g. critical care services
- Emerging use of advanced data and analytics modelling to inform decision making and resource planning through digital command center approaches



Creative Commons Attribution (CC BY 4.0) terms and conditions <https://creativecommons.org/licenses/by/4.0>
 Credit: London Fever Hospital, Liverpool Road, Islington: viewed from the south. Coloured engraving. Credit: Wellcome Collection. Attribution 4.0 International (CC BY 4.0)

Future implications for healthcare:

- Rapidly building and adapting new models to deliver 'business as usual' healthcare outside of COVID-19 related care, including addressing the care backlog
- Need to formalise divided pathways for COVID-19 positive and negative patients, including use of 'hot' and 'cold' designated facilities
- Rapid diagnostic point of care testing needs to be integrated into care pathways in order to determine patient flow
- Increased use of virtual care to reduce the burden on health resources and avoid in-person contact where appropriate, without driving digital exclusion
- Increased need to adopt established care coordination principles across providers to keep patients moving from presentation to discharge
- Development of new or adapted care pathways for post-COVID-19 rehabilitation
- Challenging the right level of centralisation of specialist services
- Reduced barriers to cross-provider integrated ways of working
- Coordinated long-term resource planning to minimise and mitigate the wider adverse effects of increased health inequalities as a result of the unequal impacts of COVID-19⁷

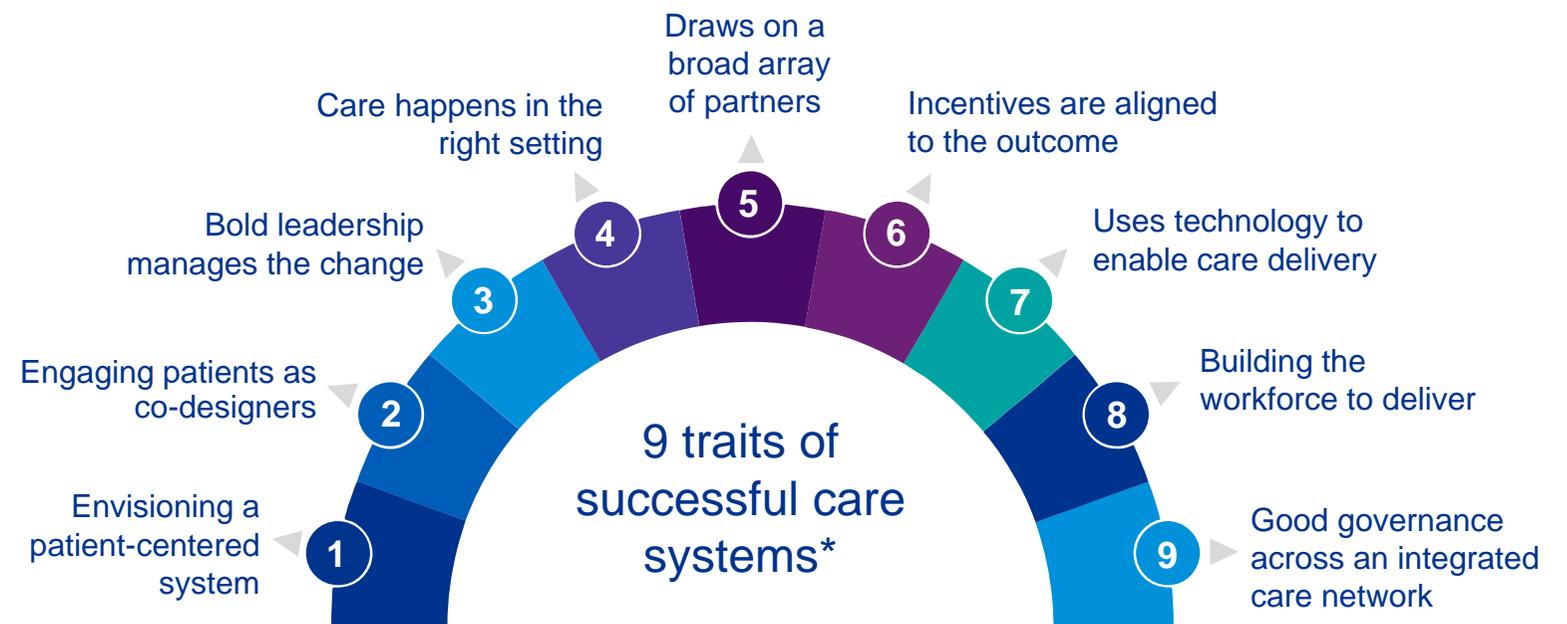
03 | Developing new care models (continued)

H Rapidly scaling capacity

In the United Kingdom, the NHS Nightingale Hospital in London created 4,000 critical care beds in less than 10 days to accommodate expected surge volumes. Supply and demand models were used to estimate required beds, staffing, equipment and medicine.

Dutch hospitals are modelling the future potential impact of COVID-19 on the hospital's demand and capacity to remain responsive and agile as infection rates change.

Successful care models share similar traits globally



*Delivering healthcare services closer to home, KPMG International, 2019

Emerging care models

Care models are quickly adapting in health systems around the globe to adjust to the realities of COVID-19 — for example:

- Remote monitoring and “hospitals at home”
- “Hot” and “cold” hospitals to cohort infected patients
- Use of community partners to deliver services in the right setting

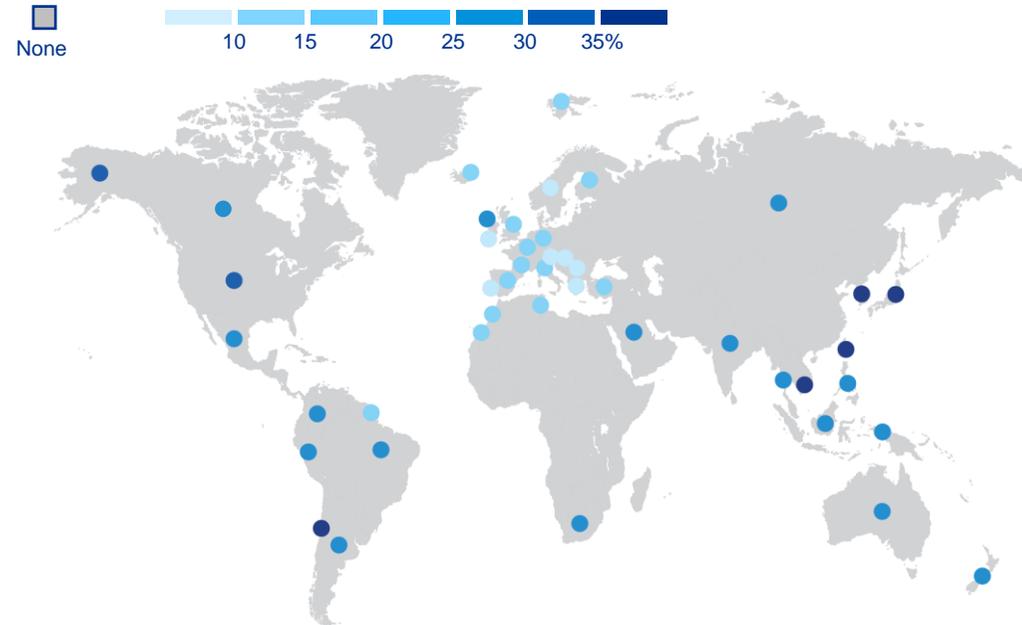
04 | Resilient operations: Capacity management and supply chain



What we're seeing:

- Managing and treating patients with COVID-19 has been compounded by critical shortages and a lack of logistical management of essential supplies including protective equipment, medicines and devices
- The breakdown in global supply as industries slow/close down has revealed an over-reliance on internationally diversified 'just-in-time' supply chains in healthcare at a time of market-wide shortages
- Coordination, redistribution and repurposing have helped offset these challenges to varying degrees
- Local logistics to ensure timely refreshed supplies to front line healthcare workers have been challenging
- There is an unmet need to predict requirements by location over time requiring dynamic modelling

Share of all imports of intermediate manufacturing products from China⁹



Future implications for healthcare:

- Establishing digital Command centres to monitor system-wide capacity and performance will help provide a single combined view of the true situation to better aid and coordinate responses
- Improved continuity plans at both the organisation and system levels, including scenario and substitution planning to help define trigger points for supply needs
- Increased collaboration between organisations to facilitate centralised cooperative procurement
- A shift away from globalism will drive more organisations to explore localising their supply chains for critical supplies
- Increased exploration and adoption of innovative technologies across the supply chain — blockchain, IOT, AI/ML and drone delivery of vital medical supplies, particularly for remote settings⁹
- Use of advanced data and analytics to predict supply needs and inform their deployment
- Increased partnering with supply chain vendors and use of risk-sharing agreements
- Re-assessment of 3D printing and VR/AR in new environment

04 | Resilient operations: Capacity management and supply chain (cont.)

Understanding the full scope of the supply chain including potential limitations and critical risks for a full range of scenarios will be one of the clear outcomes of the COVID-19 pandemic when organisations look back on their challenges.

KPMG supply chain recommendations for getting ahead of the surge:

Pre-surge of patients

- Identify resources, materials and supplies currently on hand
- Develop time-phased demand models comprising moderate and maximum critical patient levels
- Run simulations to expose critical supply gaps using maximum critical patient levels
- Establish resource, material and supply substitution rules to handle critical supplies

Surge of patients

- Monitor events that could impact the demand model (e.g. geography, absenteeism)
- Enable analytics to alert teams to supply discrepancies
- Ensure information used to identify demand and supply discrepancies is update on a regular cadence to assist in resource balancing

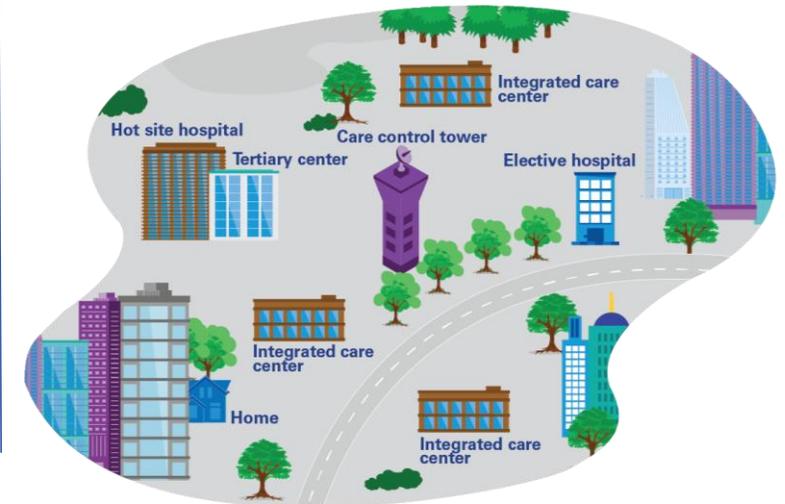
Post-surge of patients

- Identify critical information and technology gaps that affect the time and resource to assess demand and supply requirements
- Partner with supply chain vendors on centralising distribution and risk-sharing models
- Mitigate economic impact of COVID-19 supply purchasing

Command centres

Developing digital command centres that combine data sources and embed an evidence-based operational management system can:

- Significantly aid the timely management of available resources
- Allow for a clearer view of capacity and patient flow at provider and system levels to enhance operations



An Australian state is establishing a Command centre for a state PPE supply chain — including demand modelling, process/procurement support and supply arrangements/requirements for COVID-19 requirements

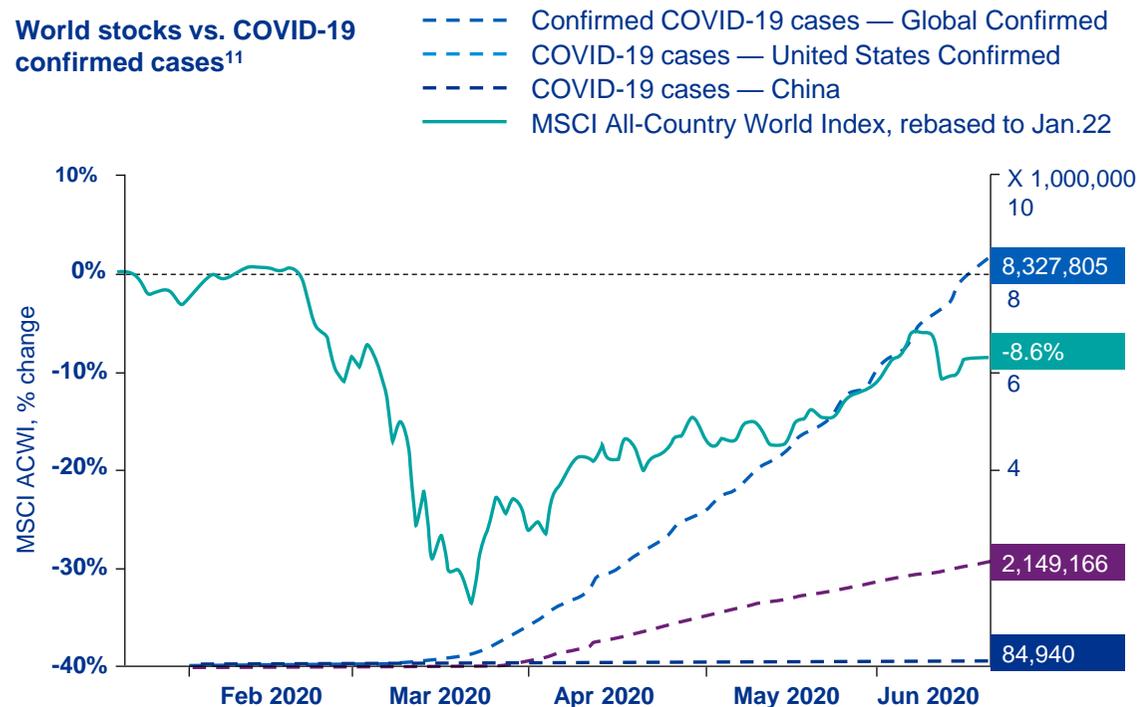
05 | Financial governance



What we're seeing:

- Disruption is slowing provider revenue generation, while costs like salaries and maintenance remain fixed, significantly increasing financial pressures¹⁰
- Cash burn is accelerating, but regular financial data does not provide adequate visibility in a volatile environment in which profitability, cash flow and access to finance are all under simultaneous pressure
- Cash flow models are being adapted for uncertainty and disruption, and revised regularly — even daily
- Financial stress testing and forecasting is a priority, with short-term forecasting used to engage with creditors and funders to seek forbearance and support
- Budgets across many countries and territories have been delayed and existing budgets redundant as governments launch substantial stimulus packages.

World stocks vs. COVID-19 confirmed cases¹¹

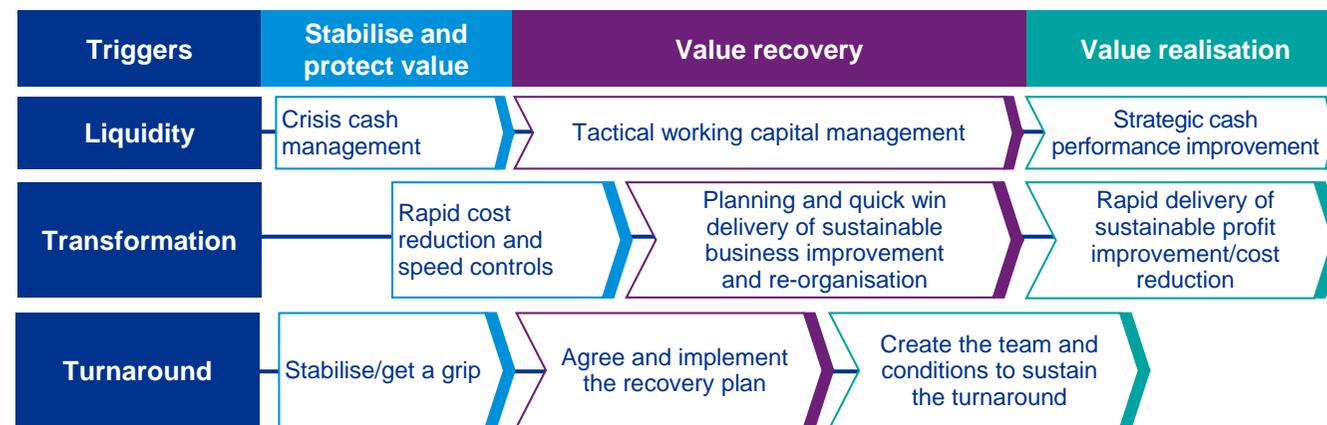
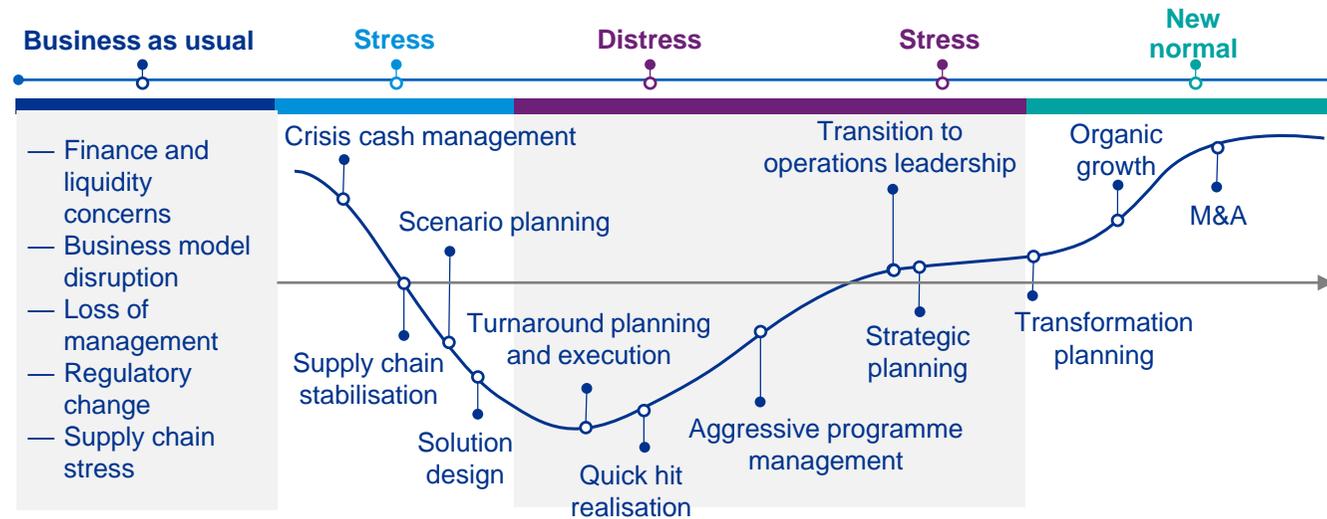


Future implications for healthcare:

- Without financial resilience, commercial and operational resilience cannot be maintained. Weaker providers may be unable to cover payroll costs or fund essential supplies rendering operations rapidly unsustainable
- Need for adaptation in reimbursement schemes of payers to provide for compensation of cancelled care and extra COVID-19 related costs
- Elective surgery and diagnostics provide some of the highest revenue-generators; cancellations and delays risk substantial losses
- Activity isn't all deferred, some will not return, and changing clinical thresholds will mean existing business assumptions and planning needs to change
- Care models need to change to accommodate — or alternatively adapt to the loss of — higher-revenue generating procedures
- Financial pressures may trigger refinancing, debt renegotiation, and a funding search from private or public sources
- Existing business models will need to be reviewed and revised in anticipation of a protracted pandemic and resulting new reality
- Further industry consolidation may result with mergers and acquisitions to achieve scale and greater financial resilience

05 | Financial governance (continued)

The financial effects of the pandemic are reminiscent of the 2008 financial crisis, but with the stresses extended across every sector of the economy. Previously successful healthcare organisations are suddenly coming under acute financial pressure.



The above framework describes the process, technology and governance that allows an organisation to change its course of action to optimise the management of cash as a key component to any COVID-19 survival plan. Framework adapted from KPMG's framework for stabilisation and value creation, portfolio company cost and capital stress test. KPMG LLP, 2020.

©2020 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Managing financial resilience

Financial resilience is not only a problem for providers but also for society and payers — the general public will not accept bankrupt hospitals after all they have done for society helping manage coronavirus. Potential options include:

Changes in reimbursement methods

- **Population-based COVID-19 allowances** based on risk profiles, e.g. reimbursement based on historical lump sums with possible extra COVID-19 allowances based on tangible cash outs/DRG-reimbursement

Liquidity and financing options

- **Identifying options** to meet funding requirements, including advising on how to access different government backed funding programmes and approach lenders
- **Structuring requests** to lenders for funding or amendments to financial covenants within timescales available
- **Liquidity planning** through the design and execution of cash flow management plans, to demonstrate ongoing 'liquidity grip' to lenders

Stress testing and forecasting options

- **Forecasts** — implementing robust short-term cash flow forecasts, including dynamic scenarios and consolidation
- **Stress testing** — sensitising forecasts to model cash burn rates, cash reserves and headroom and modelling of mitigation options to assist businesses in presenting the implementation of proactive self-help measures when seeking additional funding

Summary: 10 connected actions to deliver a resilient new reality

Based on our global perspectives, common themes for successful and sustainable recovery for health systems and providers are emerging. Our analysis suggests 10 key actions in 5 different areas for healthcare leaders to focus their resources on in order to successfully build and sustain a resilient new reality for their organisations:



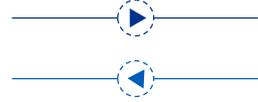
Digital delivery

1

Anticipate and plan for continued acceleration of a digitally-enabled care transformation across all providers and services

2

Rapidly adopted solutions need to be built into revised care models, pathways and workflows to become sustainable alongside updated business models



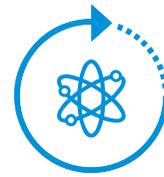
Agile workforce

3

Re-think staffing models and deployment according to tasks and competencies rather than roles and job titles, and revise existing workforce plans

4

Strengthen services to prevent staff attrition and burnout and improve support for remote working, flexible working arrangements to help them



Developing new care models

5

Rapidly build and adapt new models to deliver 'business as usual' healthcare outside of COVID-19 related care and address the backlog

6

Increase use of virtual care to reduce the burden on health resources and avoid in-person contact, supporting care outside hospital by using remote consultations and monitoring



Operational resilience

7

Establish digital command centres to embed operational management systems for monitoring and managing system-wide capacity and performance

8

Improve collaboration and continuity planning across organisations and systems to provide a centralised view of supply needs, including scenario modelling to help anticipate demand and define trigger points



Financial governance

9

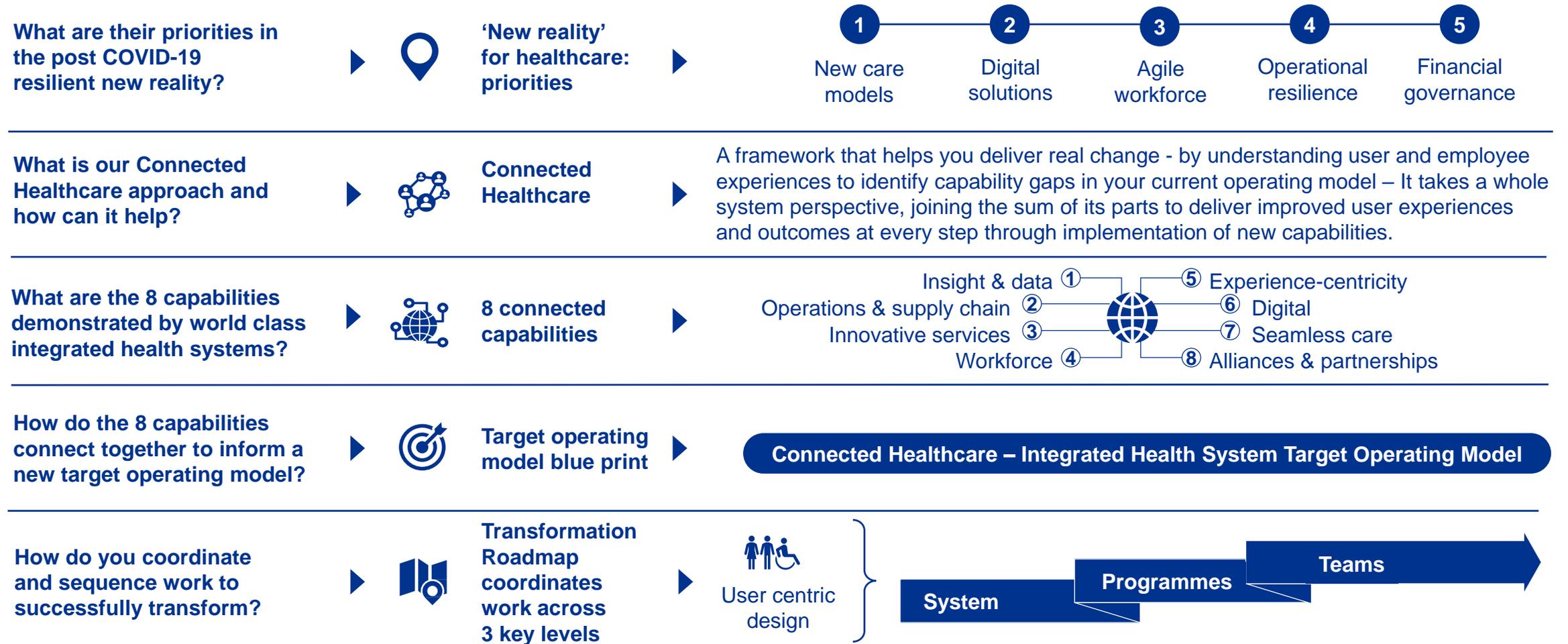
Rapid adaptation of payer reimbursement schemes is needed to provide for compensation of extra COVID-19 related costs and cancelled care

10

Review liquidity and financing options to mitigate loss of higher-revenue generating procedures, with stress testing and forecasting to model options and scenarios

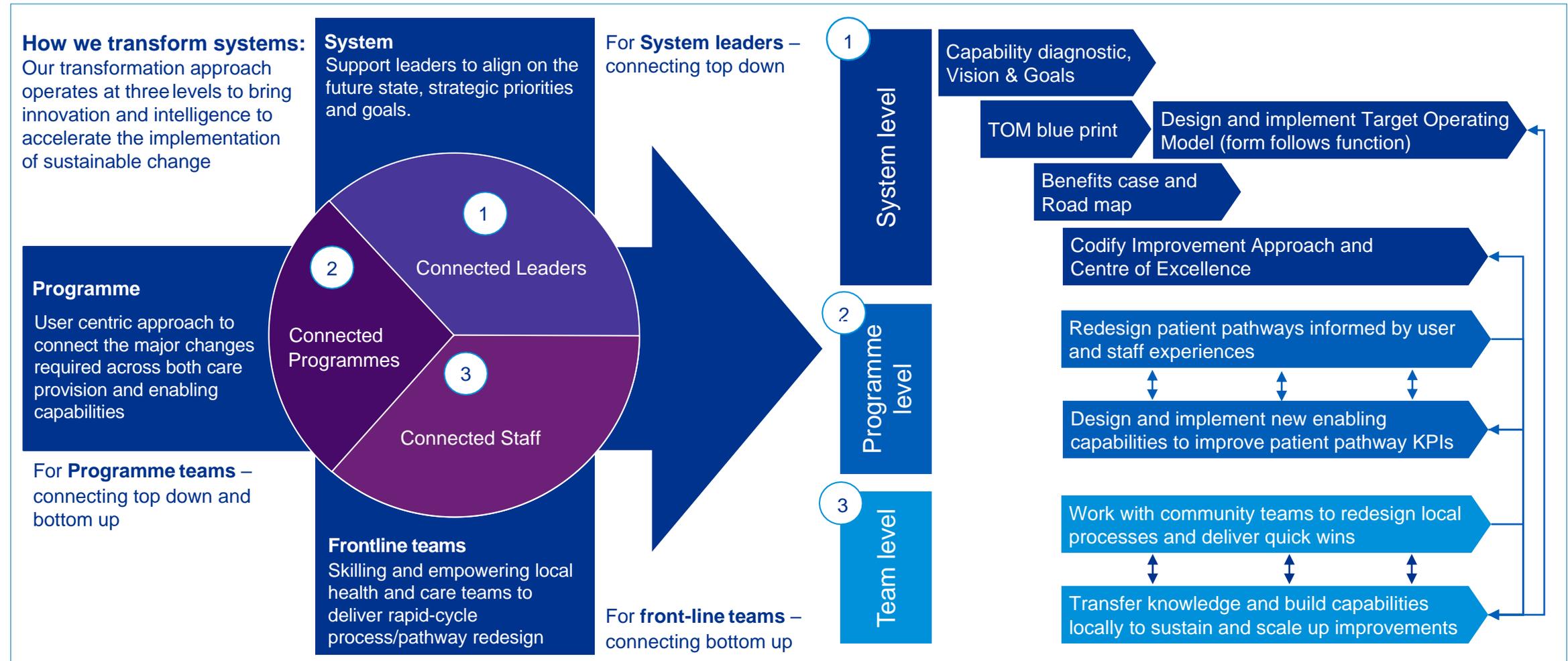
KPMG's Connected Healthcare approach accelerates transformation

In helping health systems and providers deliver across these priority areas, KPMG's Connected Healthcare approach brings a global method that accelerates transformation and implementation. It takes a whole-system perspective, joining the sum of its parts to deliver improved user experiences and outcomes at every step through to implementation.



Connected healthcare systems deliver more effective services

Connected Health is KPMG's framework that helps you deliver real change by understanding user and employee experiences to identify capability gaps in your current operating model. Our approach puts people first, and brings leading global insights powered by tools, templates and solutions to help you design and implement innovative change.



KPMG COVID-19 resilient recovery matrix for healthcare

The following maturity matrix can help healthcare organisations understand where they are on their journey to adapt and respond to the challenges posed by coronavirus. If you have any questions about the matrix, or your self-assessment, please contact us to discuss further.

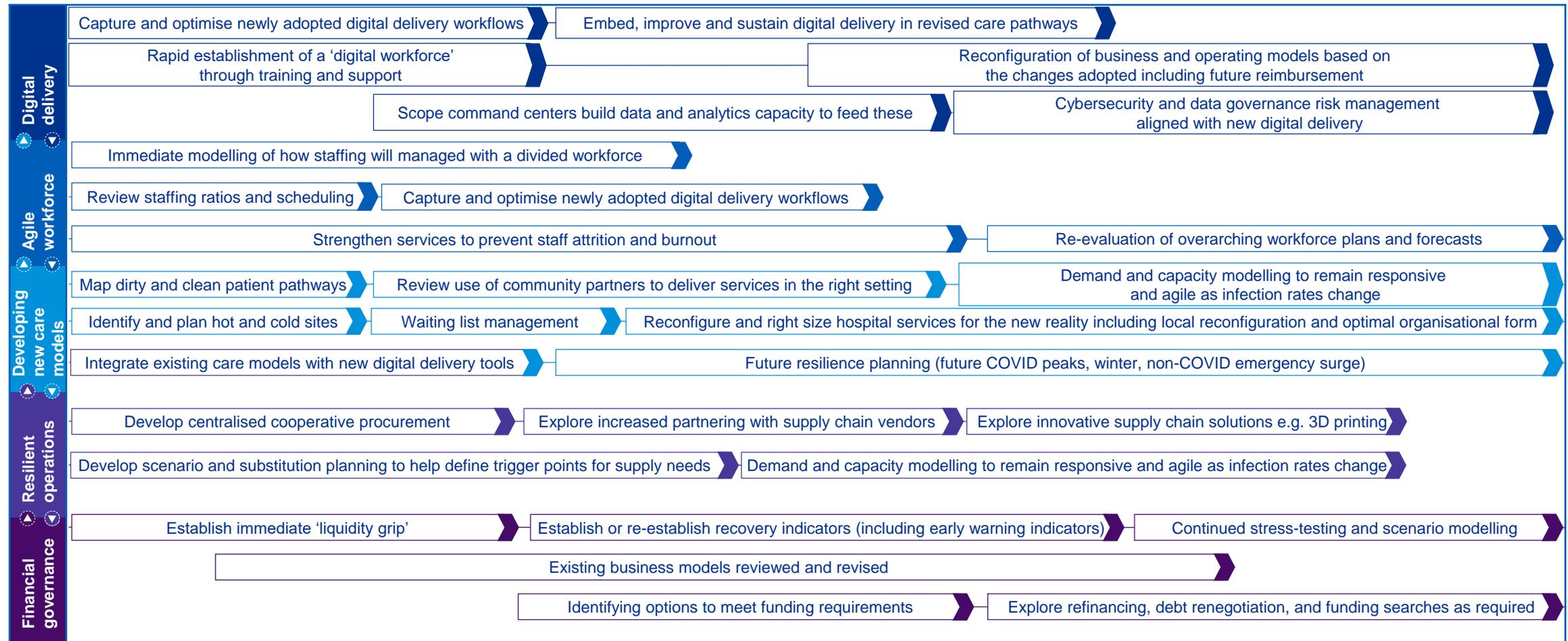
	AD hoc	Organised	Managed	Agile
01 Digital delivery	<ul style="list-style-type: none"> — Temporary workarounds and solutions as issues emerge — No coordinated response based on existing strategy 	<ul style="list-style-type: none"> — Individual or group tasked to respond to virtual care and remote work issues — Emerging coordination without overarching strategy 	<ul style="list-style-type: none"> — Coordinated response management for business continuity — Management of select remote working and virtual solutions 	<ul style="list-style-type: none"> — Digital issues managed flexibly with a strategic response aligned to established and emerging tools
02 Agile workforce	<ul style="list-style-type: none"> — No modelling of needs — No clear view of current gaps — No view of the tasks versus skills and competencies of staff — Little attention to wellbeing — Constrained silo working 	<ul style="list-style-type: none"> — Basic modelling of needs — Some coordinated view of current workforce gaps and tasks versus skills and competencies — Emerging focus on wellbeing — Constrained silo work dominates 	<ul style="list-style-type: none"> — Modelling of needs performed — Clear view of current workforce gaps and tasks versus skills and competencies — Wellbeing plans in place — Multidisciplinary team working 	<ul style="list-style-type: none"> — Dynamic real-time modelling — Multidisciplinary teams deployed according to tasks and competencies rather than roles and job titles — Strong emphasis on wellbeing
03 Developing new care models	<ul style="list-style-type: none"> — Reactive problem solving — No clear single view or model of patient flow and resources — No central coordination — Fixed and inflexible pathways 	<ul style="list-style-type: none"> — Individual or group oversight of care pathways providing some central view and coordination — Some modelling of needs — Emerging flexibility in pathways 	<ul style="list-style-type: none"> — Central coordinated view of care pathways and current status — Modelled flow and resources — Managed and flexible pathways 	<ul style="list-style-type: none"> — Dynamic responsive care pathways with a clear overview of patient flow and resources — Multi-stakeholder central coordination and communication — Population risk-based capacity planning across services
04 Resilient operations	<ul style="list-style-type: none"> — No single point of truth and/or conflicting view of current status — No clear view of current gaps — No modelling of needs — No central coordination 	<ul style="list-style-type: none"> — Individual or group tasked with coordination and oversight — Emerging view of current status/gaps and risks — Some modelling of needs 	<ul style="list-style-type: none"> — Coordinated view of current gaps and risks with central coordination — Established model of needs — Flexible and responsive, with some degree of resilience 	<ul style="list-style-type: none"> — Responsive real-time modelling of needs with centralised analysis of scenarios and risks — Adaptive and resilient by design — Established event monitoring
05 Financial governance	<ul style="list-style-type: none"> — Current financial position not clearly established — Loose grip on financial control — No recovery planning initiated 	<ul style="list-style-type: none"> — Current financial position known or path to establish that, with control mechanisms in place — Emerging recovery planning 	<ul style="list-style-type: none"> — Financial position known, with control mechanisms in place and scenario planning undertaken — Recovery planning established 	<ul style="list-style-type: none"> — Financial position actively updated and modelled based on most likely updated scenarios — Recovery plan running in parallel

COVID-19: Recovery and resilience in healthcare: Global insights, practical advice and tools to help healthcare leaders build and sustain a resilient new reality, KPMG International, 2020.



Next steps: Resilient recovery roadmap

This high-level roadmap sets out the next steps for healthcare providers and health systems looking to 'lock in' beneficial changes, adapt to new ways of working with reconfigured business and operating models, secure supply chains and financial resilience. Some areas need work to be undertaken concurrently and some consecutively.



COVID-19: Recovery and resilience in healthcare: Global insights, practical advice and tools to help healthcare leaders build and sustain a resilient new reality, KPMG International, 2020.



A global healthcare network

Healthcare systems around the world are facing unprecedented challenges that require policy makers, payers, providers and suppliers to rethink how they work.

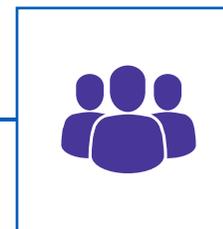
With deep experience, KPMG member firms are uniquely positioned to provide guidance and support to clients, sharing our global learning.

We can help you successfully navigate this rapidly changing environment to transform the way that healthcare is provided.



45

Country and territory health practices



4,500+

Partners and staff work in healthcare



Equipped and experienced advisory teams across the global network



Contributors



Dr. Anna van Poucke
Global Head of Healthcare
KPMG International
Healthcare Senior Partner,
KPMG in the Netherlands
E: vanpoucke.anna@kpmg.nl

As KPMG International's Global Head of Healthcare, Anna oversees a team of more than 4,500 healthcare specialists in 45 jurisdictions and revenues of \$1.25 billion (USD).

She also leads the organisation's global Care System Redesign network and has worked extensively with clients on five continents to futureproof care systems. Previously, Anna was healthcare lead partner for KPMG in the Netherlands.

Anna has more than 30 years of healthcare experience in diverse managerial, board and consultancy roles. Her areas of expertise range from M&A to portfolio strategies, financial restructurings, governance model design, regional service redesign and digitized care delivery model development.

Prior to joining KPMG in 2011, Anna held senior-level positions at several hospitals and academic health sciences centers, where she led transformational projects. As CEO of the Dutch Diagnosis Related-Groups (DRGs) and pricing office, Anna was a major force behind the adoption of DRG systems for healthcare providers and the introduction of a new national healthcare payment system.

Anna has a PhD in Economic Sciences from Erasmus University.



Beccy Fenton
Deputy Head of Healthcare and Care
System Redesign Lead
KPMG in the UK
E: beccy.fenton@kpmg.co.uk

Beccy has over 20 years' experience working for and with healthcare organisations including commissioners, providers, regulators, integrated care systems and governments. Prior to joining KPMG Beccy worked for the NHS for 14 years where she held numerous positions that included Executive Board Director (for 10 years), Deputy CEO, CFO, DoF, Turnaround Director and Director of Strategy and Transformation.

During her time as CFO in the NHS Beccy led her Trust's successful application to become one of the first NHS Foundation Trusts in the UK, led the first ever NHS M&A and the subsequent successful clinical, operational and financial turnaround of a medium-sized acute hospital and was part of the Board voted "Hospital of the Year" by the Health Service Journal (HSJ).

Beccy leads KPMG's most complex healthcare transformation projects working with system leaders, regulators and governments to transform the way care is provided and paid for to improve the health of the population, the quality of care, staff morale and to achieve long term financial sustainability.



Dr. Ed Fitzgerald
Clinical Lead, Care System Redesign
and International Healthcare
KPMG in the UK
E: edward.fitzgerald@kpmg.co.uk

Dr. Ed Fitzgerald is the Clinical Lead for Care System Redesign in KPMG's Healthcare Advisory practice. He qualified in medicine from Magdalen College, University of Oxford, and has over 20 years' experience of clinical practice and management across the NHS and international health systems.

He designs and leads complex strategic change in healthcare policy and practice, providing clients with a deep knowledge of global trends and best-practice gained from working in 30 countries and territories on over 60 occasions. His healthcare management consulting experience provides strategy, policy, and operational expertise, with a focus on care system redesign and integration.

Ed is a respected healthcare leader and has received several awards for his innovative work, including the Royal Society of Medicine's Tanner Medal, and the Royal College of Surgeons' Margaret Witt Scholarship. He has extensive health policy and research experience with over 100 academic publications, and previously played a central role in pioneering global crowd-sourced collaborative health research networks.

References

1. Turner Lee, Karsten & Roberts. (2020). Removing regulatory barriers to telehealth before and after COVID-19. The Brookings Institution and The John Locke Foundation.
2. The Health Foundation. (2020, May 1). How might COVID-19 have affected people's ability to see their GP? COVID-19 chart series. The Health Foundation website. <https://www.health.org.uk/news-and-comment/charts-and-infographics/how-might-covid-19-have-affected-peoples-ability-to-see-GP>
3. Mock, J. (2020, June 1). Psychological trauma is the next crisis for coronavirus health workers. Scientific American. <https://www.scientificamerican.com/article/psychological-trauma-is-the-next-crisis-for-coronavirus-health-workers>
4. Nolsoe, E. and Ibbetson, C. (2020, April 9). COVID-19: Healthcare workers fear policies risk infecting new patients. YouGov. <https://yougov.co.uk/topics/politics/articles-reports/2020/04/09/covid-19-healthcare-workers-fear-policies-risk-inf>
5. Nigel Edwards. (2020, June 2). Here to stay? How the NHS will have to learn to live with coronavirus. Nuffield Trust. <https://www.nuffieldtrust.org.uk/resource/here-to-stay-how-the-nhs-will-have-to-learn-to-live-with-coronavirus>
6. CovidSurg Collaborative. Elective surgery cancellations due to the COVID-19 pandemic: global predictive modelling to inform surgical recovery plans. Br J Surg (2020): 10-1002. doi:10.1002/bjs.11746
7. Bibby, Everest, & Abbs. (2020, May 7). Will COVID-19 be a watershed moment for health inequalities. The Health Foundation. <https://www.health.org.uk/publications/long-reads/will-covid-19-be-a-watershed-moment-for-health-inequalities>
8. Cousin, M. (2020, January 31). How the coronavirus can infect global supply chains. Bloomberg.com. www.bloomberg.com/news/articles/2020-01-31/how-the-coronavirus-can-infect-global-supply-chains-map
9. Wolf, H. (2020, July 6). We're about to see the Golden Age of drone delivery — here's why. World Economic Forum. <https://www.weforum.org/agenda/2020/07/golden-age-drone-delivery-covid-19-coronavirus-pandemic-technology/>
10. Jiang, Bai, Gustafsson, & Anderson. (2020, June 25). Canary in a Coal Mine? A Look at Initial Data on COVID-19's Impact on U.S. Hospitals. The Commonwealth Fund. <https://www.commonwealthfund.org/publications/issue-briefs/2020/jun/canary-in-a-coal-mine-initial-data-covid-19-impact-hospitals>
11. Carvalhouk, R. (2020, April 13). World stocks gain on China trade data, easing pandemic worries. Reuters. <https://reuters.com/article/global-markets/world-stocks-gain-on-china-trade-data-easing-pandemic-worries-idINKCN21W04J>





home.kpmg/healthcare



Throughout this website, “we”, “KPMG”, “us” and “our” refer to the network of independent member firms operating under the KPMG name and affiliated with KPMG International or to one or more of these firms or to KPMG International.

Some or all of the services described herein may not be permissible for KPMG audit clients and their affiliates or related entities.

©2020 Copyright owned by one or more of the KPMG International entities. KPMG International entities provide no services to clients. All rights reserved.

Member firms of the KPMG network of independent firms are affiliated with KPMG International. KPMG International provides no client services. No member firm has any authority to obligate or bind KPMG International or any other member firm vis-à-vis third parties, nor does KPMG International have any such authority to obligate or bind any member firm.

The KPMG name and logo are registered trademarks or trademarks of KPMG International.

