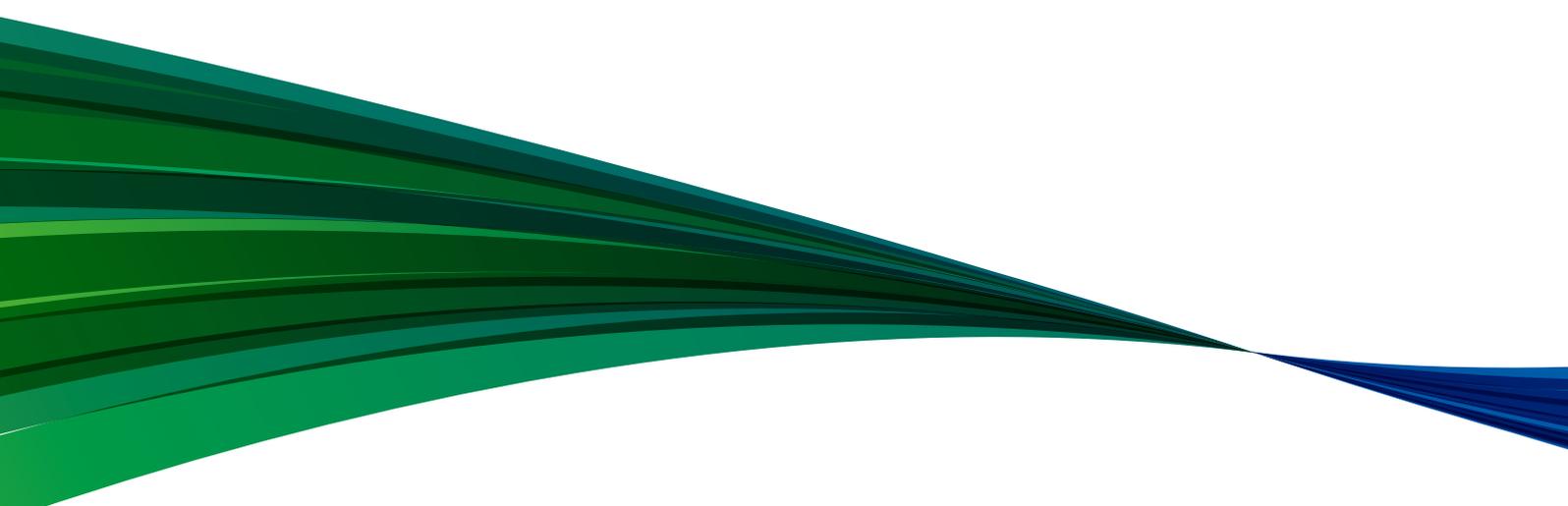


WISH 2013

GLOBAL DIFFUSION OF HEALTHCARE INNOVATION (GDHI)

Report of the Global Diffusion of Healthcare Innovation
(GDHI) Working Group 2013

Professor The Lord Darzi PC, KBE, FRS and Greg Parston PhD




مؤتمر القمة العالمي للابتكار في الرعاية الصحية
World Innovation Summit for Health
DEC 10-11 DOHA 13

an initiative of  Qatar Foundation

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CONTENTS

- 1 Foreword
- 2 Executive summary
- 5 Background and methodology
- 8 Importance of cultural dynamics in spreading innovation
- 13 Factors enabling the spread of innovation
- 24 Four areas of evolution
- 26 Country dashboards
- 42 Appendix A: Technical details
- 46 Appendix B: Acknowledgments

FOREWORD

We all know the importance of creating new ideas, inventions and ways of working in the delivery of healthcare. Health services everywhere need to change to meet seismic local and global shifts in demography, epidemiology and economics. The essential key to system transformation, however, is not creativity in itself but rather its ready adoption and widespread diffusion. It simply takes too long at present for new ideas to become prevalent practice.

This report on the Global Diffusion of Healthcare Innovation (GDHI), which is based on our study of eight countries around the world, provides an assessment of factors that foster the adoption of healthcare innovations. The study examines the importance and prevalence of specific enablers and, just as important, frontline cultural dynamics that support such adoption and change.

Drawing on the insights of healthcare leaders and the practical experience of over 2,000 practicing health professionals, our research shows that the combinations of national and institutional factors that promote the diffusion of innovation can vary between countries. The most prevalent cultural dynamics across most countries are those that are found at the front line where the heavy lifting is on winning the support of the public, patients and clinical professionals for adopting new ideas, products and ways of working. These dynamics require personal development and change management skills that are not always in good supply in health systems.

Our hope is that this pioneering study will provide a strong basis for learning and dialogue, so that others can consider the relevance of these countries' experiences and translate successful practices in their own healthcare organizations. Our aim is to encourage a more systematic and rapid uptake of new policies, products and ways of working that improve health outcomes for patients and populations.



A handwritten signature in black ink, appearing to read 'A. Darzi'.

Professor The Lord Darzi PC, KBE, FRS
Executive Chair of WISH, Qatar Foundation
Director of Institute of Global Health Innovation
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A handwritten signature in black ink, appearing to read 'Greg Parston'.

Greg Parston PhD
Executive Director, Centre for Health Policy
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EXECUTIVE SUMMARY



Unlocking the benefits of healthcare innovations involves scaling those innovations up so that they can be used to improve health outcomes for the many, rather than the few. Our new research into the Global Diffusion of Healthcare Innovation (GDHI) aims to provoke discussion and debate amongst healthcare leaders worldwide about what can be

done to encourage the spread of innovation and contribute to system transformation in healthcare. It presents a global assessment of the factors that support the spread of healthcare innovation and how these are at play in eight very different countries' health systems: Australia, Brazil, England, India, Qatar, South Africa, Spain and the United States.

Our research draws on over 100 personal interviews with senior-level experts who were able to give an overview of their healthcare systems, as well as quantitative surveys of more than 1,500 healthcare professionals and more than 750 industry professionals from the fields of pharmaceuticals and medical technology.

The study examines the importance and prevalence of a set of specific enablers and cultural dynamics (or organizational behaviors) as they are applied in the eight countries. These enablers and cultural dynamics were first identified as a framework for the diffusion of healthcare innovation by the Institute of Global Health Innovation (IGHI), Imperial College London.¹

COUNTRIES ARE TAKING DIFFERENT ROUTES

Our findings show that countries are using different mixes of enablers to encourage the spread of innovation in healthcare. In the US, for example, experts are clear that "incentives and rewards" have played an important role and they see the diffusion of innovation as being tied to the payment system. In England, by contrast, it is healthcare "standards and protocols" that are noted for having helped the spread of innovation by encouraging organizations to put in place innovative ways of improving their healthcare delivery processes.

The experts we interviewed in all countries cite one common enabler – "information communications technology (ICT) capability" – as having helped the spread of innovation over the past five years. ICT has been a particularly important enabler in the emerging economies of Brazil, India and South Africa, where eHealth (healthcare practice and information supported by ICT) and mHealth (healthcare-related services through mobile technology) are helping to transform healthcare delivery.

Our quantitative survey of healthcare professionals suggests that, at an organizational level, enablers such as the use of "standards and protocols" and "specific resources to identify and promote innovation" are also widespread.

¹ *From innovation to transformation*, Institute for Global Health Innovation, June 2013. Available at: <http://www3.imperial.ac.uk/global-health-innovation/publications/innovationtotransformation>

Our findings indicate that the eight enablers identified in the IGHl framework represent the wide range of institutional tools and agencies that are being used in the countries we examined. This “portfolio” of enablers is available to be employed, discriminately and appropriately, within the context of each country’s particular health system.

THERE ARE COMMON FRONTLINE CULTURAL DYNAMICS

Our survey shows that healthcare professionals across most of the countries we examined view the same cultural dynamics as being the most prevalent within their organizations in relation to the adoption of healthcare innovations, regardless of different national and health system characteristics and of different mixes of enablers.

The results of our survey show that the cultural dynamics that relate to the role of *people* in spreading innovation are those that healthcare professionals in most countries believe are most prevalent in the organizations for which they work. They see “identifying and supporting champions” as being the most prevalent cultural dynamic in the diffusion of innovation. This is closely followed by “harnessing the efforts of patients and the public as co-producers of well-being.”

In-depth interviews with experts also highlight the fundamental role that the cultural dynamics as a whole can play in spreading innovation in healthcare. Much of the diffusion of innovation is about winning the hearts and minds of those working on the front line. For many experts, these organizational attitudes and behaviors are equally as important as national or institutional enablers, or even more so. They are also more readily developed, influenced and managed by those at the front line of healthcare.

The experts we interviewed speak of the importance of engaging those delivering frontline care, the role that healthcare professionals take as champions or leaders of change and the need to address the concerns of these professionals. What this tells us is that a focus on the front line – where care is delivered and where change most needs to be fostered – can be very powerful in bringing about a more rapid diffusion of innovation.

THERE IS NEED FOR IMPROVEMENT

Our findings also indicate, however, that there is still scope for considerable improvement in embedding the cultural dynamics within healthcare organizations in the future. Four of the dynamics – “creating space”, “adapting innovation”, “improving the next journey of system transformation” and “eliminating old and ineffective ways of working (or delayering)” – may not have been rated by healthcare professionals overall as being as prevalent as the two dynamics we have previously discussed. Yet these factors are important: “Creating space for learning”, for example, can be the forum in which clinical engagement can be most productive. Healthcare organizations can do much more to ensure that healthcare professionals have dedicated time to learn about new ideas.

The survey shows that those healthcare professionals who are advocates for their organizations are more likely to rate that organization highly on the prevalence of the cultural dynamics. This underlines the importance, in promoting more effective diffusion of innovation, of ensuring frontline staff feel engaged with their organizations.

Unlike healthcare professionals, the industry professionals that we surveyed in some countries (Brazil, India and Qatar) highlight dynamics that relate to processes rather than people as the most prevalent cultural dynamics within the healthcare organizations with which they work. In Brazil and India, the highest ranked dynamic is “improving the next journey of system transformation,” while in Qatar, it is “eliminating old and ineffective ways of working.” Overall, there is much more diversity in industry professionals’ views than there is in healthcare professionals’ views across the countries.

THE PREVALENCE OF ENABLERS AND CULTURAL DYNAMICS IS CLOSELY MATCHED

In all countries in the study, healthcare professionals rate their organizations’ prevalence of enablers and of cultural dynamics at broadly similar levels. Where the prevalence of one set of factors – enablers or cultural dynamics – is high, so is the prevalence of the other; where it is low, both are low. Indeed, across all eight countries, a correlation exists here. To effect change in the diffusion of innovation across a health system, it appears to be important to focus on developing and using both local enablers and cultural dynamics simultaneously. The increased prevalence of one seems to go hand-in-hand with the increased prevalence of the other.

Healthcare professionals and industry professionals view all enablers as important for healthcare organizations, with the development and renewal of standards and protocols particularly so. In all countries other than Qatar, however, a gap is apparent between how important these professionals believe the enablers to be and how prevalent they see them as being within their own organizations. In India and the US, this gap is relatively small, though consistent, while a slightly larger gap exists in Australia, Brazil and South Africa. Closing this gap will require additional effort to marry reality with expectations, particularly in countries such as Spain and England where the gap is largest.

MOVING FORWARD, EXPERTS IDENTIFY FOUR AREAS OF EVOLUTION

Our experts identified four areas where developments currently underway are likely to promote more rapid diffusion of innovation in future. Three relate to the enabling factors that countries or healthcare systems can put in place. Progress in ICT is one key area, where developments such as the spread of innovations enabled by the cell phone platform are expected to bring about real improvements. A second area sees government-led initiatives set a clear vision and strategy of what healthcare innovation can achieve as having the potential to lead to improved diffusion of innovations. The allocation of specific resources to identify and promote healthcare innovation is a third area that it is anticipated can help facilitate change in many countries.

The fourth area of evolution identified by experts globally underscores the importance of the cultural dynamics. Developing and maintaining a keen sense of openness to and interest in innovations among healthcare professionals on the front line is seen as essential in helping to spread innovation everywhere. Fostering an innovation culture presents a real but potentially rewarding challenge to those seeking to improve healthcare delivery and health worldwide.

1. BACKGROUND AND METHODOLOGY

Innovation in healthcare is crucial for improving patient outcomes. However, this potential can only be fully realized when innovation is effectively spread, adopted and used. Quite a bit is known about what can foster the creation of new ideas, inventions, and ways of providing healthcare. However, what we know less about are the things that facilitate the diffusion of healthcare innovations to transform health systems and to improve health outcomes.

The Global Diffusion of Healthcare Innovation (GDHI) study is an assessment of factors fostering the adoption of healthcare innovations in eight countries: Australia, Brazil, England, India, Qatar, South Africa, Spain and the United States (US). The study was commissioned by Qatar Foundation and designed by the independent research agency Ipsos MORI in partnership with the Institute of Global Health Innovation (IGHI).

The study examines the importance and prevalence of the specific enablers and cultural dynamics, first identified as a framework for diffusion of healthcare innovation by the IGHI, Imperial College London, in its study *From innovation to transformation*. That framework identified three levels of influence on the pace and spread of the diffusion of healthcare innovation: systems characteristics, institutional enablers and frontline cultural dynamics.

Systems characteristics are structural and environmental elements that can be changed over time, but not quickly. They can include the macroeconomic environment and the political, legal, and regulatory environment, as well as characteristics such as the health system's size and structure, the level of IT infrastructure available in the country and the research and innovation environment.

Enablers are facilitating agents or agencies that can be initiated through corporate, collective or government action. Cultural dynamics are organizational behaviors that occur at the front line of healthcare delivery. Unlike systems characteristics, both enablers and cultural dynamics are amenable to change relatively quickly at the institutional and organizational level.

The ability to more closely control the availability and prevalence of enablers and cultural dynamics heightens their importance as the focus of this study, which assesses the extent to which the enablers and cultural dynamics of successful diffusion are in place across the eight countries' healthcare systems. The following graphic illustrates the IGHI framework.

Figure 1: The IGHI framework



The study's key aims are to:

- Understand the current state of diffusion of healthcare innovation in each country.
- Provide a measure of the extent to which different countries' health systems enable the spread of innovation, and the systemic, organizational and individual-level factors that contribute to this.
- Provoke discussion and debate around what can be done to encourage the spread of innovation and contribute to system transformation in healthcare,
- Highlight examples of the successful diffusion of healthcare innovation, as an inspiration to action.

For this study, we have taken a broad definition of innovation. It covers: products (for example, new technology, inventions, drugs etc), practices (ways of working, clinical protocols, workforce changes etc) and policies (those things that regulate/influence the use of products and practices.)

METHODOLOGY

This first GDHI study includes eight countries: Australia, Brazil, England, India, Qatar, South Africa, Spain, and the US. The study draws on new data from both qualitative interviews and quantitative surveys.

The qualitative data was generated through a total of 103 in-depth interviews conducted between August and October 2013 with healthcare experts across the eight countries. These experts were selected as having a strategic overview of their country's health system and they cover a range of players in the health system.

The sample includes representatives from policy (policy-makers and government officials, regulators, professional organizations and arms-length bodies, academics, and commentators), processes (providers and commissioners of health services) and products (pharmaceutical, medical and digital technology representatives). A list of all interviewees who consented to be named in the report is provided in the appendix. All interviewees were asked to declare any conflicts of interest. No interviewees declared a conflict of interest.

The quantitative data was gathered from a survey of a total of 1,521 healthcare professionals (HCPs) and 772 health product industry professionals (IPs). The survey was conducted online in all countries except Qatar and South Africa, where it was conducted face-to-face as a more appropriate way of accessing these respondents.

2. IMPORTANCE OF CULTURAL DYNAMICS IN SPREADING INNOVATION

There are visible signs that the diffusion of innovation is happening within the eight healthcare systems surveyed. In all eight countries, experts are able to point to examples of the successful development and diffusion of innovation over the last five years. From the Indian Council of Medical Research exploring opportunities and encouraging innovation through partnerships, to the sharing of research data from private company-funded studies into nutrition and cardiovascular risk with the scientific community in Spain, innovations are helping to bring about some positive changes in countries' health systems.

COUNTRIES ARE TAKING DIFFERENT ROUTES TO THE DIFFUSION OF INNOVATION

Our findings show that countries are using different combinations of enabling factors to support the diffusion of innovation. The exact mix of enablers in each country is unique, which is to be expected given the diversity of the eight countries themselves as well as their health systems. For example, in the US, incentives have played an important role and experts report that the diffusion of innovation is tied to the payment system. In England, however, it is healthcare standards and protocols that have helped the spread of innovation by encouraging organizations to put in place innovative ways of improving their processes.

The systems characteristics present in each country influence the extent of the viable possibilities that each can pursue and maintain. What the findings suggest is that countries are, whether by design or default, developing a mix of enablers that may be suited to their own situation.

The one exception in the experts' view is ICT, which experts from all eight countries highlight as having been active in supporting the diffusion of innovation across their health systems over the last five years. In the emerging economies of Brazil, India and South Africa in particular, ICT is seen as having been among the most important enablers over this time period.

The quantitative survey of healthcare professionals, however, suggests that at the organizational level there is a greater perception of a common prevalence of two enablers across most countries. Development and renewal of standards and protocols and specific resources to identify and promote innovation are seen as more widespread than other enablers at the front line of healthcare delivery.

Despite the diverse combinations of enablers that countries are using, our findings indicate that the eight enablers identified in the IGHI framework do appear to capture the full range of institutional tools that are being used. Countries are drawing on this portfolio of enablers in different ways as they



pursue their own routes to diffusing healthcare innovation.

There is no individual enabler that experts feel has not been of some importance in the diffusion of innovation in at least one of the countries included in this study. Although these are articulated in particular ways – for example, leadership and political will, which experts mention as being important, are captured in the framework as “vision and strategy” – all are seen as having been important in some regard.

EXPERTS SEE THE CULTURAL DYNAMICS AS IMPORTANT IN SPREADING INNOVATIONS IN HEALTHCARE

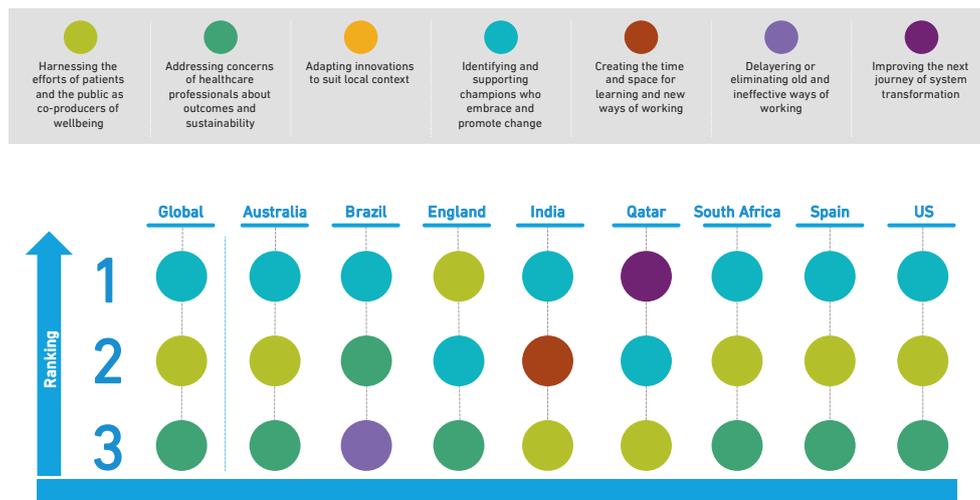
In all countries, experts highlight the fundamental role that the attitudes and behaviors of healthcare professionals play in driving the spread of innovation forward. For many, these attitudes and behaviors are equally important as, or even more important than national or institutional enablers. They are largely seen as a necessity; without their presence, both the spread of innovation that has been achieved to date or is possible in the future would be severely limited.

Our analysis of the expert interviews suggests that focusing on attempting to win the hearts and minds of healthcare professionals is vital for successful diffusion. As ultimate users of new products and procedures, and as gatekeepers to patients and the public, professionals at the front line of delivery are seen as having the power to make or break the spread of an innovation.

The results from our survey of healthcare professionals (HCPs) are encouraging in this regard, in that many HCPs consider that the cultural dynamics related to winning hearts and minds are prevalent within their organizations. This relates to harnessing the efforts of patients and the public as well as to addressing the concerns of HCPs. Indeed, of the seven cultural dynamics identified in the IGHI framework, those that relate to the role of *people* in spreading innovation are also those that HCPs across most countries believe are most prevalent in the healthcare organizations for which they work. Regardless of the system characteristics and enablers present, it is these dynamics relating to engaging with people that HCPs overall cite as the most prevalent in their organizations.

The following chart shows how HCPs perceive the prevalence of each dynamic within their organization. The rankings are based on an average score for each of the seven dynamics, and show the top three for each country.

Figure 2: How HCPs rank the cultural dynamics



Base: 1,521 online/face-to-face interviews with HCPs, averages taken from batteries of statements for each question. Source: Ipsos MORI

HCPs cite “identifying and supporting champions who embrace and promote change” as the most prevalent dynamic overall. Key to this is the role that HCPs themselves take as leaders of change. The experts we spoke to from across the eight countries also recognize the importance of having a dedicated, passionate, respected (by both their peers and patients), and identifiable leader promoting innovation.

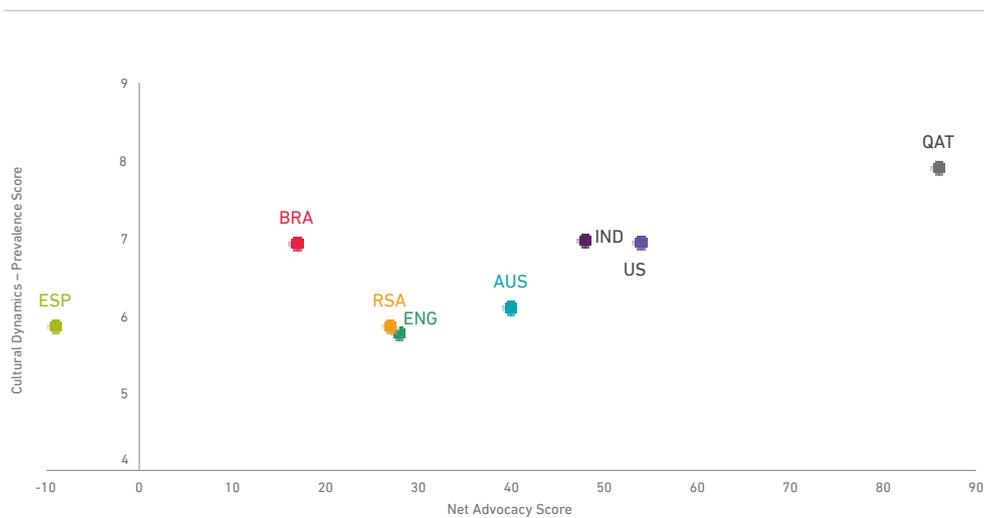
This is generally followed by “harnessing the efforts of patients and the public as co-producers of well-being.” Our in-depth interviews with experts highlight that the development of communication technology and the advance of social media have greatly increased access to information for these groups. Experts from Brazil, India and the US point out that patients are increasingly aware and informed about the range of treatments available, including new and innovative developments. As a result, patients are becoming more demanding and helping to drive change from the bottom up. They are putting increasing pressure on health systems to provide them with the best possible treatment and care.

WHILE LOOKING AT THE MOST PREVALENT DYNAMICS INDICATES WHERE EFFORT FROM ORGANIZATIONS IS CURRENTLY FOCUSED, LOOKING AT WHICH ARE LESS PREVALENT CAN HIGHLIGHT WHERE THERE IS SCOPE FOR IMPROVEMENTS IN THE FUTURE

Four of the dynamics – “creating space for learning”, “adapting innovation”, “improving the next journey of system transformation” and “eliminating old ways of working” – are all rated by HCPs overall as being less prevalent than the two top-ranked dynamics. Yet these factors are vitally important. Creating space for learning, for example, may be the forum in which clinical engagement can be most productive. Healthcare organizations can do much more to ensure that HCPs have dedicated time to learn about new ideas. At the same time, in the absence of “eliminating old ways of working”, innovations can simply create layer upon layer of technologies and processes that add costs and hamper productivity.

The experts we interviewed across the countries highlight the importance of engaging with HCPs and, encouragingly, the evidence suggests that this is happening within frontline organizations. Generally speaking, our survey of HCPs finds that those of them who speak highly of their organizations also tend to score their organization more highly on the prevalence of the cultural dynamics. This demonstrates the importance of broader employee engagement. The following chart shows the net advocacy scores² for HCPs in each country plotted against their score on the prevalence of the cultural dynamics.

Figure 3: Extent to which HCPs are advocates of their organization



Base: 1,521 online/face-to-face interviews with HCPs, averages taken from batteries of statements. Source Ipsos MORI

Given this association, as the extent to which HCPs are advocates of their organization varies across the countries, it is perhaps no surprise that those countries with a higher net advocacy score also tend to be the ones with the highest scores for prevalence of the dynamics. For example, Qatar, which has the highest ratings for prevalence of the dynamics has a net advocacy score of 86. In contrast, Spain, which has the lowest ratings for the dynamics' prevalence, has a net advocacy score of minus 9.

² Net advocacy scores are calculated by subtracting the proportion of respondents who say they would be critical of their organization from the proportion who say they would speak highly of their organization.

INDUSTRY PROFESSIONALS IN SOME COUNTRIES RANK “IMPROVING THE NEXT JOURNEY OF SYSTEM TRANSFORMATION” AS THE MOST PREVALENT DYNAMIC AMONG THE HEALTHCARE ORGANIZATIONS WITH WHICH THEY WORK

The views of IPs are somewhat in contrast to those of HCPs. IPs, who operate outside of frontline organizations, often highlight dynamics that relate to processes rather than people as most prevalent dynamics within the healthcare organizations with which they work. In Brazil and India, the most prevalent dynamic is “improving the next journey of system transformation,” while in Qatar,³ it is “eliminating old ways of working.” These views are understandable both from the external perspective of IPs and from their own commercial interactions with these organizations.

Overall, there is far more diversity in IPs’ views than there is in HCPs’ views across the countries. There is also less consistency in how they rate the prevalence of the dynamics across the healthcare organizations they work with. Given this diversity in IPs’ views across the countries, these are best explored on a country-specific basis.

³ Findings for the Qatar IPs survey need to be interpreted with caution as the base size is small (50 respondents).

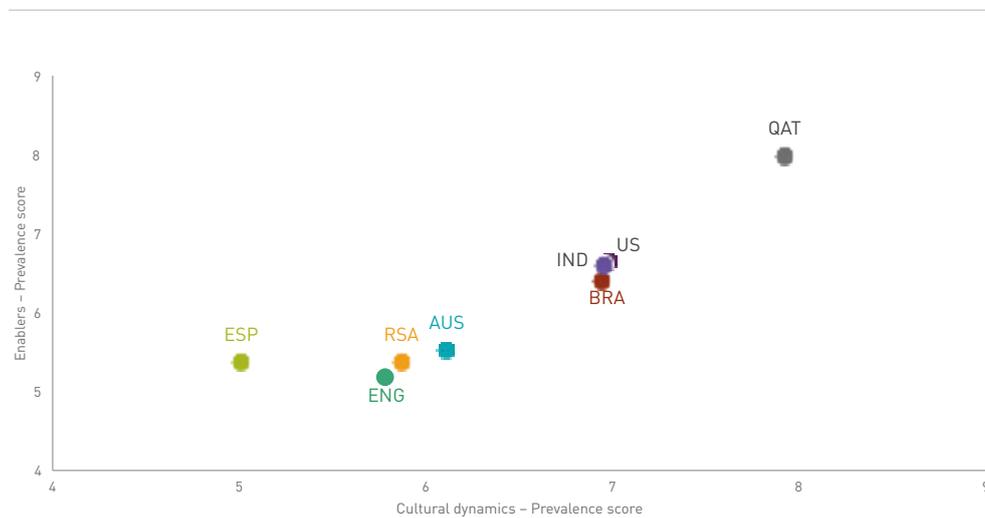
3. FACTORS ENABLING THE SPREAD OF INNOVATION

Helping to foster the attitudes and behaviors that are known to support the spread of innovation across health systems is essential, as the findings presented in the previous section demonstrate. At the same time, one cannot underestimate the importance of the institutional enablers, which can be initiated or modified fairly quickly through government action or through corporate or collective collaboration.

THE PREVALENCE OF ENABLERS AND CULTURAL DYNAMICS IS CLOSELY MATCHED

Many of the experts we interviewed highlight that the enablers and dynamics work together to help support the diffusion of innovation across the health system. The findings from our survey of healthcare professionals support this, showing an association between the perceived levels of prevalence of the enablers and cultural dynamics in each of the eight countries. Countries with a relatively high average rating for the enablers also have a relatively high average rating for the cultural dynamics (and vice versa for those with relatively lower ratings of each). Results are shown in the chart that follows.

Figure 4: Healthcare professionals' views on the prevalence of the enablers and cultural dynamics



Base: 1,521 online/face-to-face interviews with HCPs, averages taken from batteries of statements. Source: Ipsos MORI

None of the eight countries included in this study appears to be focusing principally or exclusively on the cultural dynamics or on the enablers. This suggests that in order to effect real change, it is important to concentrate effort simultaneously on supporting the enablers and on encouraging the desired cultural dynamics. Focusing primarily on either the enablers or the cultural dynamics will potentially only have limited impact.

A CLEAR PERCEPTION GAP IS EVIDENT IN BOTH HEALTHCARE AND INDUSTRY PROFESSIONALS' VIEWS

The eight enablers identified by the IGHI framework can be important in supporting the spread of innovation at an organizational level within health systems. In the survey, we asked HCPs and IPs to rate how important they thought each of the eight enablers is for healthcare organizations when it comes to introducing new ideas, products and ways of doing things. We also asked them to rate the extent to which these were present in their own organizations.

Healthcare and industry professionals consistently view all eight enablers identified in the IGHI framework as important. In terms of relative importance, “standards and protocols” is seen as the most important enabler at the organizational level. Other enablers seen as among the most important by HCPs and IPs include “communication channels across and beyond healthcare”, “vision and strategy” and “transparency of research findings and data on demonstrable success.” Both HCPs and IPs see “incentives and rewards” as the least important enabler.

There is a clear gap between how important these professionals believe the enablers to be and how prevalent they say they are in the healthcare organizations that they work in or with. Our findings demonstrate that HCPs' and IPs' expectations are currently not being met. While the enablers are universally seen as important, HCPs and IPs give consistently lower ratings – across all enablers – about the extent to which they are actually prevalent within their organization or those they work with. This gap in perceptions helps to show where HCPs and IPs believe additional effort is required, to a greater or lesser extent, in supporting the spread of innovation.

The chart that follows shows the perception gap between the importance and prevalence of the enablers in the IGHI framework.

Figure 5: The gap between expectations and standards/protocols



Base: 1,521 online/face-to-face interviews with HCPs, averages taken from batteries of statements for each question. Source: Ipsos MORI

Our results show that, with the exception of Qatar, and for both HCPs and IPs, a gap exists between their perception of importance and prevalence of all the enablers. While this suggests that additional effort to marry reality with expectations is required in most countries, the extent of the gap varies.

We typically find a smaller perceptions gap in those countries where HCPs and IPs rate the overall prevalence of enablers and dynamics as higher. India and the US, for example, have a relatively small, but consistent, gap between importance and prevalence. This suggests that corporate, collective and government efforts directed at the initiation of enablers in these countries are related to what HCPs and IPs regard as important at the organizational or front line level.

Where the overall prevalence of enablers and dynamics is lower, the perception gap tends to be wider. For example, a slightly larger gap exists in Australia, Brazil and also South Africa, where there is a particularly large difference between the relative ratings for “incentives and rewards”.

The largest perception gaps are seen in England (which compares relatively well on “standards and protocols” but less well on there being “funding for research, development and diffusion”) and Spain (which compares relatively well on there being “specific resources to identify and promote innovation” but less well on “incentives and rewards” and “funding for research, development and diffusion”). This suggests that there is much work to do in these countries before HCPs can see these enablers as more prevalent within their organizations.

Qatar is unique in that reality largely meets, and in some cases exceeds, HCPs’ expectations. However, the views of IPs in Qatar are somewhat in contrast, and here the perception gap returns. The extent of this gap varies across the enablers, with a small gap for “information communications technology (ICT) capability” and a larger gap for “incentives and rewards.”

MUCH CAN BE LEARNT FROM THE INSTITUTIONAL ENABLERS THAT DIFFERENT COUNTRIES HAVE PUT IN PLACE

As already established, the enablers that experts point to as having been most important in spreading innovation over the past five years vary widely across countries. The exact mix of enablers present will be shaped by the systems characteristics and individual context of each country.

That said, much can be learnt from exploring the routes that the countries included in this study have followed. Understanding how effective these different routes are felt to have been can provide valuable learning for healthcare leaders in other countries who are looking for ways to improve the diffusion of innovation across their own health system. A short description of the enablers that experts in each country tell us have been most important over the last five years follows.⁴

⁴Further information on each country is available on the GDHI microsite www.ipsos-mori.com/gdhi

Australia

In Australia, a number of different enablers are seen as having had some importance in diffusing innovation over the last five years, but none stands out as having been more important than the others in the successful diffusion of healthcare innovation. This is partly because the enablers are seen to interact with each other, often in complex ways, and partly because of the close relationship between the enablers and the attitudes and behaviors of HCPs.

Experts describe “funding for research, development and diffusion” and “ICT capability” as critical “hygiene factors.” These enablers are seen to be necessary to support other enablers, but not sufficient in themselves to enable the spread of innovation. Views are mixed about how adequate funding has been in Australia, and experts have not seen funding aimed specifically at diffusion. ICT capabilities are also seen to have enabled the diffusion of innovation through improved access to information and better communication. While they still feel there is a long way to go, experts see eHealth initiatives such as centralized health records as emerging developments that will in future help to enhance the diffusion of further innovations.

SHARING DATA ON DEMONSTRABLE SUCCESS

Australia's experience in diffusing the cervical cancer vaccine



The work done by Professor Ian Frazer in developing the cervical cancer vaccine is raised by experts in Australia as an example of an extremely well diffused innovation, with the development quickly becoming routine once it was demonstrated to be effective. They also suggested other factors: that it is familiar, simple and relevant. The

vaccine process is a simple one, and one that is already commonly undertaken, understood, and generally accepted throughout the community as a valuable process. Moreover, cancer is an area that is high profile and there is much emotional investment in finding solutions.

Brazil

Brazil has seen significant improvements in its ICT capabilities, which have offered new opportunities for innovation to spread across the country's entire healthcare system. Experts cite radiology as an example where, using picture archiving communication systems (PACS), the image management systems in hospitals have been completely computerized. Unusually, this transformation has taken place across the whole health system in Brazil, not just in the urban centers along the Rio-São Paulo axis or across the private health system.

Funding for research, development and diffusion is also seen as having helped to support the spread of innovation across the health system in Brazil. Partnerships between public hospitals, universities and private institutions have been created to focus on health problems that are of strategic importance to the Sistema Único de Saúde, Brazil's publicly-funded healthcare system. These partnerships have led to developments throughout Brazil in the treatment of breast cancer, AIDS and severe epidemics in urban centers (such as H1N1 flu). Given the difficulties of extending health services to the wider population in Brazil, the widespread availability of these new resources represents an innovation in itself.

REWARDING INNOVATION

CNPQ's Young Scientist Award (Prêmio Jovem Cientista) in Brazil

The aim of the Young Scientist Award is to reveal talents, boost research in the country and invest in students and young researchers who try to innovate in solving society's challenges. CNPQ (Conselho Nacional de Desenvolvimento Científico e Tecnológico, or National Council for Scientific and Technological Development) is one of the main institutions – and the first federal institution – to encourage science, technology and innovation in Brazil. CNPQ is a pioneer in the granting of awards in Brazil, and the Young Scientist Award is a partnership between CNPQ, Fundação Roberto Marinho and private companies Gerdau and G&E.

England

In England the development and renewal of healthcare standards and protocols is thought to have been one of the most effective enablers of innovation diffusion. The renewal of standards and protocols tends to stimulate and focus efforts towards innovation in processes, however, rather than innovation in technology. The target for treating cancer patients within 62 days, for example, prompted organizations to implement innovative ways of improving their processes. Importantly, how organizations should meet the target was not specified but organizations were forced to seek a solution to meet their own individual situation, which in some cases led to innovative practices.

HOW VISION AND STRATEGY HELPED IN TACKLING HEALTHCARE-ASSOCIATED INFECTIONS (HCAIs) IN ENGLAND

With hospital budgets becoming tighter in England, the reduction in the rates of these infections is a good example of how spreading innovation can continue to be successfully achieved during challenging times. Recognizing that infection rates were substantially above comparable international averages, the Health Protection Agency made it a policy priority to reduce these rates and in doing so, provided the catalyst to spread best practice.

This was supported by there being a perception that provider Trusts that did not show improvement would be “punished” in some way. The policy did not require a wholesale “step change” in medical practices but rather an aggregation of marginal gains, for example, urging clinicians to wash their hands after all patient contact. Coupled with the change in policy was greater use of data and clinical experts to provide a strong evidence base that helped Trusts enact the necessary changes.

A combination of clinician experts (often headed by a director of nursing) with strong ICT capabilities led to the easier identification of those Trusts that were in greater need of help, and therefore to a more efficient targeting of resources. Between 2006 and 2012, there has been an eighteen fold reduction in bloodstream MRSA infections and a fivefold reduction in C Difficile infections across the English NHS.⁵

⁵ Source: *English National Point Prevalence Survey on Healthcare-associated Infections and Antimicrobial Use, 2011*, Health Protection Agency, 2012

India

In India, healthcare delivery has been a key priority over the last five years and the resulting government strategies have driven some of the key innovations which have transformed frontline health services. The application of ICT and other technologies have been crucial to the use of biometric-enabled smart cards and the increasing use of mHealth in rural India.

THE POWER OF ICT IN INDIA



ICT capabilities have transformed the Indian health system significantly over the last five years and have contributed to the spread of innovation. Their use has been widespread in programs such as Rashtriya Swasthya Bima Yojana (RSBY), a national health insurance scheme for below poverty line families that uses a biometric-enabled smart card, and the Mother Child Tracking System (MCTS),

a mechanism designed to track every pregnant woman to ensure maternal and child health services are provided.

Technology is also being used as a tool to help frontline workers communicate and perform their role, through initiatives such as Swasthya Slate, a Bluetooth-enabled kit to aid the provision of affordable healthcare in rural India, which performs nine basic health checks in minutes at low cost; and Mobile Kunji, an audio-visual job aid that is designed for use by community health workers during their counseling sessions with families.

Qatar

In Qatar, the Supreme Council of Health has an ambitious vision for the future of healthcare and a clear strategy for how this vision will be achieved. The vision takes a holistic view, aiming to improve not only frontline healthcare provision but also public health such as food safety, nutrition and physical activity. The increased level of resource that has been focused on the healthcare sector as a result of this vision is currently seen as the most important enabler of innovation diffusion in Qatar.

The availability of funding for research, development and diffusion has enabled the spread of innovation through the healthcare system. The Qatar National Research Fund, for example, has supported innovation in healthcare through its National Priorities Research Program. The grants this program offers typically involve collaborations between healthcare professionals from many disciplines and it is this interdisciplinary approach that is seen as key to diffusing innovation throughout the health system in Qatar.

VISION AND ENGAGEMENT CENTRAL TO QATAR'S NEW CANCER STRATEGY

The five-year National Cancer Strategy (NCS) in Qatar was launched in May 2011 and is aimed at putting Qatar's Cancer Services at the forefront of best practice. The development of the strategy generated a huge amount of public, media and clinical interest across the country, and there was a high level of support for a series of national deliberative events for patients and the public.

A National Cancer Stakeholder Committee was formed to oversee implementation of the strategy. The Committee is made up of senior health leaders and public and patient representatives from across the country to champion the project and to provide expert advice and broad input.

The Qatar strategy has evolved through focusing on the needs of the people of Qatar, adopting an open and transparent process and use of a wide range of communications channels to result in an evidence-based, Qatar-specific strategy.⁶

⁶Source: *National Health Strategy 2011-2016*. Available at: www.nhsq.info/strategy-goals-and-projects/national-cancer-strategy/national-cancer-strategy/project-overview. Accessed 18 November 2013.

South Africa

Improvements in ICT capabilities have had a positive impact on facilitating innovation in South Africa. Improved web technology and cell phone technology has not only improved the way research is conducted but also the way in which findings are communicated. The mHealth Community Care Support System for example, provides a standard and integrated smartphone-based tool which allows home and community-based care services to gain access to a patient's centrally stored information and download this information to the caregiver's phone.

The development and renewal of healthcare standards and protocols is also seen as fundamental to spreading innovation in South Africa as it compels HCPs to change their ways of working. An example of good practice in this area is the South African Government's commitment to facilitating public access to antiretroviral (ARV) treatment – the largest program of its kind in the world. The success of this program has been partly due to the national co-ordination of standards and protocols to ensure they are consistent across the country and will therefore have a significant impact on the spread of innovation across the public health system.

THE ROLE MOBILE HEALTH IS PLAYING IN FRONTLINE CARE IN SOUTH AFRICA



There are a number of different mobile health projects in South Africa currently at different stages of rollout. The national Department of Health is an integral player here, along with mobile companies and other health-related Non-Governmental Organizations. One example is network provider Vodacom, which is working with

about 800 Community Care Workers and 50 clinics to enable these Community Care Workers to improve access to health services for remote communities and boost the quality of care patients can expect. Care workers can upload patient information to web servers using their cell phones, which allows them to spend more time on frontline care provision and less on paperwork. Even if care workers are in areas where there is no connectivity, they can continue to work and capture data on the phone, and the data will synchronize when they are back in an area with coverage.

Spain

In the view of experts in Spain, directives from government and other lead institutions to aid the spread of innovation have never been more important. In a context of economic recession, strategy development has become essential, given the need to maintain healthcare services despite budgetary restrictions. As a result, huge efforts have been made during the last five years to develop strategic plans that have aided the efficient spread of healthcare innovation in Spain.

ICT capabilities are also considered to have been an important enabler of the spread of innovation in Spain, and particularly so during recent years.

HOW ICT PROGRESS IS HELPING TO DIFFUSE INNOVATION ACROSS SPAIN'S REGIONS

Progress in ICT is allowing the implementation of electronic clinical histories across Spain's different autonomous communities. Electronic clinical histories involve placing ICT at the heart of healthcare activity.

Experts explain how this solution, aimed at clinics and hospitals, has enabled the management of records using the most advanced information technology management tools. This leads to shorter feedback times, trustworthy information, immediate access to clinical histories and rapid report preparation. This is a strong example of the spread of innovation in Spain, with the replacement of the outdated and inconvenient paper-based system with a more efficient data storage and communication system.

US

Incentives, in the form of organizational profits, have led to the rapid diffusion of innovation in the US. If a new innovation causes healthcare organizations to lose money, experts observe that it will not be widely adopted, even if it improves outcomes for patients.

The development and renewal of healthcare standards and protocols is also an important aspect of spreading innovation within the US healthcare system. Standards and protocols provide benchmarks to compare whether or not an innovation is effective. Standardization can therefore drive innovation by enabling healthcare workers to examine their ways of working and observe whether or not these are the most effective way of improving outcomes.

CLEAR INCENTIVES HAVE LED TO THE RAPID DIFFUSION OF INNOVATION IN THE US



While experts note that much of the spread of innovation in the US comes from the need for profit, they are also clear that there is some effort to adjust this tradition. The Accountable Care shared savings and Patient-Centered Medical Home (PCMH) programs are changing the reimbursement structure. Under these new systems, there

are incentives to hire people to help provide better care and use their medical team more effectively.

The National Center for Quality Assurance describes PCMH as “a model of care that emphasizes care coordination and communication to transform primary care into ‘what patients want it to be.’” PCMH brings each caregiver, from doctors and nurses to social workers and specialists, together to give the patient the most comprehensive care possible. Implementation of these centers is gaining momentum across the country, driven by both private-payer initiatives and public policy.

4. FOUR AREAS OF EVOLUTION

Our experts identify many developments, which are either underway or in the pipeline, that are likely to positively affect the diffusion of healthcare innovation over the next five years. The experts are largely positive about the potential of these to support the diffusion of healthcare innovation. These developments are concentrated in four broad areas: three relate to the enabling factors that institutions can put in place, while the final area reiterates the importance of the cultural dynamics.

Experts across countries – and particularly those in the emerging economies included in the study – generally foresee progress in the ability of ICT capabilities to support the diffusion of healthcare innovation. In both India and South Africa it is thought that the cell phone platform is the biggest enabler to the diffusion of healthcare innovation and will continue to play an important role over the next five years. Its reach and ability to adapt to a wide variety of healthcare professional and patient needs is unprecedented. In Australia, further developments in eHealth, and in particular progress on shared patient records, is seen as an area that will play a vital role in ongoing diffusion. In Qatar, new ICT systems to connect the information systems of all health and educational institutions are currently in their implementation phase. The networking system, called the “Clinical Information System” will allow every patient’s information and medical history to be easily accessible in all healthcare settings, ensuring consistency of care. In the US, the Centers for Medicare and Medicaid Services is encouraging the spread of Electronic Health Records (EHR) by providing incentives and imposing penalties for Medicare Eligible businesses who demonstrate ‘meaningful use’ of EHRs.

The second area where future potential abounds is in the vision and strategy of what healthcare innovation can achieve. In Australia, Brazil, England and the US, it is anticipated that government-led changes to vision and strategy could lead to a positive improvement in how the diffusion of healthcare innovation is prioritized across the health systems. In Brazil, for example, there is recognition that health is increasingly seen by government as a priority area and as a result there is expected to be an increase in resources and focus on the whole sector, including for innovation. In England, while the recent changes to the structure of the health system are seen by some as delaying a focus on innovation, other experts believe that the current structure – with clinical commissioning groups holding the budgets – will enable



clinicians on the front line to develop and innovate in ways they have wanted to do for many years.

A third development is the emergence of specific resources to identify and promote healthcare innovation, which is anticipated in some countries to help support the diffusion of healthcare

innovation in future. In Australia, it is hoped that implementing the McKeon Review recommendations around developing clusters of networks linking clinical and research practitioners will have a positive impact on the diffusion of innovation. In England, experts point to the increasing prominence that sharing innovation has in

the country's future health system, particularly with the creation of Academic Health Science Networks. These are seen as having the potential to help bring together businesses, providers and academics to support the interaction of these players to facilitate innovation and sharing of best practice in a meaningful way, particularly across local areas. In the US, development of Accountable Care Organizations is changing reimbursement structures, providing incentives for healthcare organizations to deliver more integrated care and use their medical teams more effectively.

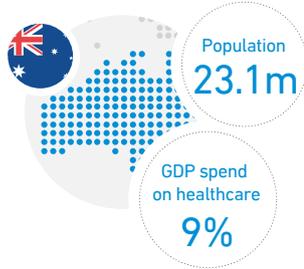
According to experts in Spain, the autonomous communities and State Quality Assessment agencies are likely to play a key role in the diffusion of healthcare innovation in the future. These agencies have already been set up in some autonomous communities, such as Cataluña and Andalucía, over the last three years, but are still in their early stages and are not yet established in other autonomous communities. In Qatar, experts anticipate that the development of the Sidra Research Center in the coming months will have a profound impact on the development and spread of innovations across the country. Partnering with academic international institutions as well as Qatar's Hamad Medical Corporation, the Center will specialize in raising levels of patient care and the education of medical students as well as funding biomedical research.

Finally, experts in a number of countries mention the importance of healthcare professionals in leading the innovation challenge and displaying a keen sense of openness and interest in new innovations. This recognition of the need for professional leadership, champions and engagement is encouraging. Actively fostering an innovation culture among frontline healthcare professionals in the coming years is not only an important organizational development that will support the diffusion of innovation in itself but, as shown throughout this report, is also necessary to ensure that the other evolutionary developments highlighted above come to fruition. The people and change management skills needed to do this are often seen as the "soft" elements of the diffusion of innovation. This study shows that they are also perhaps the most effective elements. Fostering an innovation culture presents a real but potentially rewarding challenge to those seeking to improve healthcare delivery and health worldwide.

5. COUNTRY DASHBOARDS

GLOBAL DIFFUSION OF HEALTHCARE INNOVATION

AUSTRALIA



Health system characteristics

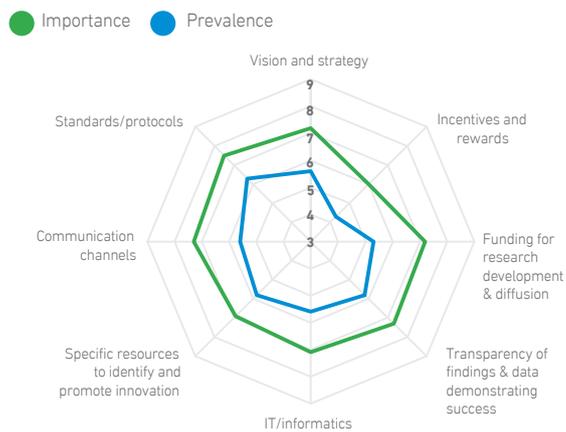
Funding mechanism	Universal publicly subsidized access - via government insurance - supplemental private insurance available
Management	National policy, regional delivery
Market place	Medium private sector provision
Economy	Medium competition
Service delivery	Some regional diversity

Enablers of the spread of innovation - Experts' views

Experts find it difficult to identify an order of importance of the enablers. This is in part because they recognize that the enablers interact with each other, often in complex ways, and in part because they see the attitudes and behaviors of healthcare professionals as closely interrelated to the enablers.



Survey results



- A relatively large perception gap exists between healthcare professionals' ratings of the importance of the enablers and their prevalence in Australia.
- The gap is larger for incentives and rewards and funding for research development and diffusion, but smallest for standards and protocols.
- The views of industry professionals are somewhat different to those of healthcare professionals, with the gap varying more across the enablers. This includes a much smaller gap for incentives and rewards.

Base: 200 online interviews with HCPs, averages taken from batteries of statements for each question

Cultural dynamics

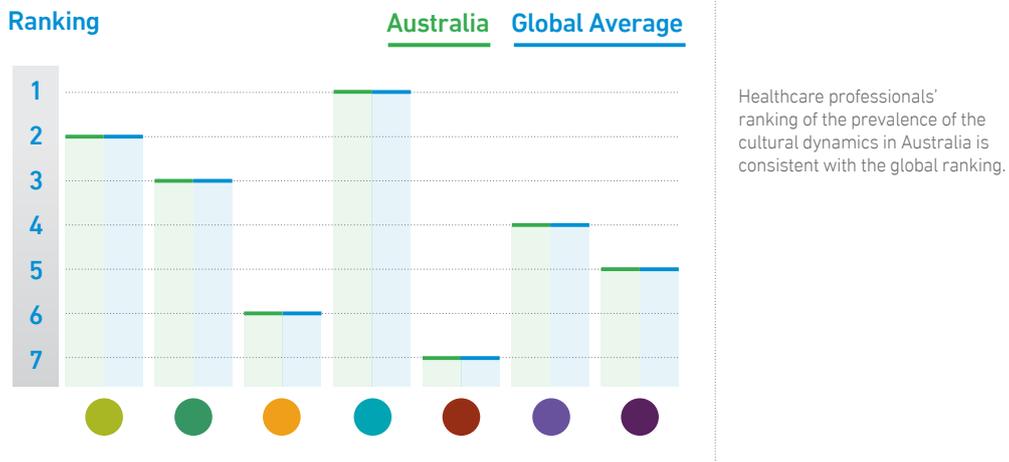
Experts' views

For experts, the enablers and cultural dynamics work together; experts see both as necessary and neither as sufficient without the other.

The cultural dynamics that experts highlight as having been important in Australia over the last five years include harnessing the efforts of patients and public as co-producers of well-being, identifying and supporting champions, addressing old and inefficient ways of working and ensuring that innovations are seeded out of local contexts.



Ranking



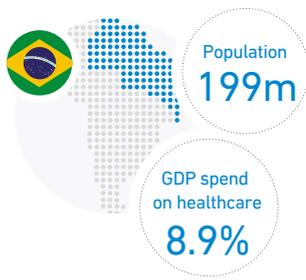
Survey results



Base: 200 online interviews with HCPs, 71 online interviews with IPs, mean scores taken from an 11 point scale of 0-10

GLOBAL DIFFUSION OF HEALTHCARE INNOVATION

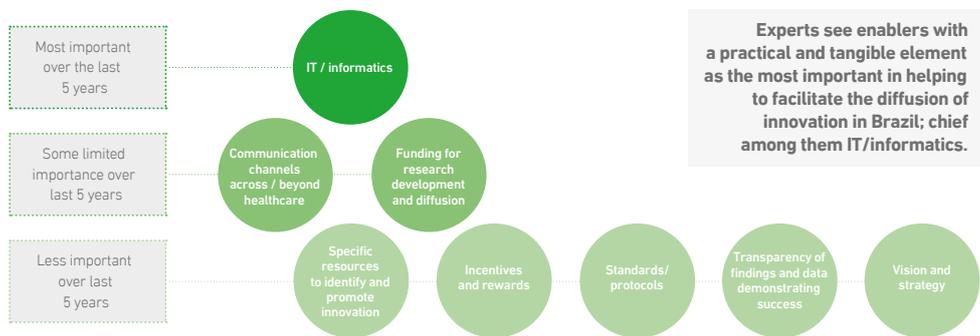
BRAZIL



Health system characteristics

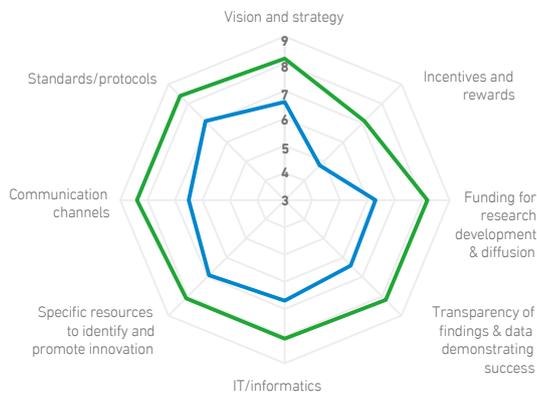
Funding mechanism	Universal publicly funded access - supplemental private insurance available
Management	National policy, regional delivery
Market place	Medium private sector provision
Economy	Medium competition
Service delivery	Some regional diversity

Enablers of the spread of innovation - Experts' views



Survey results

● Importance ● Prevalence



- A sizable and varied perception gap exists between healthcare professionals' ratings of importance of the enablers and their prevalence in Brazil.
- This is particularly large for incentives and rewards, but relatively small for specific resources to identify and promote healthcare innovation.
- The views of industry professionals are generally consistent with those of healthcare professionals.

Base: 201 online interviews with HCPs, averages taken from batteries of statements for each question

Cultural dynamics

Experts' views

Experts see harnessing the efforts of patients and the public as one of the most important dynamics as a result of the increase in the level of information the public have about new treatments and developments. This improved access to information has resulted in patients who are better informed, and in turn then demand access to the best available treatment and care.

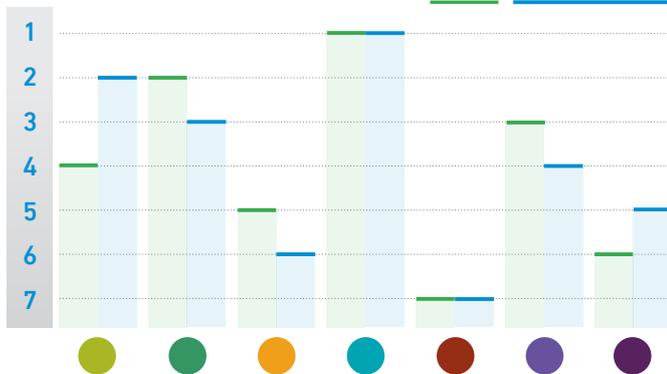
Healthcare professionals as leaders or champions is also believed to play a role in supporting the diffusion of innovation in Brazil. Healthcare professionals are seen as trusted opinion leaders and as such have the opportunity to open doors to the uptake of innovations. In order for innovation to be developed their support is essential.

Linked to this, experts also highlight the need to address the concerns of healthcare professionals. Healthcare is seen as a conservative profession, which can result in resistance to try new techniques or ways of doing things.



Ranking

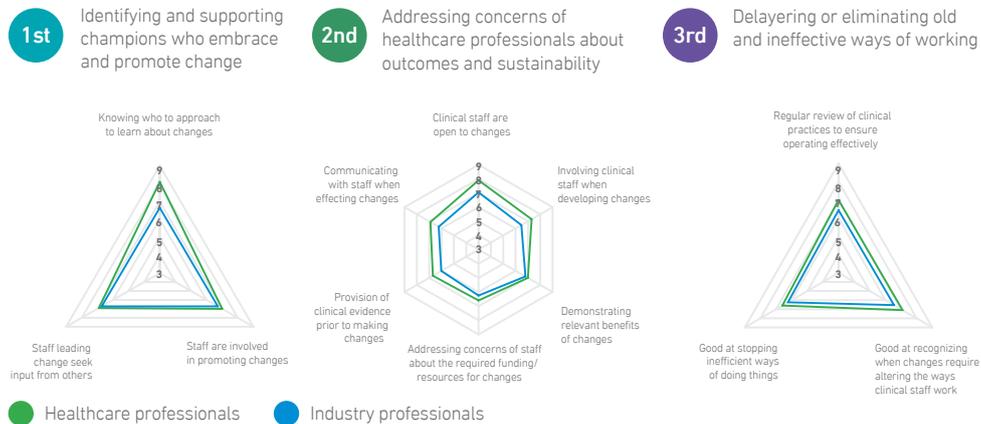
Brazil Global Average



Identifying and supporting champions who embrace and promote change is seen by healthcare professionals as the most prevalent in both Brazil and globally, while creating the time and space for learning and new ways of working is seen as the least prevalent.

Beyond these dynamics, however, variation between the ranking in Brazil and globally varies for the remaining dynamics.

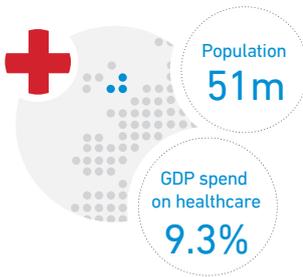
Survey results



Base: 201 online interviews with HCPs, 100 online interviews with IPs, mean scores taken from an 11 point scale of 0-10

GLOBAL DIFFUSION OF HEALTHCARE INNOVATION

ENGLAND



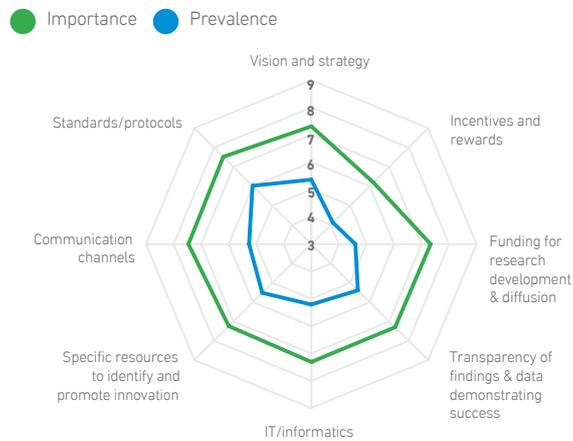
Health system characteristics

Funding mechanism	Universal publicly funded access - supplemental private insurance available
Management	National policy, regional delivery
Market place	Small private sector provision
Economy	Little competition
Service delivery	Little regional diversity

Enablers of the spread of innovation - Experts' views



Survey results



- A large perception gap exists in England between healthcare professionals' ratings of importance of the enablers and their prevalence in the health system.
- This is largest for funding for research development and diffusion, and smallest for standards and protocols.
- The views of industry professionals are consistent with those of healthcare professionals.

Base: 200 online interviews with HCPs, averages taken from batteries of statements for each question

Cultural dynamics

Experts' views

Experts believe that the attitudes and behaviors of front-line healthcare professionals are just as important as the enablers in facilitating the diffusion of innovation across the health system in England. Indeed, broad attitudes beyond those mentioned in the IGHI framework, such as strong leadership and networks of relationships between healthcare professionals can be more important than the enablers in helping to diffuse innovation across the system.

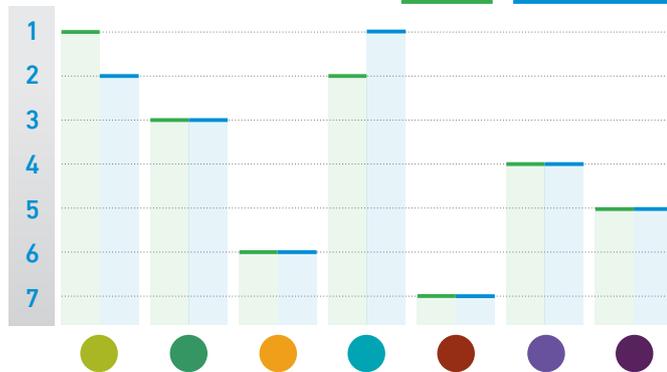
Particular importance is placed on identifying and supporting champions. The personal relationships they have and their standing among those they are trying to bring with them are seen as key factors in success.

Addressing the concerns of healthcare professionals is also seen as important, with providing evidence to demonstrate the impact of any change key to ensuring buy-in among a typically cautious profession.



Ranking

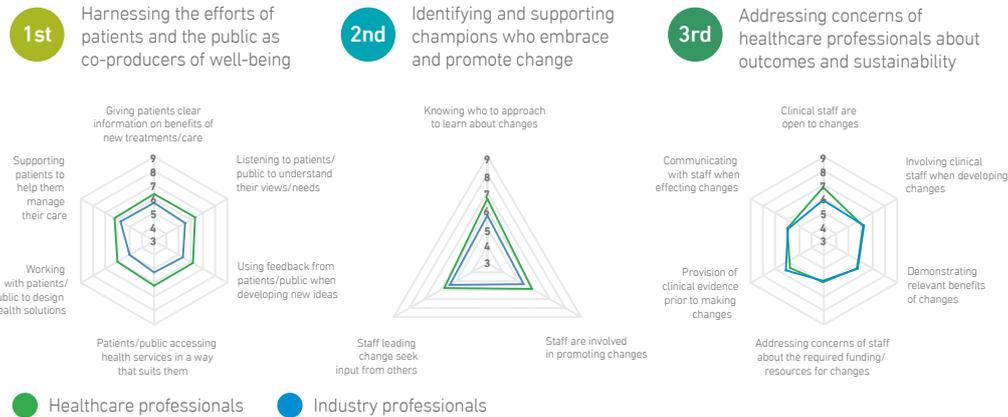
England Global Average



Healthcare professionals' ranking of the prevalence of the cultural dynamics in England is largely consistent with their counterparts from across the globe.

However, in contrast to the global ranking, harnessing the efforts of patients and the public as co-producers of well-being is ranked as the most prevalent dynamic and identifying and supporting champions who embrace and promote change is seen as the second most prevalent.

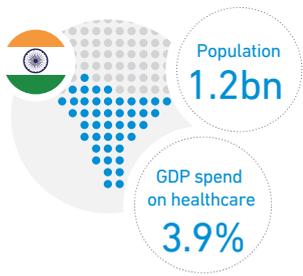
Survey results



Base: 200 online interviews with HCPs, 100 online interviews with IPs, mean scores taken from an 11 point scale of 0-10

GLOBAL DIFFUSION OF HEALTHCARE INNOVATION

INDIA



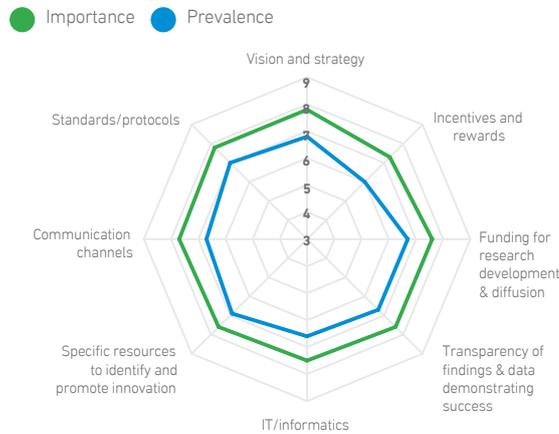
Health system characteristics

Funding mechanism	Universal publicly funded access, govt. funded insurance for low income access to care; supplemental private insurance available
Management	National policy, regional delivery
Market place	Medium private sector provision
Economy	Highly competitive
Service delivery	Highly diverse

Enablers of the spread of innovation - Experts' views



Survey results



- The gap in the perception of healthcare professionals' ratings of importance and prevalence of the enablers in India is relatively small.
- The gap is fairly consistent across all enablers, but is slightly larger for incentives and rewards and slightly smaller for specific resources to identify and promote innovation.
- There is little or no gap in perceptions of industry professionals.

Base: 200 online interviews with HCPs, averages taken from batteries of statements for each question

Cultural dynamics

Experts' views

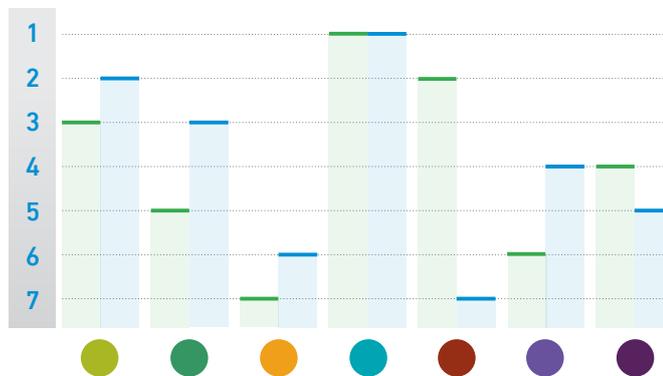
There is a consensus among experts in India that attitudes and behaviors of healthcare professionals are important in supporting the spread of innovation. Broad attributes such as an entrepreneurial zeal, compassion and empathy are identified as important in building a sense of ownership among healthcare professionals.

Experts also identify harnessing the efforts of patients and the public as co-producers of well-being as important, noting an increasing trend towards patients demanding quality care. Engaging key opinion leaders and adapting an innovation so that it works well locally are also considered to be essential factors in ensuring innovations are adopted and taken to scale.



Ranking

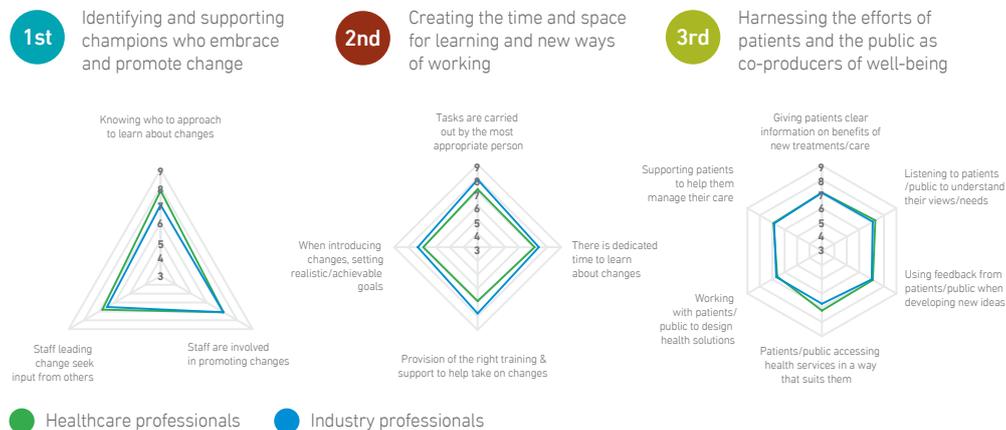
India Global Average



Identifying and supporting champions who embrace and promote change is seen by healthcare professionals as the most prevalent dynamic in both India and globally.

However, beyond this the ranking of the cultural dynamics between India and globally varies. For example, creating the time and space for learning and new ways of working is ranked the second most prevalent in India, but least prevalent elsewhere.

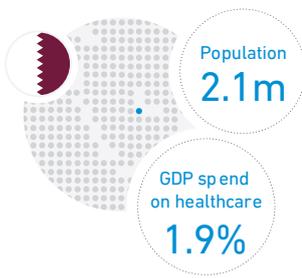
Survey results



Base: 200 online interviews with HCPs, 100 online interviews with IPs, mean scores taken from an 11 point scale of 0-10

GLOBAL DIFFUSION OF HEALTHCARE INNOVATION

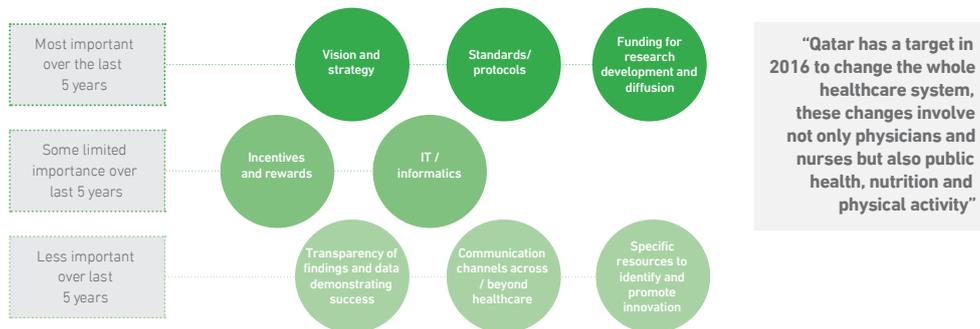
QATAR



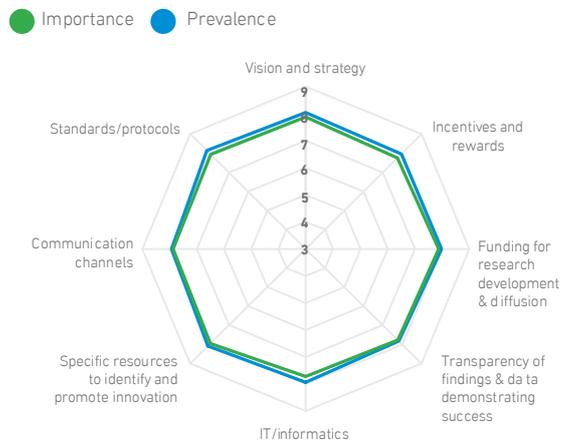
Health system characteristics

Funding mechanism	Universal publicly funded access - supplemental private insurance available
Management	National delivery of services
Market place	Small private sector provision
Economy	Little competition
Service delivery	Little regional diversity

Enablers of the spread of innovation - Experts' views



Survey results



- There is no perception gap between healthcare professionals' ratings of importance and prevalence of the enablers in Qatar. In fact, for all enablers prevalence is rated slightly higher than the importance.
- The largest inverse gap is for IT/informatics and smallest for both transparency of findings and data demonstrating success and communication channels across and beyond healthcare.
- The views of industry professionals differ somewhat, with a clear perception gap evident across all enablers.

Base: 100 face-to-face interviews with HCPs, averages taken from batteries of statements for each question

Cultural dynamics

Experts' views

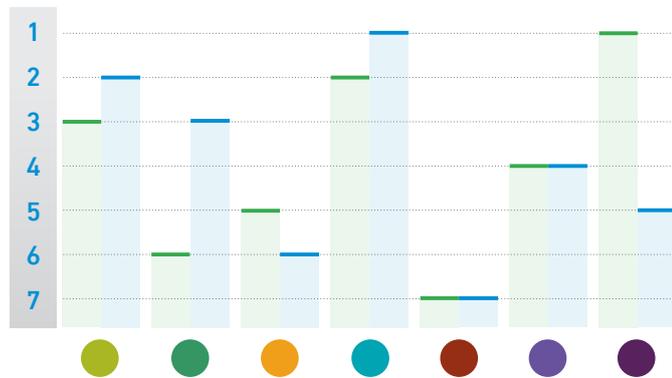
Experts in Qatar also highlight the important role that the attitudes and behaviors of front-line staff play in facilitating the diffusion of innovation across the health system. Harnessing the efforts of patients and the public as co-producers of well-being is seen as particularly important and is mentioned spontaneously by experts.

Other dynamics seen as important include addressing the concerns of healthcare professionals, and adapting innovations to suit the local context.



Ranking

Qatar Global Average



Qatar is unique in that improving the next journey of system transformation is seen by healthcare professionals as the most prevalent dynamic.

The views of healthcare professionals in Qatar also differ from the global rankings for four of the remaining dynamics. The only aspect where healthcare professionals' views in Qatar are consistent with global views is in seeing delaying or eliminating old and ineffective ways of working and creating the time and space for learning and new ways of working.

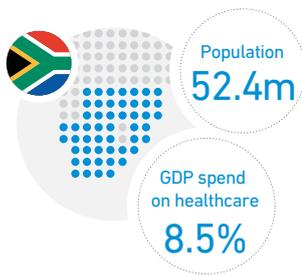
Survey results



Base: 100 face-to-face interviews with HCPs, 50 face-to-face interviews with IPs, mean scores taken from an 11 point scale

GLOBAL DIFFUSION OF HEALTHCARE INNOVATION

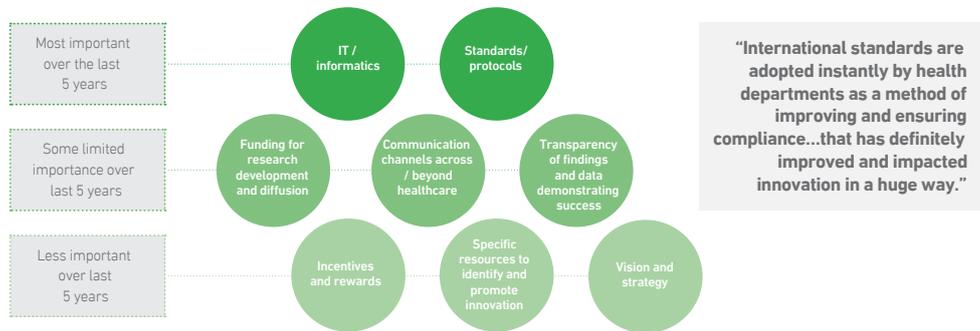
SOUTH AFRICA



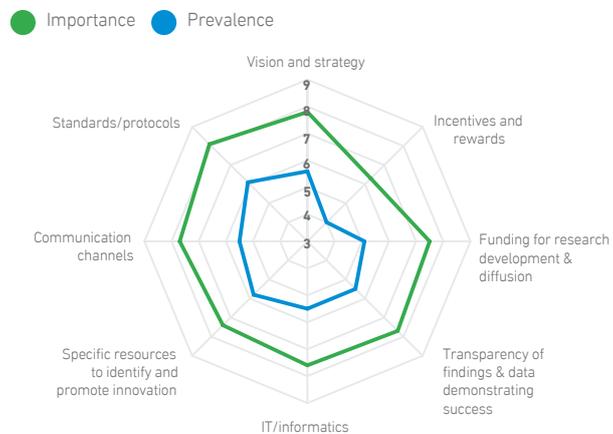
Health system characteristics

Funding mechanism	Universal publicly funded access, govt. funded insurance for low income access to care; supplemental private insurance available
Management	National policy, regional delivery
Market place	Small private sector provision
Economy	Little competition
Service delivery	Some regional diversity

Enablers of the spread of innovation - Experts' views



Survey results



- There is a large perception gap between healthcare professionals' ratings of importance and prevalence of the enablers in South Africa.
- The gap varies across the enablers. It is largest for incentives and rewards, but smallest for specific resources to identify and promote innovation.
- The views of industry professionals are somewhat different, with a much smaller perception gap evident across all enablers.

Base: 200 face-to-face interviews with HCPs averages taken from batteries of statements for each question

Cultural dynamics

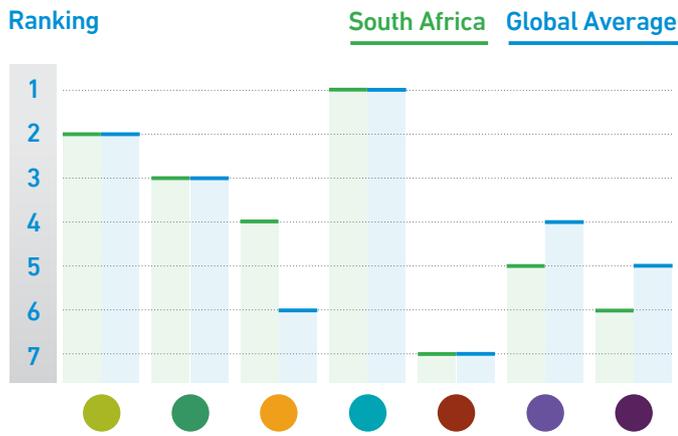
Experts' views

Experts identify four key attitudes or behaviors that play an important role in driving the diffusion of innovation, but also acknowledge that the influence of these behaviours in supporting the diffusion of innovation varies between the private and public health services.

First, there are personal attributes such as openness to learning, and dedication to patients and to the healthcare profession. Second, there is the importance of identifying and supporting champions to promote change. Thirdly, harnessing the efforts of patients and the public as co-producers of well-being and as an audience that needs to be listened to. Lastly, addressing old and inefficient ways of working is seen as an important area of focus if innovation is to be optimally diffused.



Ranking



Healthcare professionals' ranking of the prevalence of the cultural dynamics in South Africa is largely consistent with the global ranking, although some variation exists for those dynamics ranked as less prevalent.

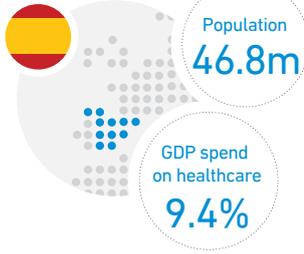
Survey results



Base: 200 face-to-face interviews with HCPs, 50 face-to-face interviews with IPs, mean scores taken from an 11 point scale of 0-10

GLOBAL DIFFUSION OF HEALTHCARE INNOVATION

SPAIN



Health system characteristics

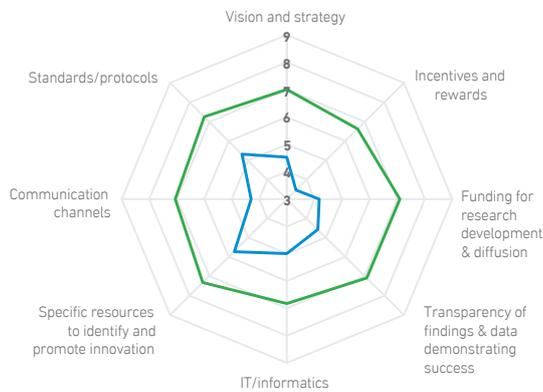
Funding mechanism	Universal publicly funded access - supplemental private insurance available
Management	National policy, regional delivery
Market place	Small private sector provision
Economy	Little competition
Service delivery	Some regional diversity

Enablers of the spread of innovation - Experts' views



Survey results

● Importance ● Prevalence



- There is a large perception gap between healthcare professionals' ratings of importance and prevalence of the enablers in Spain, the largest gap in any of the eight countries.
- The size of the gap varies across the enablers. It is largest for incentives and rewards, and funding for research development and diffusion, but smallest for specific resources to identify and promote innovation.
- The views of industry professionals are somewhat similar. However, the perception gap is generally smaller, with the exception of funding for research development and diffusion.

Base: 220 online interviews with HCPs, averages taken from batteries of statements for each question

Cultural dynamics

Experts' views

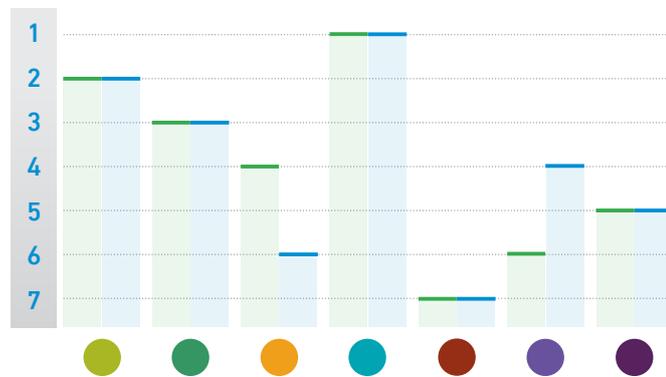
According to experts, healthcare professionals' attitudes and behaviors have helped to diffuse innovation in Spain. A pro-active and collaborative attitude is generally noted, which allows innovation to be incorporated more quickly.

Harnessing the efforts of patients and the public as co-producers of well-being is also considered to be playing an important role in contributing to change. Patients are increasingly being viewed as a driver of change. They have rising demands and expectations of the healthcare system and their knowledge of healthcare is increasing. This means they are playing an increasingly active role both in the healthcare system in general and the process of diffusing innovation specifically.



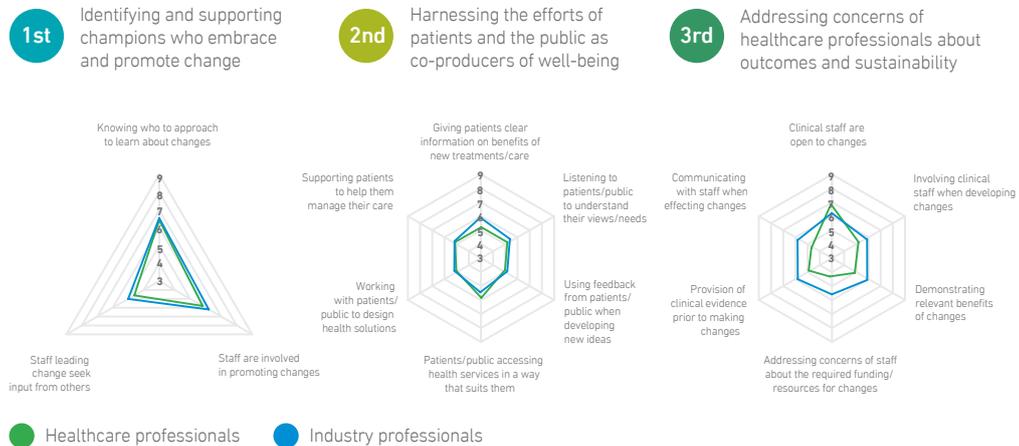
Ranking

Spain Global Average



Healthcare professionals' ranking of the prevalence of the cultural dynamics in Spain is largely consistent with the global ranking. However, adapting innovations to suit the local context is seen as the fourth most prevalent dynamic in Spain while it is ranked sixth globally.

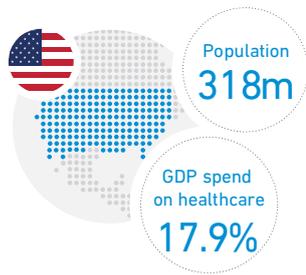
Survey results



Base: 220 online interviews with HCPs, 100 online interviews with IPs, mean scores taken from an 11 point scale of 0-10

GLOBAL DIFFUSION OF HEALTHCARE INNOVATION

UNITED STATES



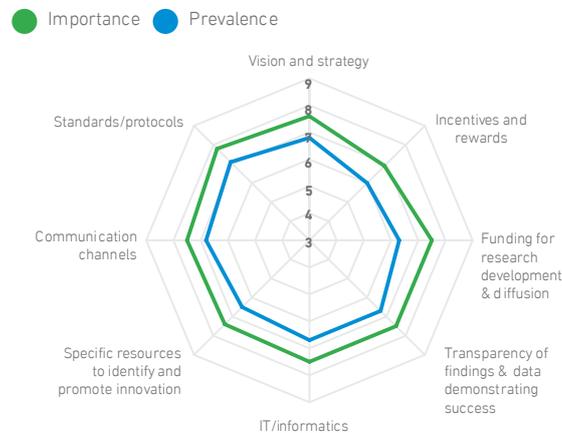
Health system characteristics

Funding mechanism	Publicly funded access for low income and elderly, Individual and employer provided insurance
Management	National policy, regional delivery
Market place	Predominantly private provision
Economy	Highly competitive
Service delivery	Highly diverse

Enablers of the spread of innovation - Experts' views



Survey results



- The gap in the perception of healthcare professionals' ratings of importance and prevalence of the enablers in the US is one of the smallest of the eight countries.
- The gap is fairly consistent across all enablers, but is slightly larger for funding for research development and diffusion.
- However, the perception gap between the views of industry professionals is significantly larger than that for healthcare professionals.

Base: 200 online interviews with HCPs, averages taken from batteries of statements for each question

Cultural dynamics

Experts views

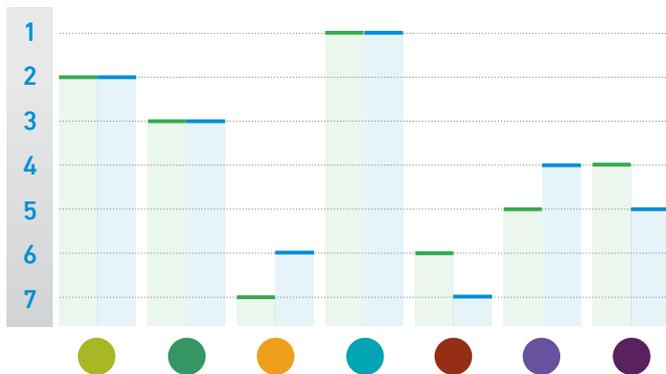
Experts in the US place considerable importance on the attitudes and behaviors of healthcare professionals and their impact on the diffusion of innovation. They place particular emphasis on the wider culture of innovation, both within organizations and across the healthcare system. This includes the social aspects which make a big difference to the way in which healthcare professionals take changes on board. The role of trust in personal experience and interpersonal relationships are seen as particularly important in conditioning the spread and speed of change.

Harnessing the efforts of patients and the public as co-producers of well-being is also seen as important, as is the impact of communications and social media.



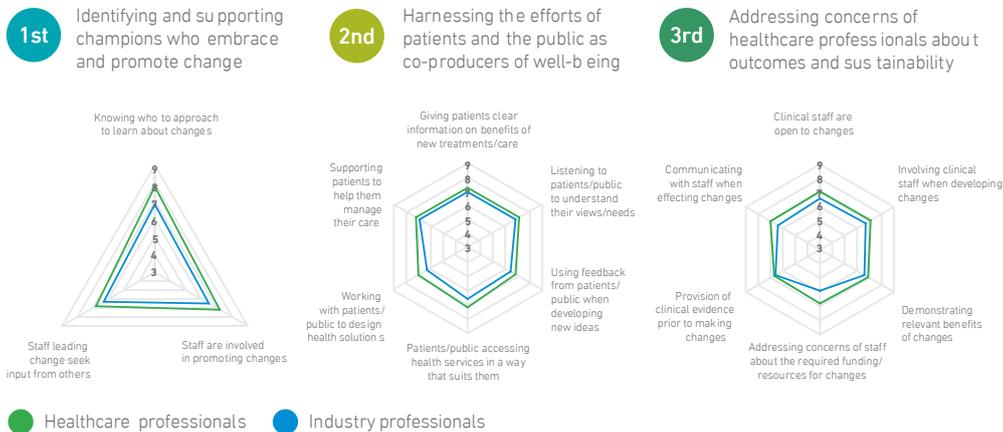
Ranking

United States Global Average



Healthcare professionals in the US are consistent with those from other countries in their ranking of the three most prevalent dynamics. However, in contrast, they rank adapting innovations to suit the local context as the least prevalent.

Survey results



Base: 200 online interviews with HCPs, 201 online interviews with IPs, mean scores taken from an 11 point scale of 0-10

APPENDIX A: TECHNICAL DETAILS

This first GDHI study was conducted across eight countries: Australia, Brazil, England, India, Qatar, South Africa, Spain and the US. Qualitative interviews and two quantitative surveys were conducted concurrently. Details on each element are provided below.

QUALITATIVE DATA

The qualitative data was generated through a total of 103 in-depth interviews conducted between August and October 2013 with healthcare experts in each country. Interviews lasted between 30-45 minutes on average. The study was co-ordinated by Ipsos MORI in London, with interviews conducted by local research teams within each country. Each local team was fully briefed by webinar by Ipsos MORI prior to the commencement of the project.

All interviews were conducted in local language with interview materials translated where necessary. The number of interviews conducted in each country is provided below along with the principal interview mode used.

Table 1: Number of expert interviews conducted in each country

COUNTRY	NUMBER OF EXPERT INTERVIEWS	METHOD
Australia	12	Telephone
Brazil	15	Telephone
England	11	Telephone
India	17	Face-to-face
Qatar	8	Face-to-face
South Africa	11	Telephone
Spain	15	Telephone
US	14	Telephone
Total	103	

Experts were selected as having a strategic overview of their country's health system and to cover a range of different players in the health system. The sample was split into three groups to include representatives from the following areas:

- Policy (policy-makers and government officials, regulators, professional organizations and arms-length bodies, academics and commentators);
- Processes (providers and commissioners of health services), and;
- Products (pharmaceutical, medical and digital technology representatives).

QUANTITATIVE DATA

Quantitative data was generated via surveys of 1,521 healthcare professionals (HCPs) and 772 industry professionals (IPs—representatives from the pharmaceutical, medical and digital technology sectors). A breakdown of the number of interviews in each country is provided in the following table.

Table 2: Number of quantitative interviews conducted in each country

COUNTRY	NUMBER OF HCP INTERVIEWS	NUMBER OF IP INTERVIEWS
Australia	200	71
Brazil	201	100
England	200	100
India	200	100
Qatar	100	50
South Africa	200	50
Spain	220	100
U.S.	200	201
Total	1,521	772

With the exception of Qatar and South Africa, the surveys across all other countries were conducted using an online panel. In Qatar, the quantitative interviews were also recruited using a panel database, but conducted face-to-face as is standard for research with these audiences in these countries.

Fieldwork in all eight countries was conducted between August and October 2013 with a questionnaire length of around 15 minutes. Questionnaires were provided in local language in each country. All quantitative data presented in this report is unweighted.

Ipsos MORI designed the questionnaires for the quantitative surveys, which were approved by the IGHI team at Imperial College London. A set of statements was designed to cover each of the seven dynamics. Survey respondents were asked to what extent, if at all, they agreed or disagreed with each statement. They were asked to select their answer on a scale from 0 to 10, where 0 is strongly disagree and 10 is strongly agree.

The rankings of the cultural dynamics shown in this report are based on average scores for each dynamic. For each dynamic, these are calculated by taking the average scores for all survey respondents in a given country for each of the statements that makes up that dynamic, and calculating an average of these scores.

Data tables including the question wording used are available on the Ipsos MORI website at www.ipsos-mori.com.

NOTE ON STATISTICAL SIGNIFICANCE

Mean values are used throughout this report in presenting the results of the quantitative surveys. In order to verify the statistical significance or calculate the confidence intervals of mean values, one needs to know not only the sample size, but also how diverse the opinions of individual respondents were. The mean value itself does not provide a description of the distribution of values in the sample; for example, a mean value of 4.9 on a variable that uses a 0 to 10 scale could indicate a range of values of between 4.8 and 5.0, but could also indicate a range of values of between 1.9 and 7.9. In the former case the confidence intervals will be very narrow, and for the latter example, the confidence intervals will be considerably wider.

We therefore need to check the standard deviation of the results in order to verify their statistical significance. In statistics, an indicator called standard deviation is used to describe the difference of the results among individual respondents. The standard deviation of the population is usually not accessible, thus only the standard deviation of the observed sample is used as the best substitute.

The following table shows the significance testing for healthcare professionals' ratings of the prevalence of the cultural dynamic "identifying and supporting champions". Responses to the five statements that comprise this dynamic were aggregated into one indicator. "Don't know" responses were treated as missing values for the purpose of calculations.

Table 3: Significance testing for HCPs' ratings of the cultural dynamic "identifying and supporting champions"

COUNTRY	MEAN VALUE	SAMPLE SIZE	STANDARD DEVIATION	STANDARD ERROR OF MEAN	LOWER 95% CONFIDENCE INTERVAL	UPPER 95% CONFIDENCE INTERVAL	DIFFERENCE FROM THE TOTAL
Australia	6.47	200	2.185	0.15	6.18	6.76	Not sig
Brazil	7.41	201	1.986	0.14	7.14	7.68	Sig at 1%
England	6.09	200	2.222	0.16	5.78	6.4	Sig at 1%
India	7.30	200	2.028	0.14	7.03	7.57	Sig at 1%
Qatar	7.95	100	0.842	0.08	7.79	8.11	Sig at 1%
South Africa	6.47	200	2.296	0.16	6.16	6.78	Not sig
Spain	5.62	220	2.208	0.15	5.33	5.91	Sig at 1%
US	7.30	200	1.913	0.14	7.03	7.57	Sig at 1%
Total	6.74	1521	2.178	0.06	6.62	6.86	n/a

We can see that ratings in Qatar, Brazil, the US and India are significantly higher than overall, while those in England and Spain are significantly lower. It can also be seen that the standard deviation is lower in Qatar, since the ratings given by the survey respondents are more similar to each other than the ratings are in other countries. Even with a smaller sample size in Qatar, this therefore results in a lower standard error than in the other countries. This underscores the importance of looking at standard deviation when checking the statistical significance of mean scores.

APPENDIX B: ACKNOWLEDGMENTS

EXPERT INTERVIEWEES

Of the 103 experts interviewed, 92 gave their consent for their name to be included in a list of expert participants in this report. 11 experts preferred to contribute anonymously.

- Ms Paloma Alonso, Chief Executive Officer, Globesalud – Spain
- Dr Maria Jesús Alsar, Medical Director in Spain and Portugal, Sanofi España – Spain
- Mr Mikel Alvarez Yeregi, General Manager, Mondragón Health – Spain
- Mr Carlos Alberto Arenas, Chief Executive Officer, Hospital Vega Baja, Orihuela Health Department – Spain
- Mr Richard Van As, Owner, Robohand – South Africa
- Dr Anne-Marie Audet, Vice President, Delivery, System Reform & Breakthrough Opportunities, The Commonwealth Fund – US
- Dr Raimon Belenes, Deputy Chief Executive Officer, Grupo Capiro – Spain
- Dr Paul Billings, Chief Medical Officer, Life Technologies – US
- Mr Donald Bohn, Vice President, US Government Affairs, Johnson & Johnson – US
- Mr Jaco Brand, Chief Executive Operations & Distribution, Liberty Health – South Africa
- Ms Poliana Cardoso Lopes, Strategic and Innovation Management Aide, Health Secretariat of the Government of Minas Gerais – Brazil
- Mr Jorge Carlos da Costa, Technologist, The Oswaldo Cruz Foundation (FIOCRUZ) – Brazil
- Ms Elisa Carvalho, Manager, Life Science & Health, Deloitte Brazil – Brazil
- Mr Natanael de Carvalho Bruno, Senior Technologist, Nuclear Energy Commission (CNEN) – Brazil
- Dr Rita de Cássia Sanchez e Oliveira, Coordinator of Foetal Medicine, Albert Einstein Hospital – Brazil
- Dr Emilio Vargas Castrillón, Principal, San Carlos Clinic Hospital – Spain
- Mr Howard Catton, Head of Policy and International, Royal College of Nursing – England
- Mr Adam Cayley, Regional Director, Monitor – England
- Dr Michael E Chernew, Professor of Health Care Policy, Harvard University Medical School – US
- Mr Maruis Conradie, Head of Integrated Enterprise Solutions, Vodacom – South Africa

- Dr Terry Corbitt, Senior Innovation Manager, Medipex – England
- Ms Angels Costa Ferrer, Market Access Manager, Novartis – Spain
- Dr Kim Critchley, Dean and Chief Executive Officer, Calgary University – Qatar
- Mr Andrew Davies, Market Access Director, Association of British Healthcare Industries – England
- Mr Keshav Desiraju, Secretary, Ministry of Health and Family Welfare – India
- Professor Kathy Eagar, Director Australian Health Services Research Institute, University of Wollongong – Australia
- Dr Elliott S Fisher, Professor of Medicine; Community and Family Medicine, Dartmouth Institute – US
- Dr Elizabeth Fowler, Vice President: Global Health Policy, Johnson & Johnson – US
- Ms Odete Freitas, Sustainability Director, Amil – Brazil
- Dr Hugh Gosnell, Head, Gauteng Department of Health – South Africa
- Ms Jennie Greenhill, Owner, Miracle Medical – South Africa
- Dr Gagan Gupta, Health Specialist, UNICEF – India
- Mr Sean Hall, Executive Chair, Medlab Pty Ltd – Australia
- Dr Mark Hlatky, Health Policy Fellow and Professor of Research and Policy of Medicine, Stanford University – US
- Mr Marcelo Hoffmann, Business Development Manager, Xpand Business Development – Brazil
- Mrs Celia Ingham Clark MBE, Medical Director for revalidation and quality for London region of NHS England, NHS England – England
- Mr Vee Jithoo, Director of Sales and Marketing, GMS Healthcare – South Africa
- Dr Zeena Johar, Medical Director & Chief Executive Officer, SughaVazhvu Health Care – India
- Dr Kanav Kahol, Team leader, Affordable Health Technologies, Public Health Foundation of India – India
- Dr K K Kalra, Chief Executive Officer, National Accreditation Board for Hospitals & Healthcare Providers – India
- Dr Stephen Kell, Chair, NHS Bassetlaw Clinical Commissioning Group – England
- Mr Dilip Kumar, Deputy Director, Ministry of Health and Family Welfare – India
- Dr Abofele Khoele, Group Executive for Drug Management & Development, Adcock Ingram – South Africa
- Mr Pablo Lázaro y de Mercado, Director, Técnicas Avanzadas de Investigación en Servicios de Salud (TAISS) – Spain
- Professor Mkhululi Lukhele, Head of School of Clinical Medicine, University of the Witwatersrand - Faculty of Health Science – South Africa

- Mr Javier Montalvo Moreno, National Manager of Business Sales Base: Hospital Care, Linde Healthcare – Spain
- Mr Paul Madden, Deputy Secretary and Chief Information and Knowledge Officer, Department of Health and Ageing – Australia
- Mr Pritpal Marjara, Managing Director, Population Services International India – India
- Dr Marcia Mascarenhas, Observatory Cost Manager, Minas Gerais State Hospital Foundation (FHEMIG) – Brazil
- Dr Karina Medici Barrella, Partner and Researcher, Nerthus Análise Ambiental Ltd – Brazil
- Mr Greg Mundy, Chief Executive Officer, The Council of Ambulance Authorities – Australia
- Dr Brad Murphy, Chair, National Faculty of Aboriginal & Torres Strait Islander Health, The Royal Australian College of General Practitioners – Australia
- Dr Sunil Nandraj, Advisor, Ministry of Health and Family Welfare and Public Health Foundation of India – India
- Mr Mark Newburger, Chief Executive Officer, Apollo PACS – US
- Mr Roberto Nuño, Director, The Institute of Health Innovation, The Basque Foundation for Health Innovation and Research – Spain
- Dr Tahra El Obeid, Professor of Health Science, Qatar University – Qatar
- Ms Peggy O’Kane, President and Chief Executive Officer, National Committee for Quality Assurance – US
- Mr Ajay Parkhe, General Manager, Global Emerging Care Ultrasound, GE Healthcare – India
- Dr Chai Patel CBE, Chairman, Elysian Capital – England
- Dr Sue Phillips, Chief Executive Officer, Therapeutic Guidelines Ltd – Australia
- Mr Keerti Pradhan, Senior Consultant, VisionSpring – India
- Dr Sachidanand Rai, Senior Manager, Market Intelligence, Philips – India
- Mr Alberto de Rosa Torner, Country Manager, Ribera Salud – Spain
- Ms Hélène Rossouw, Spokesperson for Western Cape Minister of Health, Western Cape Government – South Africa
- Dr Rajeev Sadanand, Director General Labour Welfare, Government of India – India
- Dr Laura Sampietro-Colom, Innovation Sub-Director, Clinic Hospital Barcelona – Spain
- Dr Eduardo Sanchez, Deputy Chief Medical Officer, American Heart Association – US
- Ms Isabel Sánchez, Health Committee Member, Congress of Deputies – Spain
- Dr Sanjay Sarin, Regional Director, Global Health, BD India – India

- Mr Ahmed El Sayed Taha, Executive Manager, Al Fursan Training Center – Qatar
- Mr Etienne Scheepers, Workforce Innovation & Reform Director, Health Workforce Australia – Australia
- Ms Margot Schmidt, Coordinator, Health Surveillance Agency of the State of Paraná – Brazil
- Dr Sarah Scholle, Assistant VP for Research and Analysis, National Council for Quality Assurance – US
- Dr John Scoble, Deputy Medical Director, Clinical Innovation and Improvement, Guy's and St Thomas' NHS Foundation Trust – England
- Mr Mobasher al-Sedq, Public health: infectious disease expert, Supreme Council of Health – Qatar
- Dr Ahmed El Setouhy, Head of MRI, Hamad Medical Corporation – Qatar
- Professor Frances Shannon, Deputy Vice-Chancellor, Research, University of Canberra – Australia
- Dr Vivek Sharma, Research Director, Abt Associates – India
- Ms Vicki Sheedy, Strategic Programs Manager, Australian College of Rural and Remote Medicine – Australia
- Ms Sandra Soares Costa, Co-founder and Technical Director, Sabin Clinical Laboratory – Brazil
- Dr Glenn Steele, President and Chief Executive Officer, Geisinger Healthcare System – US
- Dr Pritpal S Tamber, Founder and Clinical Editor, TEDMED and Optimising Clinical Knowledge – England
- Mr R D Thulasiraj, Executive Director, Lions Aravind Institute of Community Ophthalmology (LAICO) – India
- Ms Alison Verhoeven, Chief Executive Officer, Australian Healthcare and Hospitals Association – Australia
- Mr Tarun Vij, Country Program Leader, Path – India
- Dr Kamini Walia, Senior Scientist, India Council of Medical Research – India
- Dr Jay Want, Chief Medical Officer, Center for Improving Value in Healthcare – US
- Dr Otis Webb Brawley Jr., Chief Medical and Science Officer, American Cancer Society – US
- Ms Lynne Winstanley, Director of Transition, NHS Improving Quality – England
- Ms Julie Wood, Commissioning Development Director, NHS Clinical Commissioners – England
- Dr Paul Von Zeuner, Infrastructure and Technical Manager, Western Cape Department of Health – South Africa
- Mr Alexandre Zomignani, Development and Innovation Manager Healthcare Division, Laboratório Pfizer – Brazil

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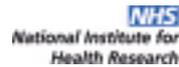
- Ms Hannah Patel, Programme Support Officer
- Ms Fiona Rennie, Senior Researcher
- Dr Greg Parston, Executive Director

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WISH ACADEMIC PARTNERS



See the GDHI microsite at www.ipsos-mori.com/gdhi for full research findings

