How do our health systems respond to evolving challenges?

Joint meeting of the Academy of Medical Sciences and the Institute of Medicine

March 2014

The Academy of Medical Sciences

The Academy of Medical Sciences is the independent body in the UK representing the diversity of medical science. Our mission is to promote medical science and its translation into benefits for society. The Academy's elected Fellows are the United Kingdom's leading medical scientists from hospitals, academia, industry and the public service. We work with them to promote excellence, influence policy to improve health and wealth, nurture the next generation of medical researchers, link academia, industry and the NHS, seize international opportunities and encourage dialogue about the medical sciences.

The Institute of Medicine

The Institute of Medicine (IOM) is an independent, non-profit organization that works outside of government to provide unbiased and authoritative advice to decision makers and the public.

Established in 1970, the IOM is the health arm of the National Academy of Sciences, which was chartered under President Abraham Lincoln in 1863. Nearly 150 years later, the National Academy of Sciences has expanded into what is collectively known as the National Academies, which comprises the National Academy of Sciences, the National Academy of Engineering, the National Research Council, and the IOM.

The IOM asks and answers the nation's most pressing questions about health and healthcare. Our aim is to help those in government and the private sector make informed health decisions by providing evidence upon which they can rely. Each year, more than 2,000 individuals, members, and non-members volunteer their time, knowledge, and expertise to advance the nation's health through the work of the IOM.

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Summary

Populations are ageing throughout the world and we are consequently seeing a dramatic increase in the likelihood that individuals will suffer from multi-morbidities – two or more chronic conditions. This joint meeting between the UK Academy of Medical Sciences and the US Institute of Medicine explored the role that health systems can play in meeting the challenges caused by multi-morbidities.

Individuals often have a strong desire to age 'successfully' and while this ambition is not well defined in practice, it is clear that successful ageing is about more than just treating physical health problems. Preventing physical and mental ill health through a healthy lifestyle will be crucial to tackling demographic shifts. At the health system level, generalist care, alongside a greater role for employers, communities and community healthcare is likely to be a valuable approach. To ensure that health systems continue to provide effective healthcare, we must anticipate demographic shifts and adapt our health systems accordingly. In many cases, this must be done while also reducing costs. There may also be value in reviewing the way in which we approach the reform of health systems. At present, health system reforms usually occur on a large scale. However, some participants suggested that a more systematic, scientific approach to making changes – through smaller increments – could enable us to better identify the specific causes of improvements, and consequently better refine the system. Health policies must focus on both long term (i.e. preventing ill health) as well as short term (i.e. treating ill health) gains.

Citizen and patient involvement in healthcare can also contribute to improvements. There is no single definition of what it means for either citizens or patients to be 'informed' or 'active' in their care or in health systems, but there are many examples of where involving them in some way can benefit healthcare – in both high-income and low- and middle-income countries. However, we must have realistic expectations about the outcomes as they will not necessarily be straightforward. For example, in some instances, citizen or patient involvement will be associated with lower costs, while in others they will bring higher costs. In other cases, initial higher costs might be recouped later through health improvement. Equally, at the individual level, it is important to help patients understand their care and what they can expect from it, but this will become increasingly challenging in an ageing population in which individuals require care for multi-morbidities.

Introduction

On 24 March 2014, the UK Academy of Medical Sciences and the US Institute of Medicine (IOM) held a joint meeting at the Academy's headquarters in London, addressing the question: '*How do our health systems respond to evolving challenges?*'. The meeting was chaired by Professor Harvey V Fineberg MD PhD, President of the IOM, and Professor George Griffin FMedSci, Foreign Secretary of the Academy.

The meeting featured two discussion sessions. In the first, 'Demographic transition, chronic diseases and co-morbidities', Professor Martin McKee CBE FMedSci and Professor Martin Roland CBE FMedSci stimulated discussion through presentations that explored the healthcare challenges of an ageing population and the need to help people age 'successfully' (i.e. more healthily). The second session, 'Informed and active citizens in health systems', featured a panel discussion and began with contributions from Lord Nigel Crisp KCB, Professor Rudolf Klein CBE FBA FMedSci and Professor Anne Mills CBE FRS FMedSci.

Demographic transition, chronic diseases and co-morbidities: How are our health systems enabling and obstructing adaptation to the challenges of demographic transition?

Introduction

Professor Martin McKee CBE FMedSci and Professor Martin Roland CBE FMedSci gave presentations on the ageing populations of Europe and North America and the challenges that health systems face as a consequence.

Professor McKee emphasised that Europe is the world's oldest continent in demographic terms, with a median age of 38 years. An ageing population has been accompanied by growth in the number of people living with chronic diseases. Moreover, this has led to a dramatic increase in the likelihood that individuals will suffer from multi-morbidities – suffering from two or more chronic conditions – as they age.[1] This likelihood differs with many factors, including socioeconomic position, country and ethnicity. These issues raise complex challenges for health systems, which will need to:

- Provide a complex response to individuals over extended periods of their lives.
- Ensure coordinated input from a wide range of professionals.
- Provide longitudinal access to essential medicines and monitoring systems that continually promote active patient engagement.

Professor McKee noted that evidence of differential death rates from diabetes and myocardial infarction by country and US state highlight the role that variation in healthcare structures and access to healthcare can play. Examining different health systems has shown that their ability to meet the challenges of multi-morbidities is determined by factors, including: the effectiveness of 'integrated care' (varying approaches to coordinated care across a team of medical/non-medical individuals); the emphasis on nurses in case management; the type of payment system used; and the management of interfaces between primary, secondary and rehabilitation care. However, there is very limited evidence from large-scale interventions that try to improve care, particularly for those with multi-morbidities.

Professor Roland continued by asking whether our health services are fit for purpose in light of demographic and multi-morbidity trends. He highlighted three key issues facing care: that it is episodic, fragmented and too focused on case provided by specialists. Health systems need to be overhauled in four areas:

- *Clinical information systems*: In UK primary care there are universal electronic medical records which follow the patient to provide a lifelong record. In contrast, rollout of electronic medical records in hospitals has been largely unsuccessful in the UK and incomplete across the US. Records which can be accessed in a range of settings (e.g. primary and specialist care) are seen in some US models such as the Veterans Administration, but not in the UK.
- *Decision support*: Guidelines for patients with particular conditions can give adequate information for patients in those diagnostic groups, but are increasingly

[1] Barnett, K. *et al.* (2012). *Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study.* The Lancet **380**, 37-43.

seen as deficient, e.g. in relation to the very elderly and patients with multiple morbidities who place an increasing burden on our healthcare systems.

- *Delivery system design*: many health systems place a premium on specialisation of doctors at the expense of a sufficient cadre of skilled general practitioners. In the US there is debate as to whether the 'medical home'— offering physician-coordinated and integrated local care offers a solution to healthcare challenges. More evidence is required to establish whether this approach can help, e.g. evidence from the impact on emergency admissions is not convincing. In many ways the 'medical home' in the US has parallels with some of the extended models of primary care being discussed in the UK. Both share a key feature of accountability for a defined population.
- *Self-management support*: Health systems should be designed on realistic expectations of the extent to which patients are able to manage their own conditions. There is not always sufficient evidence to support current rhetoric around self management; consequently, expectations over the extent to which self management can lead to reduced use of healthcare resources may, in some cases, be unrealistic.

Historically, it has been relatively easy to obtain improvements in the quality of care. However, driving forward such improvements while also reducing costs is much more challenging. The trade-off between specialists and generalists in the workforce can be an important consideration, which is well illustrated by the difference between health systems in the US (highly promoted specialist access, at higher costs to the system) and the UK (more focused on family practitioners (FPs), with greater control of costs).

Discussion

Participants acknowledged the value of individuals aspiring to age 'successfully', but noted that such a concept is very difficult to define, for example, because it varies with life stage and there is no clear explanation for the differences in ageing between populations. However, the following key themes emerged:

1. Successful ageing is about more than just treating physical health problems.
2. The role of the generalist in providing care is crucial.
3. How to change healthcare systems.

Successful ageing is about more than just treating physical health problems

Many attendees emphasised the need to consider factors beyond physical health when trying to help people age more successfully. In particular, participants noted the important role that communities and community healthcare play in helping people age successfully with a healthy lifestyle. Preventing ill health will be crucial to tackling demographic shifts – in terms of both physical and mental health. Participants felt that employers can help by engaging their workforce on health matters, with corollary benefits as workers disseminate health messages to their families. However, it was also highlighted that community healthcare should complement, rather than substitute, emergency care.

Participants highlighted that mental health and wellbeing are not given enough consideration in relation to ageing and similarly, the importance of the early years in setting individuals on trajectories of poor health need further exploration. It was also noted that a range of other factors, such as socioeconomic inequality, poverty and geography, exacerbate the issue of co-morbidities arising with age, though the impacts of these have not been well recorded. More effort should be made to fully understand these interactions on ageing populations.

The role of the generalist in providing care is crucial

The vital role of generalist care, and particularly family practitioners, in meeting the challenge of an ageing population was emphasised by many attendees. Scaling up generalist care has been suggested as a way for health services to adapt to care for an ageing population. Participants noted that this requires careful consideration; there was concern that it must be done in a way that does not have negative impacts on continuity of care. Concern was raised by some that continuity of care could be impaired by planned extensions of NHS GP service opening hours in England as a result of resources being spread more thinly. It was also suggested that to make general practice fit for purpose in light of the demographic transition, other professionals such as social workers should be brought into the generalist care of patients. However, some participants cautioned that we should not simply dismiss the notion that healthcare in the UK, where general practice is a significant component, actually makes it too generalist. It was suggested that we might wish to consider lessons that we can learn from care in the US here.

How to change healthcare systems

There was a discussion of the way that changes are made to health systems, both in the UK and US. Some participants felt that there could be value in replacing the way reform currently occurs – usually on a relatively large scale – with a more systematic, scientific approach to making changes. We do not currently know which healthcare models work best and it was suggested that introducing smaller scale changes, in a way that is understood to be an experiment, and thus that inevitably some will not succeed, could be more beneficial than current practice. The situation in the US, where individual states control their different health systems was highlighted as an opportunity for the UK to look at the relative success of different models and learn from them.

The polarisation and politicisation of debate surrounding healthcare in the US and lack of agreement across political parties were identified by some participants as unhelpful in the effort to provide high quality healthcare and adapt to demographic change. Additionally, some attendees noted that, in many cases, there is a tendency for employers to employ staff on a more casual basis than previously, which also contributes to there being fewer incentives for employers to invest in workforce health and wellbeing.

Informed and active citizens in health systems: the answer to all our ills?

Introduction

The session began with a panel discussion, with contributions from Professor Rudolf Klein CBE FBA FMedSci, Lord Nigel Crisp KCB and Professor Anne Mills CBE FRS FMedSci. Professor Klein started the panel discussion by questioning what is meant by an 'informed patient', and whether better informed patients will lead to lower demand for healthcare. Few patients are able to digest all the vast amount of information available (especially since the advent of the internet) or have a sufficient comprehension of statistics to interpret it. Even if they can use the available information, they will not necessarily use less medical care. 'Active citizens' are also hard to define. Professor Klein noted the example that those who take part in consultations on health related policies could be deemed active, but won't necessarily have examined the evidence underpinning policy choices. He noted the need for more explicit recognition of the cost of having informed and active patients, either financially for education programmes, or in the form of trade-offs, such as delays in implementing healthcare reforms. Patient advocacy groups representing particular conditions, and often supported by pharmaceutical companies, generate new demands and may distort priorities.

Lord Crisp noted the need to consider self-care with respect to informed and active citizens; programmes to facilitate self-care have had positive outcomes. He also emphasised the need to consider active and informed citizens in the wider context of society, rather than only in the context of health systems. Many patients want to do more to help themselves and/or others around them. For example, mother to mother communication has been helpful in addressing the HIV epidemic, as it can help mothers to reduce the risk of passing on infection. Lord Crisp noted that we are in danger of treating health systems as if they are separate to everything else, and also often ignore the role they should play in promoting quality of life rather than only reacting to disease burdens.

Professor Mills broadened the discussion to citizen engagement in low- and middle-income countries (LMICs), where there exist examples of engagement enhancing the accountability of healthcare services. Such examples exist in spite of low resources and general criticisms that public services are not sufficiently responsive. Private healthcare is often regarded as being more responsive to patient demands, but tends to have higher charges and consequently doesn't necessarily offer a solution. Citizens can put pressure on systems both internally (e.g. trained staff changing the organisation of an institution or resource allocation) and externally (broader effects on many institutions, by way of pressure groups, for instance). However, Professor Mills highlighted the challenge of simply trying to transpose active or informed citizen policies from countries that facilitate the 'citizen voice', such as the UK or US to LMICs, where countries may lack the institutions, government processes or capacity for citizen engagement that is necessary to successfully implement the policies. For example, it is not clear that transposing policies of greater public hospital autonomy to LMICs brings improvements in healthcare. Where hospitals receive only partial public funding, they must generate additional private

funding, which increases charges and can harm access of poorer groups. Professor Mills noted that there are clear ways of improving accountability, including:

- Facility committees including community members that can scrutinise aspects of healthcare, such as individual hospitals.
- Non-governmental organisations that can play an important role as pressure groups.
- Independent and active media that can champion patients' complaints.

Discussion

Professor George Griffin FMedSci chaired the discussion, which explored many aspects of active and informed citizens in health systems, summarised under the following headings:

Citizen groups and patient involvement

Participants discussed the wide range of forms that citizen and patient involvement in healthcare can take, as well as the importance of distinguishing between citizen and patient involvement. Public Health England (PHE) currently has a greater emphasis on communication with patients and a number of local government authorities have worked successfully with PHE on projects such as increasing green spaces. These initiatives were welcomed by some participants.

Although many participants noted the positive effect on healthcare that citizen and patient involvement can have, attendees recognised that in some circumstances, it can also have a negative impact, for example, where citizen groups oppose proven treatments or evidence-based reform. Attendees acknowledged the need to properly engage with groups in such situations and the importance of having data that support new approaches.

Balance of long term and short term gains

Some attendees felt that the political focus on short term gains in healthcare can distract from implementing policies that have potential for long term health benefits. Participants also discussed how to encourage health policy that focuses on healthy people rather than the sick, as the latter also focuses on short term gains. It was recognised that health policy requires a balance of policies designed to produce both short term and long term gains.

Realistic expectations about patient hopes and outcomes

Some attendees highlighted the need to be realistic about expectations of how active patients can be in their healthcare and the outcomes of this. Patient care plans, which make patients more active in their care, were discussed as an illustrative example; it is not realistic for patients with multi-morbidities to have a care plan for each one. It is also necessary to discuss with patients what their expectations of a care plan or other initiative are and make sure that these aspirations are achievable. Another key issue that was considered is whether engaged patients are in fact better informed, and it was agreed that this question requires further examination. Healthcare professionals must also have realistic expectations when they engage in initiatives to better engage patients.

The cost implications of engaged patients

There was much discussion of whether more active and engaged patients result in higher healthcare costs. Examples were discussed where programmes to promote and support patients to be more active in their treatment come with additional costs, but also examples that did not. Participants recognised that the issue is complex, as the type of initiative affects the cost and, while there may be higher costs initially, these may eventually be recouped through other means such as better health in later life.

List of attendees

- **Mr Aaron Banks**, Environment, Science, Technology, and Health Officer, US Embassy, London
- **Dr Elizabeth Bohm**, Senior Policy Adviser, Royal Society
- **Dr Jo Ivey Boufford MD**, Foreign Secretary, Institute of Medicine
- **Professor Carol Brayne**, Professor of Public Health Medicine, University of Cambridge
- **Sir Alasdair Breckenridge CBE FRSE FMedSci**, Chairman, Emerging Science and Bioethics Advisory Committee
- **Sir Cyril Chantler FMedSci**, Chairman, UCL Partners Academic Health Science Partnership
- **Dr Lindsay Chura**, Senior Policy Advisor, Science and Innovation, British Embassy, Washington DC
- **Professor Alastair Compston FMedSci**, Professor of Neurology, University of Cambridge
- **Lord Nigel Crisp KCB**, House of Lords
- **Professor Dame Sally Davies DBE FMedSci**, Chief Medical Officer and Chief Scientific Adviser, Department of Health
- **Professor Adrian Davis**, Director, Population Health, Public Health England
- **Ms Rebecca Devlin**, Policy Intern, Academy of Medical Sciences
- **Ms Donna Duncan**, Deputy Director, Council and Membership Services, Institute of Medicine
- **Dr Sara Ellis**, Head of member engagement and communications, Association of Medical Research Charities
- **Mr Steve Fairman**, Director of Business, Improvement and Research, NHS England
- **Dr Harvey V Fineberg MD PhD**, President, Institute of Medicine
- **Professor George Griffin FMedSci**, Foreign Secretary, Academy of Medical Sciences
- **Professor Chris Ham CBE FMedSci**, CEO, King's Fund
- **Professor David Heymann CBE FMedSci**, CEO, Public Health England
- **Professor Julia Hippisley-Cox**, Professor of Clinical Epidemiology General Practice, University of Nottingham
- **Professor Dame Anne Johnson DBE FMedSci**, Professor of Infectious Disease Epidemiology, University College London
- **Professor Roger Jones FMedSci**, Emeritus Professor of General Practice, King's College London
- **Dr Cynthia Joyce**, CEO, MQ
- **Professor Ann-Louise Kinmonth CBE FMedSci**, Emeritus Professor of General Practice and Honorary Director of Research, University of Cambridge
- **Professor Rudolf Klein CBE FBA FMedSci**, Emeritus Professor of Social Policy, University of Bath
- **Dr Nancy Lee**, Senior Policy Adviser, Wellcome Trust
- **Ms Andrea Lee**, Deputy Director (Strategy), Department of Health
- **Ms Catherine Luckin**, Head of International, Academy of Medical Sciences
- **Dr Gavin Malloch**, Programme Manager, Medical Research Council
- **Professor Alan Maynard OBE FMedSci**, Professor of Health Economics, University of York

- **Professor Martin McKee CBE FMedSci**, Professor of European Public Health, London School of Hygiene and Tropical Medicine
- **Professor Anne Mills CBE FRS FMedSci**, Vice Director, London School of Hygiene and Tropical Medicine
- **Dr Helen Munn**, Executive Director, Academy of Medical Sciences
- **Professor Neena Modi**, Vice President for Research, Royal College of Paediatrics and Child Health
- **Dr Imran Rafi**, Medical Director, RCGP Clinical Innovation and Research Centre
- **Sir Peter Morris AC FRS FMedSci**, Emeritus Nuffield Professor, University of Oxford
- **Sir Denis Pereira Gray OBE FMedSci**
- **Sir Richard Peto FRS FMedSci**, Professor of Medical Statistics and Epidemiology, University of Oxford
- **Baron Peter Piot CMG FMedSci**, Director and Professor of Global Health, London School of Hygiene and Tropical Medicine
- **Dr Rachel Quinn**, Director of Medical Science Policy, Academy of Medical Sciences
- **Professor Martin Roland CBE FMedSci**, Professor of Health Services Research, University of Cambridge
- **Sir Michael Rutter CBE FRS FBA FMedSci**, Professor of Developmental Psychopathology, King's College London
- **Ms Judith Shamir**, Director, Council and Membership Services, Institute of Medicine
- **Professor Alan Silman FMedSci**, Medical Director, Arthritis Research UK
- **Professor Sir Patrick Sissons FMedSci**, Clinical Vice President, Academy of Medical Sciences
- **Professor Stephen Smye**, Director, NIHR Comprehensive Clinical Research Network
- **Professor Terence Stephenson**, Chairman, Academy of Medical Royal Colleges
- **Sir Mark Walport FRS FMedSci**, Chief Scientific Adviser to HM Government, Government Office for Science
- **Sir David Weatherall FRS FMedSci**, Regius Professor of Medicine Emeritus, University of Oxford
- **Dr Jimmy Whitworth FMedSci**, Head of Population Health, Wellcome Trust
- **Dr Dylan Williams**, Policy Officer, Academy of Medical Sciences
- **Professor John Williams**, Director, Health Informatics Unit, Royal College of Physicians
- **Professor John Wyn Owen**

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