The Future Operating Environment for Professional Medical Regulation

Final Report to the General Medical Council

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Executive Summary

Background

1 In April 2016, the General Medical Council (GMC) commissioned SAMI Consulting Ltd (SAMI) to carry out a study of the future operating environment for professional regulation to inform its long-term strategic planning. Specifically, it wanted the study to

- “help us to anticipate, and consider how we would respond to, key trends and important developments in our operating environment”

2 Specifically, the GMC wished to see a small number of evidence-based scenarios. These scenarios would model what the operating environment might plausibly look like in ten to fifteen years’ time. Each scenario would be developed on the assumption that certain alternative clusters of trends and developments occur during the specified timescale.

3 The developed scenarios would be focused on issues that were relevant to professional regulation generally and to the GMC specifically. The research would also identify indicators that could be tracked to monitor whether any of these scenarios were becoming more or less likely over time.

The GMC’s ‘operating environment’

4 The GMC is one of nine health professional regulators in the UK. Each works with the profession(s) they regulate to help to ensure the safety of the public in their interactions with the health system. The nine professional regulators are overseen by the Professional Standards Authority.

5 More broadly, these professional regulators collectively constitute one key component of the regulatory architecture for the UK’s health system. Together with other components, such as national quality assurance/quality improvement bodies in each of the four UK countries (for example, in Scotland, Health Improvement Scotland) that regulatory architecture exists to monitor and support (and help drive improvement in) the safe and efficient delivery of healthcare in the UK countries.

6 The GMC, like most of the professional regulators, has two main regulatory relationships – firstly with the medical profession in the UK and secondly with the institutions that train and educate the medical profession across the UK. The primary purpose of the GMC is to ensure the fitness to practise of the medical profession across the UK. The primary purpose of the GMC is to ensure the fitness to practise of the medical profession, and it does this through undertaking statutory functions, which include the regulation of medical education. The GMC works through its relationships with a wide range of other stakeholders and bodies both within and outside the health systems in order to perform this role successfully.

7 The GMC, again like most professional regulators, receives most of its funding through an annual fee which is levied on all doctors who wish to be on the register it holds. Registration is a necessary but not sufficient condition in order to work as a doctor in the UK. Currently there are almost 275,000 doctors on the GMC’s register of whom
almost 235,000 have a ‘licence to practice’ (it is possible to be registered with the GMC without holding a ‘licence to practise’).

The above paragraphs briefly indicate the complex network of relationships and systems within which the GMC operates. In carrying out this research, and generating a set of scenarios, SAMI were very conscious of the need to interview a wide selection of stakeholders, to cast a wide net as part of our background research, and to include a range of stakeholders in generating the scenarios. We also involved a small group of “front-line” doctors to test the scenarios against the realities of clinical practice and professional development.

About Scenarios

Before summarising the scenarios themselves, it is important to understand what scenarios are. Scenarios are designed to help organisations to anticipate risks, identify opportunities, and ensure that their strategic planning is flexible and agile. They are pictures of how the world might look in the future; they are NOT forecasts, or predictions of the future. Each scenario contains a set of different assumptions about how variable drivers of change might play out in the future. It is likely that the actual future might contain aspects from each of the scenarios, rather than mimicking one scenario in its entirety.

In Chapter 7 of this report, we set out some advice on using scenarios – in summary they can be used for:

- Policy analysis – exploring future policy options
- Stakeholder impact analysis – how different groups might be affected by different future developments
- Risk analysis – envisioning different ways in which risks might play out, and the impact of “shocks”, such as a major pandemic
- Visioning – testing a corporate vision in different potential future scenarios
- Influencing the future – testing strategic propositions against different versions of the future: a “laboratory” for longer-term strategic decision making

Choosing the Key Drivers of Change

In developing scenarios, the most important building blocks are the drivers of change. In the first part of this project, SAMI consultants interviewed 20 experts (4 senior people from the GMC itself, and 16 from external organisations), and carried out desk research to illuminate the drivers of change – those factors that would most influence the future operating environment for the GMC. Chapter 3 contains a long-list of these drivers.

As Chapter 3 shows, there are a great many drivers of change. In order to build the scenarios we needed to narrow down all the drivers to a smaller and more manageable number. In order to do this, we asked participants at a workshop held on 19 July 2016 to identify the most important drivers, and to separate those that were either certain or highly probable, ie predictable drivers from those that were uncertain, ie unpredictable. The predictable drivers of change would be likely to apply in any scenario, while the
unpredictable drivers are the ones that lead to significant differences between scenarios.

Chapter 2 sets out the process that we followed. The people who attended the workshop – 16 plus three SAMI consultants and two GMC staff providing support – were asked to vote for up to four of the predictable drivers and up to four of the unpredictable drivers, on the basis of which would have the highest impact on the health system – which is the main operating environment of the GMC. They also voted for the degree of uncertainty among the unpredictable drivers, as this will be a useful element to keep in view over time; but the selection of the key drivers for scenario building was made on the basis of the impact.

In summary, the workshop identified the following as the key drivers of change for the purpose of building the scenarios (votes shown in brackets):

**Predictable drivers**

1. **Changing Professional Roles (14 votes) (Chapter 3, Part 2 – Demographics of the Workforce)**
   - Workforce demography – more female, more black & minority ethnic doctors; increasing multi-disciplinary teams and “panel” responsibility; more generalists (due in part to rise in co-morbidities); greater complexity of the workforce; increase in lay involvement; this may call into question the appropriateness of “uniprofessional” regulation

2. **Patient & Public Expectations (14 votes) (Chapter 3 Part 1 – Zeitgeist – the Spirit of the Age)**
   - Patients will expect faster access, and increasingly go online for access to health information (using sites such as “Netdoctor”). There will be growth of remote access and telemedicine; and growth of self-care via apps and implants; the rise of the expert patient (and patients seeking information, but not knowing which sources are best to access); patients will expect greater transparency in decisions affecting their care; a multiplicity of providers and data sources may lead to increasingly incomplete/fragmented patient records; there will be a need to be clear to taxpayers about the “value added” from regulation

3. **Money (9 votes) (Chapter 3 Part 1 – The UK Economy)**
   - Funding – funding model for health hard to sustain, but likely to remain for political reasons

4. **Systems & Structures (6 votes) (Chapter 3 Part 1 – Divergent Policies within the UK)**
   - Divergence in policy between UK jurisdictions means that services are evolving in different ways in different parts of the UK; there is likely to be greater integration of health & social care; in England, at least, there is likely to be an increased role for 3rd sector, and this would create extra complexity, and possibly difficulty, for regulators. Possible growth of private medical schools
Unpredictable drivers

1. The Regulators (Impact 15 votes; degree of uncertainty 3 votes) (Chapter 3 Part 3 – Wider Regulatory System)

- There may be pressure from some quarters to have fewer health regulators; there will be a debate about the relative value of “system” regulation versus regulation of individuals; there may be concerns about consistency & fairness of different regulators. There will be political debates about whether, and how far the regulatory burden can be reduced, and how to set regulatory standards if money is tight. Possible break-up of the UK will also raise questions about where regulation should sit, and the future of the GMC as a UK-wide body.

2. Workforce, Training & Skills (impact 12 votes, degree of uncertainty 3 votes) (Chapter 3 Part 1 Britain Post Brexit – Workforce of the Future)

- Changing professional roles – impact of wider health care team changes, e.g., physician associates, increased community-based work & training; education & training. Requirements for entry may need to change; new skills gaps may emerge (or existing ones widen); pressure to train more UK doctors/pressure to regulate new medical schools; regulation of overseas undergraduate education; impact of Brexit – it is less certain where overseas doctors will come from. Skills gap for clinicians as between providers and commissioners (if commissioning remains).


- UK Expenditure on health & social care – possible new models of funding for some care, e.g., rationalisation of services “free at point of use” available through the NHS; possible reform of health & social care systems – very specialised and automated health care, with more care delivered by 3rd sector; squeeze on funding of community services, due to increased pressure to fund hospital services; size of the private sector in the UK

4. Technology & Data (impact 9 votes, degree of uncertainty 9 votes) (Chapter 3 Part 2 – Technology)

- Can the NHS keep up with genetech and personalised medicine? Changing role of doctors in a high tech world. How to regulate new technology? Technology will increase choice and accessibility, but there is a risk in reducing regulatory controls; there are regulatory implications of pan-border medical advice services; uncertain impact of technology on regulation and education & training; impact of big data/management of data

The diagram below shows the complete set of drivers of change discussed at the workshop, with the ones listed above shown in the “higher impact” quadrants of the grid, and the others in the “lower impact” quadrants. It is worth keeping track of the lower impact ones as well, as it is quite likely that over time their relative importance and potential impact may change. In Chapter 6, therefore, we have listed indicators that will help to keep them in view in the future.
The workshop participants used these key drivers to build four different scenarios. Because our primary concern was with the operating environment for the Regulator, and our time horizon was 15 years, we focused primarily on the latter three unpredictable drivers in building the scenarios, rather than the future of the regulator itself, although one scenario did envisage formal changes to the regulatory system.

Each scenario assumed the predictable drivers would apply, but made a different set of assumptions about the way in which the unpredictable drivers would apply. The chart below shows how the four scenarios – A, B, C and D mapped out the unpredictable drivers across a variety of outcomes – outcomes for the health system as a whole – ranging from best to worst, with one or two intermediate outcomes.
<table>
<thead>
<tr>
<th>Driver</th>
<th>Best Outcome</th>
<th>Intermediate Outcome</th>
<th>Intermediate Outcome</th>
<th>Worst Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems and structures</td>
<td>Fully integrated, adequately funded State care</td>
<td>No integration but fully funded B</td>
<td>Integrated but poorly funded C</td>
<td>Fragmented, lots of providers, not fully funded A</td>
</tr>
<tr>
<td>Workforce training and skills</td>
<td>Right professionals, skill sets all delivering high quality care</td>
<td>Right skill sets, great quality of care but wrong professionals in the wrong places C</td>
<td>Wrong skill sets, right places but poor quality of care B</td>
<td>Wrong skill sets, in wrong places and poor quality of care A</td>
</tr>
<tr>
<td>Technology and data</td>
<td>Rapid adoption of technology changes, data driven delivery of care &amp; outcomes</td>
<td>Rapid development but slow adoption B</td>
<td></td>
<td>No change in adoption of technology of way we manage data</td>
</tr>
<tr>
<td></td>
<td>C + D</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Four Scenarios can be summarised as follows. Each scenario was given a name by the participants, based on its overall characteristics. The colour coding reflects the degree of “optimism” of the outcome of each. The outcomes in each case relate to the performance of the wider health system – which is the main operating environment for the GMC – and so relate to the efficiency, effectiveness of services, and the quality, outcomes and patient satisfaction achieved:

<table>
<thead>
<tr>
<th>Scenario A</th>
<th>Scenario B</th>
<th>Scenario C</th>
<th>Scenario D</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Conspiracy or Carelessness”</td>
<td>“Could do Better”</td>
<td>“A Town Called Average”</td>
<td>“Cautious Optimism”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Systems &amp; Structures</th>
<th>No integration but fully funded</th>
<th>Integrated but poorly funded</th>
<th>Fully integrated, adequately funded State care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce, Training &amp; Skills</td>
<td>Wrong skill sets, in wrong places and poor quality of care</td>
<td>Wrong skill sets, right places but poor quality of care</td>
<td>Right skill sets, great quality of care but wrong professionals in the wrong places</td>
</tr>
<tr>
<td>Technology &amp; Data</td>
<td>No change in adoption of technology of way we manage data</td>
<td>Rapid development but slow adoption</td>
<td>Rapid adoption of technology changes, data driven delivery of care &amp; outcomes</td>
</tr>
</tbody>
</table>

Chapter 4 contains a more detailed description of each of the scenarios, including a possible timeline for each one from now to 2030.

Bearing in mind the fact that the scenarios are not a prediction of the future, but an illustration of possible ways in which key uncertainties might pan out in the future, it is likely that some parts of each scenario will be discernible in the future. The purpose of the scenarios is to aid strategic planning, and to help the GMC to look forward. As a small first step in this process, SAMI took the outcome of the scenario workshop to Poole Hospital NHS Foundation Trust, where a small group of doctors discussed both the key drivers, and the four scenarios. One of the uses of scenarios is to stimulate this sort of discussion, and the comments of the doctors at Poole are a useful initial commentary on the scenarios. Chapter 5 sets out their comments.
Implications for the GMC

In addition, in Chapter 4, we describe what we see as the key implications for the GMC of each of the scenarios. One of the benefits of using scenarios is to see the different ways in which an organisation may have to adapt to different possible futures. The implications vary between the scenarios, but some key issues that emerge from the exercise are:

- The volume of complaints to the GMC – in Scenarios A and C there are increases in the number of complaints about practice; in Scenario B we see more complaints specifically about the failure of professionals to use the latest technology, whilst in Scenario D, there is no significant increase.

- Expansion of the Private and 3rd sectors – in Scenarios A and C this is likely to happen, and will affect the nature of the GMC’s regulatory activity.

- Local shortages of doctors – Scenarios A and C both envisage local shortages of doctors, either because of staff turnover or uneven take-up of training places for junior doctors; this would draw the GMC into sensitive discussions about service provision and training in affected areas.

- The impact of technology – in all scenarios the uptake and use of technology is an issue: in Scenarios A and B the NHS makes little progress; in C and D it makes good progress; but in all scenarios there is continued growth in use by patients, and this throws up questions about the regulation of new forms of services, for example remote online consultations and management of patient data by professionals working remotely.

- Changes to particular groups of doctors – Scenario C envisages challenges to the traditional role of the GP, whilst Scenario D sees the renaissance of the General Physician, with oversight of the increasing numbers of patients with comorbidities; these sorts of changes might have implications for registration, training and regulation of the professionals affected.

- National standards versus local innovation – Scenario D envisages a much more devolved NHS in England (and we note that devolution to the UK administration has already led to marked differences in service systems and structures) this could lead to demands for a more flexible approach to regulation, especially of training.

Taking this further, we have identified a set of key indicators, which can be used to keep track of the way in which the future drivers take shape in reality, both the key drivers used in the scenario exercise, and other identified key drivers as well. In doing this, we have attempted to identify those drivers for which the GMC has the potential to help shape the future, as opposed to those areas outside its immediate influence, where it will simply need to watch and adapt as necessary, as things take shape. The indicators are described in Chapter 6.

In this way, the scenarios and the key drivers will help the GMC in developing its strategic thinking, and building in flexibility and the ability to respond to future challenges.
Using the Scenarios

Chapter 7 sets out guidance on using the key drivers and the scenarios. In summary, we recommend that the GMC should incorporate this work into its horizon scanning activity – to see how the key drivers take shape, and identify any new drivers on the horizon, or changes in relative importance and potential impact.

The scenarios themselves should help the GMC in carrying out strategic analysis of policy, stakeholders and risk, as they provide a lens through which to view the future, and against which the GMC can map unfolding events.

Finally, by identifying both predictable drivers of change, and identifying areas in which the GMC has the potential to influence events, this report should help the GMC – where it is possible – to try and shape its strategic future.
Chapter 1 – Methodology

In this Chapter, we set out briefly the approach SAMI took in carrying out the research; the more detailed information about the results of the research follows in the subsequent chapters, as indicated in the sub-headings below.

Drivers Analysis: Interviews, Desk Research and Scenario Workshop – Chapter 2

SAMI interviewed 16 external stakeholders and four GMC people – two Council Members and two members of the senior executive team (see Annex 1). We conducted the interviews under the “Chatham House Rule”, so we have not published any information from the interviews that could be attributed to any individual. We also carried out extensive desk research: Annex 2 contains a list of sources used.

In Chapter 2 we set out the key drivers of change that emerged from this process: these were the drivers which formed the primary basis on which the scenarios were built.

Key Drivers of Change: Full List – Chapter 3

In addition to the key drivers used for the scenario-building exercise, our research generated a lot more information about possible drivers of change in the future. Even those drivers that were not used in the scenario workshop are important, and the GMC will want to keep an eye on all drivers of change in the future (what we call horizon scanning), as part of its strategic planning. In Chapter 3 we have set out this more detailed list of drivers, indicating where they were used in the scenarios.

Building the Scenarios – Chapter 4

Following the interviews and desk research, SAMI facilitated a scenario development workshop, which was attended by GMC staff along with representatives of the Care Quality Commission, Health Education England, the Welsh Government, DHSSPS (Northern Ireland), NHS Education Scotland, the British Medical Association, the NHS Confederation, Health Improvement Scotland, and the Faculty of Medical Leadership and Management (a list of attendees is at Annex 3).

Based on the long list we provided, workshop participants first identified their key drivers of change. In doing so, they distinguished between drivers that were probable or certain – which would therefore apply in any scenario – and those which were unpredictable – which would apply differently in different scenarios.

They then developed a set of different variables, based on different combinations and impacts of the unpredictable drivers with the highest potential impact. Finally, the workshop participants developed a set of four different scenarios based on these different combinations of the key variables. In each case, they described:

- The impact of the key uncertainties
- Characteristics of the scenario
• A timeline towards the scenario from now to 2030, and
• A set of “headlines” relating to stories that might appear in the media if that particular scenario were to develop.

**Reality Testing the Scenarios – Chapter 5**

35 Subsequently, SAMI met a small group of front-line doctors at Poole Hospital NHS Foundation Trust, at which they presented the scenarios to the doctors and canvassed their comments and reactions to each one, in order to “reality-test” the scenarios, and to gauge the impact that the realisation of each scenario might have on the working lives and development of practising doctors.

**Scenario Indicators – Chapter 6**

36 Based on the information gathered from the interviews and desk research, along with the output from the scenario workshop, and the discussion with the front-line doctors, SAMI have identified a small group of indicators for each scenario – points that would indicate that particular aspects of a scenario are developing in a particular direction.

**Using the Scenarios – Chapter 7**

37 In Chapter 7 we have set out a brief guide on how to use horizon scanning and scenarios in strategic planning, drawing on our experience in working with other organisations that have used scenarios in their strategic planning cycles.

**Conclusions and Recommendations – Chapter 8**

38 The views in this report are a distillation of comments from interviewees, and information gathered from desk research. As already mentioned, they do not convey the views of any particular interviewee. Nor do they represent the views of the GMC or SAMI. The distillation is intended purely to inform long-term strategic planning by the GMC.

39 SAMI are grateful to all interviewees and workshop participants, and to the doctors at Poole Hospital – busy people who gave up their time willingly. We are grateful as well to Kerrin Clapton of the GMC for his help and support in the administration of the project, and to the help and input provided by his colleagues.
Chapter 2 – Drivers Analysis: From Interviews, Desk Research and Scenario Workshop - Summary

Introduction

40 SAMI interviewed 16 external stakeholders and four senior GMC people – two Council Members and two members of the senior executive team. The 20 individuals interviewed are listed at Annex 1. The questions were open, unstructured and designed to tease out strategic insights into the possible futures. SAMI have many years of experience in this methodology. As agreed with interviewees, no information from the interviews can be attributed to any interviewee.

41 In parallel with the interviews, SAMI carried out extensive desk research, to examine the wider environment in which health services and professional regulation operate, and to identify the “drivers of change” – those factors that will affect the way systems operate in the future. Annex 2 contains a list of sources for our desk research.

42 This is a critical stage of work in any scenario-building exercise, as the usefulness of the scenarios as signposts to the future depends on their being based on a good and wide-ranging analysis of the drivers of change.

43 We grouped the drivers of change into three “concentric circles” (see diagrams).

- In the outer circle were the wider global and national factors that would influence health care and health regulation
- In the middle circle were influences closer to the work of the GMC
- In the inner circle, we identified those issues directly affecting the work of the GMC

The report is structured by the “distance” of influencing factors from the work of the GMC
We separated the information into two categories, which we called “What we know” – those drivers of change that were either certain or highly probable; and “Key Uncertainties” – those drivers which were unpredictable – either because the nature of their impact was uncertain (for example migration patterns and the impact of Brexit), or because it was not certain whether they would materialise at all, or at least when they would materialise (for example legislative reform of health regulation).

Summary of drivers obtained through interviews and desk research

For the purposes of the scenario workshop, we distilled the drivers into a shortlist.

<table>
<thead>
<tr>
<th>PROBABLE (OR CERTAIN)</th>
<th>UNPREDICTABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLOBAL &amp; POLITICAL</td>
<td>GLOBAL &amp; POLITICAL</td>
</tr>
<tr>
<td>Inward migration from the Middle East &amp; Africa</td>
<td>Impacts of Climate Change</td>
</tr>
<tr>
<td>UK reliance on overseas-trained doctors</td>
<td>Extent of EU/International Regulation</td>
</tr>
<tr>
<td>Divergence in policy between UK jurisdictions</td>
<td>Possible break-up of the UK</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>“Zeitgeist”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients expect faster access</td>
</tr>
<tr>
<td>Patients less trusting of institutions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHANGES IN HEALTH &amp; HEALTHCARE</th>
<th>CHANGES IN HEALTH &amp; HEALTHCARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Zeitgeist”</td>
<td>“Zeitgeist”</td>
</tr>
<tr>
<td>Career aspirations of doctors</td>
<td>Career aspirations of doctors</td>
</tr>
<tr>
<td>Professional self-esteem of medical profession</td>
<td>Professional self-esteem of medical profession</td>
</tr>
<tr>
<td>UK expenditure on health &amp; social care</td>
<td>UK expenditure on health &amp; social care</td>
</tr>
<tr>
<td>Reform of health &amp; social care systems</td>
<td>Reform of health &amp; social care systems</td>
</tr>
<tr>
<td>Size of the private sector in the UK</td>
<td>Size of the private sector in the UK</td>
</tr>
</tbody>
</table>
Demography – ageing population, more co-morbidities, rising demand  
Online access to health information  
Growth of robotics & artificial intelligence  
Growth of genetech & personalised medicine  
Growth of remote access/telemedicine  
Growth of apps & implants to help people manage their own care  
Demography of the workforce – more female, more black and minority ethnic healthcare staff  

| Demography | Ability to prevent illness, promote healthy lifestyles | 
| – | Regulation of new technology | 
| – | Changing professional roles | 
| – | Ability of the NHS to keep up with technology | 
| – | Quality & Outcomes in the NHS | 
| – | The role of the doctor in a high-tech world | 

**REGULATION ISSUES**  
Rising level of complaints & litigation  
Scandals and other untoward events

| EDUCATION & TRAINING | REGULATION ISSUES | 
| – | Requirements for entry | 
| – | Impact of technology on education & training | 
| – | Costs & benefits of revalidation | 
| – | Cost of GMC | 
| – | Impact of technology on regulation | 
| – | Ethical issues – eg gene-splicing, End of Life | 
| – | Time taken to deal with complaints | 
| – | Concerns about consistency & fairness | 
| – | “System” regulation versus regulation of individual professionals | 
| – | Pressure to have fewer regulators |

**Driver analysis from the scenario workshop**

46 Taking this table of key drivers as a start point, the workshop began by identifying any other drivers, as well as drawing out more detailed aspects of the drivers identified in the table to be included in the initial analysis. As with the table, the group continued to identify separately the predictable and unpredictable drivers.

47 The group then took all of the drivers it had identified, and grouped them together under generic headings. It then voted individually (up to four votes per person) to identify the most important drivers in both the predictable and the unpredictable categories. In each category, the aim was to select four drivers to use as the basis for the scenario building session. In some cases, similar headings appeared in both categories, reflecting the fact that below the headings there exist elements of uncertainty as well as more probable aspects. The results of the exercise are set out below. For the unpredictable drivers, the group also voted on the degree of uncertainty, as well as the potential impact.

48 In each case, there is a heading, and then a summary of the aspects that the workshop participants identified as being particularly significant aspects of that particular driver of change. The points are displayed as the participants themselves wrote them down.

49 The **predictable** drivers are shown in blue text and the **unpredictable** ones are shown in red. In selecting the **unpredictable** drivers, the group looked both at the potential
The drivers that emerged from the workshop enable us to produce one complete set using the concentric circle approach and also putting them in order of impact and certainty/uncertainty. Chapter 3 sets out the full list of drivers derived from the earlier interviews and desk research. In summary here is how the drivers selected and used at the workshop fit into that overall list. The fit is not exact, but it is close enough to indicate that the interview and desk research and the findings of the workshop are complementary.

In each case we have shown where the key drivers selected at the workshop fit under the headings from the full list of drivers as set out in Chapter 3. The predictable drivers are headlined in blue italics (with the number of votes for impact shown); the unpredictable drivers are headlined in red italics (with the number of votes shown both for impact and degree of uncertainty). To put the voting numbers in perspective, there were 16 participants in the workshop, plus 3 SAMI consultants, and two GMC staff providing logistical support. The top four predictable and unpredictable drivers were then selected on the basis of their potential impact.

Beneath the headings for the predictable (blue) and unpredictable (red) drivers is a list of particular aspects of each driver: these are aspects that workshop participants identified as being of particular importance.

In some cases, there are no headings from the workshop shown under the Chapter 3 headings: this indicates that the workshop did not choose to focus on that area. It does not necessarily mean it is irrelevant for the GMC’s ongoing horizon scanning and strategic planning.

**Outer circle – wider influences on the work of the GMC**

**“Zeitgeist” – The Spirit of the Age – Public and Patient Expectations**

- The majority of the UK population now go online for health information

**2. Patient & Public Expectations (14 votes)**

Patients will expect faster access, and increasingly go online for access to health information (using sites such as “Netdoctor”). There will be growth of remote access and telemedicine; and growth of self-care via apps and implants; the rise of the expert patient (and patients seeking information, but not knowing which sources are best to access); patients will expect greater transparency in decisions affecting their care; a multiplicity of providers and data sources may lead to increasingly incomplete/fragmented patient records; there will be a need to be clear to taxpayers about the “value added” from regulation

**7. Trust (4 votes)**

“Scandals” will continue to happen and will erode trust; patients will become less trusting in institutions; there may be reducing loyalty to local providers as alternative routes to advice and care become accessible

- Attitudes to work are changing
The UK Economy – Impact on NHS Money, Systems and Structures

- Impact on NHS spending

3. Money (9 votes)

Funding – funding model for health hard to sustain, but likely to remain for political reasons

3. Systems & Structures (impact 9 votes, degree of uncertainty 13 votes)

UK Expenditure on health & social care – possible new models of funding for some care, eg rationalisation of services “free at point of use” available through the NHS; possible reform of health & social care systems – very specialised and automated health care, with more care delivered by 3rd sector; squeeze on funding of community services, due to increased pressure to fund hospital services; size of the private sector in the UK

- Impact on the NHS of wider economic changes

Britain post Brexit – the Workforce of the Future – an International Perspective

2. Workforce, Training & Skills (impact 12 votes, degree of uncertainty 3 votes)

Changing professional roles – impact of wider health care team changes, eg physician associates, increased community-based work & training; education & training. Requirements for entry may need to change; new skills gaps may emerge (or existing ones widen); Pressure to train more UK doctors/pressure to regulate new medical schools; regulation of overseas undergraduate education; impact of Brexit – it is less certain where overseas doctors will come from. Skills gap for clinicians as between providers and commissioners (if commissioning remains).

6. Changing Workforce (4 votes)

UK reliance on overseas-trained doctors, and outward migration of UK-trained doctors; lack of workforce; doctors with multiple employers

- Reliance on non-UK trained doctors

- Ethnicity

- Relationships with European Regulators

- Devolution and the future of the UK

- Divergent policies within the UK

4. Systems & Structures (6 votes)

Divergence in policy between UK jurisdictions means that services are evolving in different ways in different parts of the UK; there is likely to be greater integration of health & social care; In England, at least, there is likely to be an increased role for 3rd sector, and this would create extra complexity, and possibly difficulty, for regulators. Possible growth of private medical schools

- Possible break-up of the UK
Global Challenges

- Population shifts

9. Changing Population (impact 0 votes, degree of uncertainty 7 votes)

The size of the UK population; demographic projections may be affected by changes in migration policy/impact of Brexit; it is not clear how much migration there will be, nor where migrants will come from. More ethnically and culturally diverse patient population. Unclear about the extent of European/international regulation

- New diseases

UK Politics and Legislation

- Political attitudes to regulation and reform of the regulatory system

Middle circle – Intermediate Influences on the work of the GMC

The Demographics of the Workforce – a Changing Profession

1. Changing Professional Roles (14 votes)

Workforce demography – more female, more black & minority ethnic doctors; increasing multi-disciplinary teams and “panel” responsibility; more generalists (due in part to rise in co-morbidities); greater complexity of the workforce; increase in lay involvement; this may call into question the appropriateness of “uniprofessional” regulation

- Gender

- Attitudes and Career Aspirations

5. Professional Identity (impact 5 votes, degree of uncertainty 3 votes)

Career aspirations of doctors, and doctors’ understanding of professionalism may change; changes also to expected work/life balance and the self-esteem of the medical profession; how to manage older doctors at the end of their careers in a rapidly changing workplace.

Technological Advances

- Robotics

5. Technology (4 votes)

Growth of robotics & artificial intelligence in society and the economy (globally and in the UK) + growth of genetech & personalised medicine; increased automation leading to a reduction in human error, eg in diagnostics; the use of data to manage risk, and changes to the doctor’s role in the use of medical records and data

- Apps and Implants

- Big Data and Ownership of Data
4. Technology & Data (impact 9 votes, degree of uncertainty 9 votes)

Can the NHS keep up with genetech and personalised medicine? Changing role of doctors in a high tech world. How to regulate new technology? Technology will increase choice and accessibility, but there is a risk in reducing regulatory controls; there are regulatory implications of pan-border medical advice services; uncertain impact of technology on regulation and education & training; impact of big data/management of data

- Medical advances
- Genetics
- Personalised medicine
- Ethical Issues

10. Ethics (0 votes)

Difficult issues, such as regulation of assisted dying; new consent issues, for example gene screening, and gene splicing (CRISPR)

The Evolution of the Health System – Quality and Outcomes

7. Trust (impact 2 votes, degree of uncertainty 2 votes)

Quality & Outcomes in the NHS – dissatisfaction with NHS services may grow, and trust in NHS professionals reduce; dissatisfaction amongst professionals themselves may increase; regulators will need to assure the public about how quality is being maintained.

- Pressures on the system
- Possible changes to the system

Public Health

- The changing demographic profile

9. Population Change (2 votes)

UK Demography – ageing population, more co-morbidities, more demand; inward migration from Middle East and Africa will affect disease patterns and cultural attitudes to health and social care.

- Epidemiology
- Changing disease patterns and co-morbidities
- Health Promotion
- Disease Prevention

10. Health Promotion/Disease Prevention (impact 0 votes, degree of uncertainty 4 votes)

Uncertain about the extent to which agencies can prevent illness and promote healthy lifestyles effectively.

- Changing Lifestyles
- Social Isolation
Inner Circle – Close Influences on the Work of the GMC

The Wider Regulatory System and Regulatory Policy

- System Regulation and Individual Regulation

1. The Regulators (Impact 15 votes; degree of uncertainty 3 votes)

There may be pressure from some quarters to have fewer health regulators; there will be a debate about the relative value of “system” regulation versus regulation of individuals; there may be concerns about consistency & fairness of different regulators. There will be political debates about whether, and how far the regulatory burden can be reduced, and how to set regulatory standards if money is tight. Possible break-up of the UK will also raise questions about where regulation should sit, and the future of the GMC as a UK-wide body.

- Regulating Multi-Disciplinary Teams – How Many Regulators?

When Things Go Wrong

- Is the NHS becoming an organisation that is learning how to improve?

8. “When Things Go Wrong” (3 votes)

“Scandals” and other untoward events are likely to continue to happen; likely to be rising levels of complaints and litigation; this will lead to rising costs of litigation and impact on professional indemnity costs, and will feed professional fears in the face of rising patient demand/litigiousness

11. “When Things Go Wrong” (impact 0 votes, degree of uncertainty 0 votes)

Time taken to deal with complaints/how far will lawyers get involved?

- Fitness to Practice Investigations
- Fairness and Consistency
- The Cost of Regulation

6. Funding the Regulator (impact 3 votes, degree of uncertainty 1 vote)

Cost of the GMC – uncertainty about how will the GMC/regulators be funded; one option would be to link the funding model to risk. Costs & benefits of revalidation will come under scrutiny

- Changing Medical Practice – New “Events”

Education, Training and Development of Doctors

- Pathways into Medicine
- Quality of Undergraduate Medical Education
- Postgraduate Medical Education
- Revalidation
- Learning the Lessons so Far
- The Future Direction of Revalidation
To summarise, the grid below divides up the drivers considered at the workshop into those with higher impacts and lower impacts. The Scenario development described in Chapter 4 concentrated on the higher impact drivers of change, but it would be advisable to keep the other drivers in view, as their relative impact might change over time.
We will return to this list when we come to Chapter 4 on scenario building. But in summary, the key drivers might look like this when represented within the concentric circles diagram as per the start of this Chapter.
Chapter 3 - Key Drivers of Change – Full List

Introduction

In Chapter 2 we listed the headings that follow below and how they relate to the drivers identified by the workshop. It is not surprising, given the depth of analysis from the desk research and interviews, that what follows is of a much more detailed nature. It is important in thinking about the future to take account of all of them. The prioritization of each driver based on impact and certainty/uncertainty is a useful guide to how important each one might be. But the key reason for that process was to tease out:

- Predictable trends that would have a high impact on healthcare in general and the GMC regulation of doctors in particular – these need to be taken into account in any future scenarios
- Highly unpredictable and high impact trends to be the basis for the creation of the scenarios

Outer Circle: Wider Influences on the Work of the GMC

“Zeitgeist” – The Spirit of the Age – Public and Patient Expectations

The majority of the UK population now go online for health information

What we know

Twenty years ago, the internet was being discussed in the media, and early adopters were beginning to use what had previously been largely a medium for academics.
Today the internet is a daily feature of most people’s lives. And this trend will continue, as only a proportion of the older section of the population is now unfamiliar with it.

The health and social care system is now beginning to recognise the potential of online healthcare. In addition to the generic health apps available to smartphone users, there are best practice apps for clinical communities, and online yellow card reporting for adverse drug reactions. Patients can now access information to help them self-diagnose, monitor their health, and learn about their conditions and treatment. “Expert patients” are not new: they are often seen for example amongst diabetics, who will have on average some 3 hours contact a year with a health care professional, but will “self-care” for the other 8,757 hours; but they are likely to become more widespread.

Patients are trusting in institutions and professions, although trust in doctors remains high; a loss of trust in institutions may reduce loyalty to providers of services.

Key Uncertainties

For the health & social care system in general, the challenge is to find ways of harnessing the growth of information and health IT to mitigate the known pressures of an ageing population, social isolation, rising levels of co-morbidities and long-term conditions described earlier.

The key uncertainty for regulators is whether, and if so by whom, this rapidly expanding field of online information should be regulated. For example, at the moment some health care “apps” are regulated by the Medicine and Healthcare Products Regulatory Agency (MHRA), but many more are unregulated.
What we know

62 Running through this report are observations about public attitudes and the attitudes of the workforce. People are increasingly connected to the internet, and increasingly used to accessing services online, and at all times of the day and night. They increasingly expect (and receive) rapid service; and complain if they don’t get it. Artificial intelligence machines, such as Apple’s Siri, are increasingly effective in learning to understand people’s wants and needs.

63 In addition, people have access to more and better information – and thus patients are becoming better-informed (although the wealth of information now available can also mean that patients are misinformed, but more assertively so). Thus the circumstances in which doctors work, and the interactions they have with patients who choose to access other sources of information, are very different from the days when the doctor was the major – often the only – source of information.

Key Uncertainties

64 To what extent do professional regulators need to change to reflect the zeitgeist; by the same token, to what extent are the values and ethics of the profession immutable? Will the status of doctors – the way in which they are seen by the public – change in future, as a result of the changing zeitgeist?

65 Changes in attitudes between the generations also affects the people who work in the NHS. The 2016 junior doctors’ dispute – for doctors certainly the most serious dispute for 40 years, and arguably the most serious ever in the history of the NHS – may be a signal of a change of values among the doctors of that generation, and thus may be more than simply a contractual disagreement.
**Key implications for scenarios**

We have put this driver top of our list of wider influences. It is a driver that we know will have a growing influence and high impact on the long-term future of professional medical regulation. It is taken into account in all our scenarios.

The UK Economy – Impact on NHS Money, Systems and Structures

The world ranking of the UK’s economy will slip – but should remain in the top 7

| Table 2: Trends in the GDP PPP of the top seven national economies in the world. |
|---|---|---|---|---|
| | 1990 | 2010 | 2020 | 2030 |
| United States | 8295 | 13389 | 15661 | 31809 |
| Japan | 4212 | 5189 | 13211 | 18959 |
| Germany | 2556 | 5048 | 7127 | 10057 |
| France | 1746 | 2879 | 3420 | 5799 |
| Italy | 1675 | 2218 | 3180 | 4548 |
| UK | 1467 | 3064 | 3905 | 3874 |
| Russian Fed | 814 | 920 | 3855 | 5619 |

Sources: CEPI – ONS, report for FSRH 2015.5

**Impact on NHS Spending**

*What we know*

The NHS spends less on health, in terms of the percentage of GDP, than the OECD average. Even after a rebasing of the calculations by the ONS in 2015, based on changes to the OECD’s formula, the UK still spends less per capita than the USA, Netherlands, Switzerland, Sweden, Germany, France, Denmark, Canada, Belgium and Austria. The current Government is committed to tackling the UK Government’s fiscal deficit, so there is no immediate prospect of significant increases in funding, unless there is a radical increase in GDP. NHS Trusts in England ended 2015/16 with a deficit of £2.45 billion. The NHS “reset” sees a number of proposals to plug this gap, including a share of the £1.8 billion “sustainability and transformation” fund, in return for signing up to tougher financial and operational targets. Some Trusts and Clinical Commissioning Groups have recently been placed into “special financial measures”, and mergers of commissioners are also seen as likely.

**Key Uncertainties**

Brexit, and uncertainties about the UK’s continued access to the European Single Market, as well as concerns about the health of the global economy, make the short-
medium-term outlook difficult. Can the NHS find more effective and efficient ways of working, or is it heading for a major financial crisis?

Private Healthcare

What we know

The Market

Private healthcare services cover medical treatments that are paid for directly by individuals and through Private Medical Insurance (PMI), although the NHS also contracts for care through this system. It is provided through private hospitals and other facilities, including Private Patients Units (PPUs) in NHS hospitals. Of the estimated 548 hospitals operating in the private healthcare sector in the UK as at October 2013, 465 were owned and managed by private companies (70% by the five main hospital groups), and 83 were dedicated PPUs within NHS hospitals (of which 74 were managed in-house by the NHS and nine by private hospital groups). In addition, there are between 500 and 600 medical clinics which are not registered as hospitals but which carry out some private healthcare treatments alongside their core general medical services.

There are a number of differences between the range of services provided by private hospitals in the UK as compared with the NHS:

- In 2012, the UK market for privately-funded healthcare services was worth an estimated £6.71 billion – much smaller than the NHS. The overwhelming majority of hospital admissions in the UK are to NHS hospitals. In 2012/13, there were around 8.77 million waiting list and planned admissions for surgery to NHS hospitals in the UK. This compares with an estimated 1.61 million privately-funded admissions for surgical procedures in UK private hospitals.
- Private hospitals generally do not offer accident and emergency (or trauma) services which are, in any case, not generally covered by PMI policies; instead they focus on elective/planned treatments, both medical and surgical.
- Many private hospitals do not have intensive care or high dependency units but some hospital groups (eg HCA in London) have focused on procedures which require level 3 intensive care facilities.
- Private hospitals offer a range of treatments that may not be funded by the NHS or which may entail a long wait for treatment, including cosmetic and bariatric surgery and IVF treatments.
- The majority of consultants providing privately-funded healthcare services also hold an NHS contract.
- There are differences in policy across the UK regarding the use of private facilities for treating NHS patients. Current Scottish policy is that all healthcare spending should first be channelled through the NHS and the use of the private sector is therefore marginal. Similarly in Wales, commissioning of private providers to carry out NHS work is very low.
- NHS England’s spending on privately-funded healthcare services has more than increased in real terms and, in 2012, its spend was £1.195 billion. In 2011/12, nearly
20 per cent of NHS expenditure on hip and knee replacements was with private hospitals and clinics.

**Information for Patients and Insurers**

In 2014 the Competition and Markets Authority (CMA) appointed the Private Healthcare Information Network (PHIN) as the official source of information for patients and insurers to improve choice. In order to achieve informed choice PHIN is now requiring all private facilities to submit data to it. It is expected that the information available will become increasingly comprehensive ahead of the requirement for the website and portal to be loaded with all the necessary data and be fully operational by 2017.

The information that will be made available through PHIN includes mortality rates, infection rates, the number of patients readmitted to hospital following surgery, the number of patients transferred to an NHS hospital from a private hospital, as well as measures of patient satisfaction and measures of improvement in healthcare outcomes following treatment. Where possible, PHIN data will be directly comparable to NHS data.

**Key uncertainties**

The private healthcare market is heavily reliant of funding through PMI. Around two thirds of this market is purchased by employers as a benefit for their employees – a stable to growing market. The other third is purchased by individuals - this market has been in slow decline. Will there be Government intervention to boost the market? The decline in individually bought PMI is due in part to the abolition of tax relief in 1997 and also to successive increases in Insurance Premium Tax. However PMI (like the NHS) is also subject to high medical inflation rates. It is possible that the CMA report will encourage competition to reduce fee levels.

In 10 years’ time the PHIN information system will be fully up and running and may produce information which is far more informative to patients than that available through NHS systems. This could put pressure on the NHS to up its game. We do not know whether, for example, this could drive NHS England to focus on individual patient choice or possibly whether the role of the GP will include a duty to refer a patient to the best hospital – as opposed to the local one where these are different.

**Impact on the NHS of Wider Economic and Funding Changes**

**What we know**

Local authority net spending on social services increased by an average of 6% per year in the 15 years up to 2009. Since then it has fallen by an average of 2.2% per year (this would have been 3.6% but for transfers of funding from the NHS). A crisis in social care will affect the NHS directly, eg increasing delayed transfers of care once people are ready to leave hospital. The International Longevity Centre and the King’s Fund have both warned of this risk. More generally, if the UK’s economic performance deteriorates, then there will be rises in unemployment and falls in living standards, both of which would worsen health indicators, and increase demand for services.
Key Uncertainties

76 If the UK Economy were to go through a prolonged downturn, how would the health system cope, and what might be the implications for the regulation of services? Would falling service quality lead to more complaints and fitness to practice cases, for example?

Key implications for scenarios

77 We have put this driver second in our list of wider influences. It is a driver which is both predictable and unpredictable and which we know will have a growing influence and high impact on the long-term future of professional medical regulation. It is taken into account in all our scenarios. – we also look at how the unpredictable element might pan out.

Britain post Brexit – the Workforce of the Future – an International Perspective

Reliance on non-UK trained Doctors

By European standards, the UK has a high proportion of foreign-trained doctors

What we know

78 The UK is very reliant on overseas-trained doctors (28.7% of the total, as against an OECD average of 17.3%: only Israel, New Zealand, Norway, Ireland and Australia are more reliant). Between 2010-13, the numbers of doctors coming to the UK from European countries in recession (such as Spain and Greece) rose, whilst the numbers coming from Africa and Asia fell. Over 20% of registered nurses working in the UK are also overseas-trained.
Key Uncertainties

79 What will the impact of Brexit have on the numbers of EU-trained doctors able and/or willing to come to work in the UK? Assuming no sudden reduction in demand for doctors, if there is less mobility, what scope is there to increase the numbers in training in the UK to make up that shortfall and/or seek extra overseas doctors from beyond the EU?

Origin and Ethnicity of New Doctors

There is an increasing reliance on non-UK graduates in many specialty groups

What we know

80 The GMC’s Annual Report on the State of Medical Education and Practice also notes the increasing reliance on non-UK graduates in particular specialties, with Scotland, Northern Ireland and the South West of England being outliers in terms of lower percentages. Assuming continued increasing demand for health care, an increasing demand for more flexible and part-time working, and no significant increase in UK training numbers, this reliance seems likely to continue, or to grow. This invites two questions.

Key Uncertainties

81 First, we do not yet know the terms on which Brexit will take place, and in particular what restrictions might be placed on the free movement of people. Second, as noted in the previous section, we do not know whether Brexit will affect the attitude of EU doctors, in terms of how they see the UK as a place to live and work.

82 If the current trends continue, what are the implications for the regulator of a large, and possibly growing group of doctors who graduated outside the UK?
Relationships with European Regulators

What we know
83 The GMC, as the UK medical regulator, is currently subject to EU Directives on the recognition of professional qualifications.

Key Uncertainties
84 What difference will Brexit make to the UK regulators’ scope for collaboration with the EU?

Devolution and the Future of the UK

Divergent Policies within the UK

What we know
85 There are already some differences of opinion among the four UK jurisdictions over some issues in both regulation and education & training. In some of the smaller jurisdictions there is interest – at least in principle – in a consolidation of the numbers of different health regulators; whereas the sheer size of the English system presents formidable problems of scale if a similar system were to be adopted. In the course of our interviews, we found some interest in making changes to existing educational requirements in England – for example the length of training in particular specialisms – which have less support in the other jurisdictions.

Key Uncertainties
86 What scope (if any) is there for the GMC to cater for different policies and approaches within the UK? How far can and should the regulator go to accommodate different approaches, before the system becomes unmanageable?

Possible break-up of the UK

What we know
87 The referendum vote in favour of Brexit has reopened the question of the possible secession of Scotland from the UK. There have also been some stirrings in Northern Ireland – perhaps not for secession, but for a “special” deal with the Republic of Ireland, which remains a member of the EU.

Key Uncertainties
88 Could a pan-UK regulator survive if one or more parts of the UK chose to leave? Would the jurisdiction(s) that seceded replace the GMC with their own regulator, or would the GMC need to adapt its regulatory and operational model?

Key implications for scenarios
89 We have put this driver third in our list of wider influences. It is a driver which is both predictable and extremely unpredictable. It is taken into account in all our
scenarios. We also look at how the unpredictable elements might pan out. It will be worth revisiting it in around five years time when the new paradigm is established.

Global Challenges

Population Shifts

What we know

90 Large-scale involuntary migration has leapfrogged to near the top of the World Economic Forum’s list of global risks. Conflict continues in the Middle East, as well as other regions. Africa has the highest population growth projections of any continent, with the population projected to increase by 50% by 2050 and 100% by the end of the century. It seems inevitable that the pressure from migrants seeking refuge, or simply a better life in Europe, will continue, or even grow.

91 Large-scale migration will put extra demand on health services, and may affect the pattern of morbidity in the UK. On the other hand, migration is also an important source of clinical and other staffing for the UK health system.

92 Global climate change could lead to more mass-migrations, and further conflict – for example over access to food and water. The impacts of climate change in the UK have not been significant so far, but the UK Health Alliance on Climate Change warns that up to 14% of emergency service stations and 8% of health care buildings in England are currently operating in “flood risk zones 2”, meaning that as many as 357 fire, ambulance and police stations and 2,000 hospitals, care homes, and GP surgeries are at risk of river and coastal flooding.
If global warming causes average UK temperatures to rise, the UK is likely to have considerably more heat-related deaths, according to the Health Protection Agency report on the Health Effects of Climate Change in the UK, particularly affecting older people. During the 2003 heat wave hospital admissions in London increased by 16% for people aged 75 and over.

**Key Uncertainties**

94 How will the UK manage migration in the future (including the possible impact of Brexit on movement of EU citizens into the UK)?

95 Will continuing global climate change begin to have more serious adverse effects, affecting movements of people abroad, and directly affecting the life and infrastructure of the UK?

**New Diseases**

*Emerging diseases can come from abroad, but the UK is also susceptible to home grown diseases*

**What we know**

96 The increasing ease of International travel accelerates the spread of hitherto regionalised diseases (eg Zika), and increase the rapidity of spread of new strains (including treatment-resistant strains) of known ones (influenza, tuberculosis). In addition, there is pressure on the UK to intervene abroad when new deadly diseases emerge, such as Ebola. UK health workers are at risk of contracting such diseases, and if they do, treatment often has to be carried out in the UK.

**Key Uncertainties**

97 How would the UK health system cope with a serious disease outbreak? And how resilient are systems to cope? Do we have the right people with the right knowledge? And do we have the resources to manage?
Key implications for scenarios

We have put this driver fourth in our list of wider influences. It is highly unpredictable and essentially a “wild card”. As such further examination of possible high impact events are best considered on an individual basis using disaster planning. Such detailed analysis of individual events is beyond the scope of this project and are not included in the scenarios.

UK Politics and Legislation

Political Attitudes to Regulation and Reform of the Regulatory System

What we know

In 2014 the Law Commission published a draft Bill to reform health regulation, including the introduction of a single legal framework for the regulation of all health and social care professionals, and the introduction of more flexible and consistent processes in areas such as fitness to practise cases. The draft Bill also proposed that there should be a statutory duty on the regulators to ensure the ongoing fitness to practise of registrants, and greater flexibility in the way in which regulators oversee medical schools and other forms of education.

In August 2015, The Professional Standards Authority set out its own proposals on the subject, arguing (among other things) for

- A shared theory of regulation, based on “right-touch” thinking
- Shared objectives for system and professional regulators, and greater clarity on respective roles and duties
- Evidence-based regulation
- Breaking down barriers between statutory professions and accredited occupations
- Making it easier to create new roles and occupations within a continuum of assurance
- Placing real responsibility “where it lies” with the people who manage and deliver care

Key Uncertainties

Following the Government’s announcement in January 2015 that it would consult further on the Law Commission’s proposals for the regulation of health services, it is not clear whether any legislative reform will be introduced in the short- to medium-term.

Government policy notwithstanding, another major scandal in the NHS might fuel demands to fast-track changes to the regulatory system, as they have in the past. And in the longer term, a possible change of Government could see a shift in the overarching attitude to regulation.

But it is clear that the scope exists for radical reform and realignment of both medical regulation, and the wider health regulation system, and that there is a reasonable likelihood of legislative changes within the 10-15 year horizon of this study. What are
the opportunities and risks for the GMC, and how might different systems impact upon the regulation of doctors?

**Key implications for scenarios**

This is our final driver in our list of wider influences. Multiprofessional regulation appears in one Scenario (Scenario D).

**Middle Circle: Intermediate Influences on the Work of the GMC**

**The Demographics of the Workforce – a Changing Profession**

In Part One we looked at possible changes in the workforce which are linked to international factors. This section takes a look at shifts in the workforce from a domestic perspective.

**Gender**

The medical profession is becoming more female – and will continue to do so

![Graph showing gender and age distribution of doctors](image)

Source: GMC Annual Report on the State of Medical Education and Practice 2015

**What we know**

For several years, women have been in the majority among medical schools' intake, and will very soon outnumber men among all doctors. This can be expected to accelerate demand for part-time, flexible and salaried posts, which will in turn increase the need to backfill temporary vacancies. By creating demand for extra numbers of doctors, including locums and interim staff, it will also create extra pressures in relation to achieving the Government's proposed “7-day NHS”.

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Key uncertainties

107 For the regulator, what are the implications of these changes in terms of education, training and revalidation? What risks are involved in an increasing reliance on interims and locums, and what interventions might regulators need to make to mitigate them?

Attitudes and Career Aspirations

What we know

108 The junior doctors’ willingness to strike, and their rejection of the agreement recommended to them by their BMA representatives may (as discussed under Zeitgeist, above) indicate a shift in attitudes among young professionals. It may be that this particular dispute will be resolved, and things will return to “normal”, or it may be that we will see more assertiveness in the future, and an increase in the numbers of UK-trained doctors choosing to seek to practise outside the UK.

Key Uncertainties

109 What would be the implications for the regulator of a more assertive workforce, with more disputes, and the consequences of higher emigration among UK doctors?

Key implications for scenarios

110 We have put this driver top of our list of intermediate influences. It is a driver that we know will have a growing influence and high impact on the long-term future of professional medical regulation. It is taken into account in all our scenarios.

Technological Advances

Medical robotics is one of the fastest growing markets on the planet

![Chart showing medical robotics market growth from 2012 to 2022, with $8bn predicted in the US alone by 2022.]

Source: Grand View Research, 2015

Two UK universities now offer postgraduate courses in medical robotics

![Image of automated surgery with text: An unmanned robot has been used to stitch together a pig’s bowel. Unlike existing machines, the Star robot is self-controlled. In tests on pigs, it at least matched trained doctors at mending cut bowel. Source: BBC 4 May 2016.]

Automated surgery
What we know

111 There is a wide consensus that the world stands on the brink of a “4th Industrial Revolution”, which will be powered by the rapid development and interaction of new technologies – robotics, artificial intelligence (AI), quantum computing, genetech, nanotech etc. Books on the topic, such as “The Rise of the Robots” by Martin Ford, and “The Future of the Professions”, by Richard and Daniel Susskind, set out many of the ways in which these new technologies will change the ways that professionals work. Robert Wachter’s “The Digital Doctor” shows how doctors will be affected.

112 Despite the term “revolution”, it may be that the changes will be incremental in the time horizon of this study. One interviewee pointed out that it currently requires two doctors to control and operate one robot surgeon. But it is also highly probable that the use of technology in health care (and in education, training and regulation) will be different by 2030 from now. One of the characteristics of AI is its capacity to “learn on the job”, and so it is reasonable to expect step changes in the accuracy and capabilities of new technology.

Key Uncertainties

113 Even allowing for the uncertain timeline for the spread of robotics and AI, regulators need to think through the implications – both for professional and system regulation, and specifically for the regulation of doctors – of these changes. For example, with the development of AI technologies such as IBM’s Dr Watson, and Google’s DeepMind Health, and with some AI applications able to outperform clinicians, how far are we moving to a world where “the computer will see you now”? Will it become expected for a doctor to use these tools in making a diagnosis or a prognosis, and might the failure to do so be seen as negligent? This would have very far-reaching consequences indeed for the concept of professional independence of judgment, and might even affect the way in which doctors are seen by society, and see themselves.

114 What implications might these technologies have for the number of doctors required, and for the skills they require – clearly technological competence will become more of
an issue? Will these technologies allow practise that was previously the province of a
doctor to be done by other skilled professionals, thus accelerating the development of
new kinds of health specialists, such as physician associates and nurse consultants?

Apps and Implants

**Star Trek “tricorder” diagnostics may not be that far off!**

*What we know*

115 As mentioned earlier, the so-called “4th Industrial Revolution” will be driven in part by
the interaction of different new technologies – for example genetech and nanotech
combining with the development of micro- and even quantum-processors to allow
easier, earlier diagnostics, and 24/7 monitoring of long-term conditions, compliance
with drug regimes, etc. This is hugely opportune given the projected rise in long-term
conditions and co-morbidities: it will help those patients who are motivated to do so, to
become even more active partners in maintaining the best possible health, and avoid
unnecessary and avoidable health problems – potentially relieving some of the
pressure on our health services. Eric Topol’s “The Patient Will See You Now” offers
further insights into this area. It is noteworthy that only recently NHS England Chief
Executive Simon Stevens announced that the NHS is to offer free devices and apps to
help people manage conditions such as diabetes and heart disease.

*Key Uncertainties*

116 To date, alongside clinical trials of new technology, there has been an “open market”
running in parallel. One key uncertainty for the regulators will be whether there needs
to be a more formal process for approval and accreditation of new technology and
apps – the vast majority of health apps have not undergone proper accreditation, and if
so, whether this can be achieved with a proper balance between the need to encourage innovation, and to ensure patient protection.

117 What training and guidance needs to be available to professionals who will need to understand this rapidly-developing world? What are the implications both for medical schools, and for professional development among practising doctors? What systems will operate to sift the vast amount of data available to turn it into information that will be of most use for professionals and patients? How will the sifting process be regulated? And would the GMC (or another regulator) need to regulate the materials and information used in this area?

Big Data and Ownership of Data

Confidentiality and use of personal data is a real concern

What we know

118 Last but not least in this section, the development of new technologies will enable the capture and sharing of much more data. This has the potential to assist in the management of joined-up care, which is a fundamental requirement in an environment more dominated by long-term conditions and co-morbidities. It is also potentially a boon to medical research. However it too raises important uncertainties.

Key Uncertainties

119 For the health system, there are questions about who will “own” patient data, and how it will be protected. Answers will be needed about the balance between the value of big data in research (and its commercial value to a cash-strapped NHS) and the protection of individual patient confidentiality. Some patients will wish to “take ownership” of their data, and be able to access it as easily as they can access their
banking records. The regulators will need to give a lead and set ethical standards on all of these issues as they affect professional practice.

120 How will regulators themselves use big data? One interviewee mentioned the possibility of an equivalent of the airliner’s “black box” or the police patrolman’s headcam. Will regulation become more intrusive?

121 Will there be more sharing of data between regulators, so as to promote a more joined-up and preventative approach to regulation?

Medical Advances

Gene editing could revolutionise cancer treatment and organ transplantation

The world’s first gene-editing trials took place in California. Around 80 patients with HIV have immune cells in their blood removed. Scientists then deleted a gene called CCR5 which HIV uses to gain entry to cells. The treatment is based on a rare, gene mutation which gives some people a natural immunity to the disease. One of the volunteers has been off all antiretroviral medication for two years since having his immune cells gene edited. Source: The BSC, 2016

But the work is controversial. Last year, the main US medical research agency, the National Institutes of Health, imposed a moratorium on funding such experiments

Research is ongoing on human-pig chimeric embryos for growing human organs

Genetics

What we know

122 For the first time, approval has been given for UK scientists to carry out genetic modification experiments on human embryos. Gene editing trials have been carried out in California, and widespread experimentation is taking place in China.

Key uncertainties

123 Although the oversight of genetics is not the responsibility of the GMC, it will need to keep abreast of developments, and ensure that codes of practice and guidance to doctors are up to date. How will it do this in a world of accelerating change?
Pharmacogenomics offers a new era in personalised care – but, like most technology, raises thorny ethical issues

**What we know**

124 Genomics is transforming the pharmaceutical industry. Companies are moving from drug discovery and development based on medicinal chemistry to the design of drugs based on information provided by genomics. This raises a number of ethical issues, including privacy of individuals’ data, and the possibility of discrimination against certain groups of people. It may also raise questions of potential conflicts of interest for doctors, for example in terms of decisions they make about which patients should receive treatment, and the use of data for research.

**Key uncertainties**

125 As with genetics, the GMC will need to keep abreast of developments, and ensure that codes of practice and guidance to doctors are up to date. How will it do this in a world of accelerating change?

**Ethical Issues**

**What we know**

126 A clear ethical framework lies at the core of what it means to be a health care professional. In the previous chapters we have identified developments which will require a response in terms of developing the ethical frameworks under which doctors practise – genetic modification, personalised medicine, conflicts of interest for doctors, and data ownership and protection. To these can be added others. One interviewee raised the issue of end of life care, where the law has changed in several other OECD countries, and where there are pressures for change in this country as well.
Key Uncertainties

The regulator will need to keep up with developments, and it will need to be able not only to update the standards it requires of doctors, but to inform and reassure the public about its position on what in some cases – eg genetech and end of life care – are highly contentious issues that touch on people’s most cherished values.

Data sharing and information is moving at a rapid pace and not just in the NHS. Currently it is common for patients to Google their symptoms and the treatments that these might indicate but often this is “misinformation”. With the rise of artificial intelligence and self-testing at home or in pharmacies it is possible that some patients may trust the information they get through these sources more than the information they are given by their GP – we can see this already with “informed patients” with chronic conditions. In the future, there is likely to be a more equal dialogue between patients and doctors – and this could pose ethical problems where doctors hold more information than their patients – for example patients suffering from mental illness.

Key implications for scenarios

We have put this driver second in our list of intermediate influences. It is a driver that we know will have a growing importance but what we do not know is the extent to which the NHS will make use of new technological advance. This uncertain aspect of the driver and how it might pan out is a feature (in different ways) in the scenarios.

The Evolution of the Health System – Quality and Outcomes

Many UK quality of care indicators are in the bottom third for the OECD
What we know

The UK health system – and in particular the NHS – has two great strengths. Firstly, it enjoys huge public support. Secondly, it scores consistently highly in international comparisons in terms of its efficiency. However, when assessed on outcomes and quality of care indicators, the picture is less rosy. The OECD review of UK health care performance, published this year, commented:

- “Over recent years England has increasingly emphasised the role of regulation, inspection and transparent publication of performance indicators to drive local quality improvement. In contrast, Scotland, Wales and Northern Ireland have sought to strengthen locally-owned, grass-roots initiatives around quality assurance and improvement ... [a key challenge] is to understand why, despite being a leader in global monitoring and improvement, the UK does not consistently demonstrate strong performance on international benchmarks of quality”.

Key Uncertainties

A key question for the whole of the health system, including the regulators, is what they can do to improve quality. Do professional regulators have a role in driving best practice – eg as part of revalidation? Can the rapid uptake of new technologies help the UK to make a “great leap forward” in the quality of care? And how will system redesigns – the move to multi-disciplinary teams, integration of health and social care - impact on the role of the professional regulator?

Pressures on the System

What we know

The question about improving the quality of care comes at a time when the NHS is under great financial pressure, as noted in the section above on the UK economy. And, for all the efficiency of the NHS, spending on health care in the UK has tacked slightly but increasingly below the OECD average since 2009, according to the OECD’s figures.

Key Uncertainties

A service under financial strain presents both a risk to the regulators and a question. The risk is that short-term financial pressures will lead to decisions that may harm patients, as was the case at Mid-Staffordshire Hospitals NHS Trust. The question, arising from the risk, is whether there is a point at which the regulators have to put on the record their concerns about the safety and quality of services (as well as the environment for training doctors), and how best they can do this.
Possible Changes to the System

There is an increasing trend towards joint Health and Social Care budgets

The Better Care Fund now has a budget of £5.3bn a year, £3.8bn of which is pooled between the NHS and Local Authorities

What we know

The pressures on the current system, along with the rapid technological advances, have generated much thought about the future shape and structure of the NHS, and its relationship to social care and wider social policy. The NHS 5 Year Forward View launched this process, and we are now seeing many initiatives – new forms of commissioning, integrated service provision, flexibility across the health and social care boundaries etc.

Key Uncertainties

Implicit in this is greater flexibility at local level in service design. Although the details, such as whether there will be another major restructuring in England, or how the different approaches to management that exist in Scotland, Wales and Northern Ireland will map out, must be cloudy, system change will continue, and possibly accelerate. But in any case, there will be key questions about how professionals will work in these reformed systems, and therefore how they will be regulated.

Key implications for scenarios

We have put this driver third in our list of intermediate influences. As with the final driver in Part One, the UK legislative system current debate focuses on the short to medium term. We did not consider it to be particularly useful in developing long term scenarios.
Public Health

The Changing Demographic Profile

An ageing population will put increasing pressure on NHS care over the next 20 years

137 Population forecasts tend to be reliable, barring war, famine or other disasters. According to the Government Actuary’s Department, in 2010 there were some 10 million people aged 65 or over in the UK. By 2030 this is projected to rise to 15.5 million. The numbers aged over 80 are projected to double.

138 So we can reasonably assume that the ageing of the population will, in the 10-15 year horizons of this study, see a continuing growth in the particular morbidities and co-morbidities associated with age: more people with dementia, more people with restricted ability to function due to loss of mobility, impaired eyesight and hearing, etc, and more people living alone, and reliant on social care as they grow older. This will lead to a significantly increasing demand for health and social care services, placing those services under even greater strain, and leading to an increase in hospital admissions and duration of stay if social care provision is inadequate.

Key Uncertainties

139 The major uncertainty is the extent to which advances in medicine and in technology, and changes in the design and provision of services, might mitigate the impact of an ageing population. It has also been pointed out that care of the elderly has not historically been a popular professional specialism; training and retaining enough doctors will also be an issue.
Epidemiology

Changing Disease Patterns and Co-morbidities

Over the next 20 years demand for health and social care is projected to rise by over a third, mostly for care of long term conditions

What we know

Data from the Centre for Workforce Intelligence show that the major drivers of demand for health and social care will be long-term physical and mental health conditions. In part these will be lifestyle diseases – such as type 2 diabetes, and in part the impact of improved cancer survival rates.

Key Uncertainties

Later on in this section, we identify some of the drivers of change in the fields of medicine and health technology, which might mitigate these risks, and in the next section we consider the changing role of medicine and the wider health system. The question here is how the regulatory system can help to promote innovation, and a focus on preventing illness and preserving health. And we also need to ask whether there are aspects of regulation that might hinder useful innovation.

Some interviewees suggested that managing the care of patients with long-term diseases and co-morbidities might herald the return of the “general physician”, a consultant charged with the oversight of an individual’s care.
Health Promotion

Our lifestyles are offsetting the gains made in public and personal health care

• There are already more obese than normal weight adult males, by 2050 60% of men and 50% of women are forecast to be obese

• Similar trends can be seen with drinking; however, smoking is set to decline, albeit with a hardcore of remaining smokers

What we know

143 At the moment, the trends are mostly worrying. Although the downward trend in smoking is a major plus, rising rates of obesity, and unhealthy alcohol consumption among some sections of the population present an obvious challenge not only to the health system, but to our society more widely.

144 There is much discussion about the possible uses of technology and the design of services. More generally, the design of “healthy cities” has become a topic for discussion in futures forums. The Government’s push for greater integration of health and social care, as seen in Greater Manchester, offers the possibility of a more holistic model for promoting health.

Key uncertainties

145 How would regulatory models need to adapt to accommodate emerging models of integrated health and social care?
**Disease Prevention**

**Greater priority is being accorded to prevention – but much of this depends on measures outwith traditional healthcare**


**What we know**

146 It has been estimated that errors and other deficiencies in health care account for around 10% of premature deaths, but that the majority of premature mortality is related to behavioural, genetic, social and environmental factors. A focus on preventative measures is important in both cases, and for the latter extends beyond traditional health care.

**Key uncertainties**

147 Will efforts to strengthen public health be enhanced by the shift of responsibility to local authorities. Will doctors as a whole – not just those already working in public health - be better equipped to focus and act on behavioural changes required to improve public health? Will novel approaches to behavioural change, such as “nudging”, play an important role?
Changing Lifestyles

Social Isolation

Changes in social structures, networks and relationships will impact on health

What we know

148 Increased social isolation may increase the incidence of mental illness, but it is also believed to impact on rates of heart disease and other chronic conditions. In 2011 four times more people in England lived alone than in 1960.

Key Uncertainties

149 What are the health and wider system initiatives to mitigate the risks to health of increased social isolation? How can regulators help or hinder change for the better?

Key implications for scenarios

150 This is our final driver in our list of intermediate influences. It has a long history, for example it was a key issue in the 2002 Wanless Report and its “Fully Engaged Scenario”. That report postulated that only with this scenario, ie excellent public health progress, coming into being would it be possible to move the NHS to a more affordable system. We consider that this debate has been held many times before and as such would repeat well known territory. We therefore did not examine this driver in our scenarios.
Inner Circle: Close Influences on the Work of the GMC

The Wider Regulatory System and Regulatory Policy

The Professional Standards Authority has recently argued for radical change in regulatory approaches

“Regulatory intervention is seldom clear about the precise problem it is trying to solve, has limited methods for evaluating risk, invents new regulations instead of using existing tools, is overcomplicated and inflexible and ignores unintended consequences.”

“A focus on prevention”

“We believe that regulators should aspire to a radical upgrade in their focus on preventative action..... defining the behaviour and other outcomes that the regulator wishes to see, together with an understanding of what interventions will support that behaviour being consistently and sustainably demonstrated by registrants. This may involve radically different interventions from those currently familiar to regulators”.

Professional Standards Authority, Re-thinking Regulation, August 2015

System Regulation and Individual Regulation

There is a shift from a focus on regulating doctors as individuals to regulating them as part of a complex system

“It seems strange to us therefore that people are regulated separately from the systems and places in which they work”. Professional Standards Authority, Re-thinking Regulation
**What we know**

151 Throughout this document, we have observed how the health care system is changing. The rise in co-morbidities and long-term conditions, and the ageing population, and increasing numbers living alone suggest that services need to move in the direction of joined-up multi-disciplinary practice. The creation of system regulators, especially the Care Quality Commission (CQC), invites questions about the proper boundaries between the responsibility of the system regulators, that of the employers themselves and the professional regulators.

**Key Uncertainties**

152 In the next 10-15 years, what pressures might there be to realign the boundaries between professional and system regulation, and what would be the implications of seeking to do so?

**Regulating Multi-Disciplinary Teams – How many Regulators?**

**What we know**

153 As with the issue of the appropriate boundaries between professional and system regulators, so with those between different professional regulators. Some interviewees observed that when many tasks might be carried out by a number of different professionals, it was unclear why they needed to be regulated by different bodies. Others noted the difference between codes of practice and professional standards. The rise of team-working also raises questions about the precise role of the doctor and, as several interviewees put it, “what makes a good doctor?”.

154 It is clear from our interviews that there is interest in some quarters in either reducing the number of professional regulators, or even moving towards a single health regulator – recognising the major obstacle that the sheer size of the professional workforce to be regulated by such a body – at least in England – would present.

**Key implications for scenarios**

155 This is our first driver in our list of close influences. Understandably it generated much debate in our workshop discussion and scored highly on impact. One Scenario (Scenario D) included a move towards new professional regulatory arrangements. Others did not.
When Things Go Wrong

Is the NHS becoming an organisation that is learning how to improve?

There is a raft of organisations and initiatives aimed at improvement

Yet each “scandal” seems soon to be followed by another despite associated “lesson learning” inquiries

And complaints continue to rise

What we know

156 We note that, in spite of the existing regulatory architecture, serious adverse incidents (or “scandals” as the media tend to call them) continue to occur, and that there is an upward trend in the number of complaints about health services. We do not seek to apportion blame for this: it could be due to a combination of several different factors: financial pressures; the rise of consumerism and more demanding patients and carers; greater ease of complaining; the spread of information on social media etc.

Key Uncertainties

157 How best can the GMC and other regulators work together to prevent future scandals from taking place, and keep the effectiveness of their preventative measures under constant review? What might be the consequences for the regulators of another major scandal?
Fitness to Practise Investigations

NHS clinical negligence claims, and costs, continue to rise rapidly

What we know

158 Data from the NHS Litigation Authority show that new clinical negligence claims rose from 6,652 in 2009/10 to 11,945 in 2013/14. According to the University of Plymouth, enquiries to the GMC from members of the public about doctors’ fitness to practise rose from 5,168 in 2007 to 10,347 in 2012, although it has stabilised since then. This steep rise in the number of complaints comes in spite of the fact that public confidence in doctors remains both high in relation to other UK professions, and above the average in relation to doctors in other OECD countries.

159 In “Rethinking Regulation”, the PSA argues for a more preventative approach to regulation. Several interviewees told us that they would like to see the GMC speed up the process of fitness to practice cases, with better “triage” of complaints to identify quickly cases that were not appropriate for the GMC to investigate, and deal more quickly with the remaining cases.

Key Uncertainties

160 How can the GMC best equip itself to manage complaints, and are there steps it can take in conjunction with other regulators to find ways of dealing with complaints more quickly and at the appropriate level?
Fairness and Consistency

Black, ethnic minority and non-UK graduates are over-represented in complaints to the GMC, especially by employers and the police

What we know

161 Interviewees drew our attention to research by Charlotte Humphrey and others on challenges faced by black and ethnic minority (BME) doctors in their academic studies and working lives. We also note that the GMC has a BME doctors’ forum, which the Chief Executive attends, and has commissioned research and work on specific areas, including whistleblowing and differential attainment.

162 Another concern raised by interviewees was the stress under which doctors are placed when they have formal proceedings outstanding against them, sometimes for very long periods of time. A report commissioned by the GMC identified 28 suicides between 2005 and 2013.

Key Uncertainties

163 Given the continued reliance on overseas-trained doctors, and the increasing numbers of UK-trained BME doctors, the GMC will need to understand and address the causes of differential attainment and promote best practice among doctors, especially those who are new to UK practice. And given the rising number of complaints, can it do more to ensure both patient protection, and support for doctors under investigation?

The cost of regulation

What we know

164 According to the PSA, the annual operating costs of health regulation are in the region of £600m. The GMC charges doctors an annual retention of registration fee of £425. So there are significant costs on the system, as well as on individuals. For the system as a whole, this inevitably invites discussion about whether the cost of regulation
provides value for money, and whether there are ways of getting more benefit from the current levels of expenditure and/or reducing the total cost of regulation. For individuals, interviewees told us that the cost of regulation is an important issue, especially given the pay restraint that has been in force since 2010, and seems likely to continue.

**Key uncertainties**

Regulators need to be responsive to these concerns, and take the initiative in looking to improve their efficiency and effectiveness. Given the current discussions about regulatory reform, following the Law Commission proposals and the PSA’s discussion paper, what can the GMC do to improve its cost-effectiveness, and how would it respond to a Government initiative to reduce the costs of regulation?

### Changing Medical Practice – New “Events”

**From managing disease to promoting health?**

- **emphasis on managing disease**
- **professionals dominate**
- **patients are patient**

- **emphasis on promoting health**
- **professionals support**
- **patients are empowered**

**What we know**

As the previous chapters have shown, health care has changed, and is changing, and there are good indications that the pace of change is accelerating. Health care is moving from “industrial age medicine”, with a primary focus on managing disease, and where professionals dominate the system and work with a great deal of autonomy, to “information age health care”, in which there is an emphasis on promoting and maintaining health, where patients are empowered and encouraged to manage their own health, and where professionals work together in multi-disciplinary teams. According to research published by the Department of Health, 90% of patients are interested in being more active self-carers, and 43% said the NHS could do more to support self-care.
Key Uncertainties

167 The changing health system has implications for the balance between individual and system regulation, for example where there is increasing multi-disciplinary team-working, or where members of different professions are carrying out the same procedures, as well as education & training and revalidation & professional development. How does the GMC see its role changing in response to changes in services over the next 10-15 years?

Key implications for scenarios

168 This is our second driver in our list of close influences. It is more to do with the internal operations of the GMC than the wider operating environment, and so we believe it would be inappropriate to include it in these scenarios.

Education, Training and Development of Doctors

The GMC has reported on tomorrow’s doctors

“Today’s undergraduates in medicine – tomorrow’s doctors – will see huge changes in medical practice during their working lives, most of which we cannot even guess at. Because of this, undergraduate medical education needs to prepare each student to remain up to date and fit to practise throughout their medical career.”

“Medical education has generally followed an evolutionary, rather than revolutionary path. One of the most noticeable changes has been the emergence of the concept of “professionalism” as a recognisable theme. I think this reflects the longstanding debate about what it is, precisely, that characterises a doctor as being distinct from other healthcare professionals, and I suspect that this debate will continue, particularly as the roles and responsibilities of other groups also evolve.”

Source: GMC Report on the State of Basic Medical Education 2010
Pathways into Medicine

Applications to medical schools are still predominantly from those with the most affluent backgrounds

What we know

169 The GMC sets the standards for all UK doctors through undergraduate and postgraduate training. Some interviewees have suggested that with the changes in clinical practice – such as the growth of team working and new “hybrid” clinical grades – the GMC should consider opening pathways into medicine for suitable people from within other professions. That might also help in widening the socio-economic intake of the medical profession – most applicants to medical schools have affluent backgrounds: 50% of secondary schools have never had a pupil apply to a medical school. In the meantime, the projected changes in medicine due to advances in technology and genetics, and the reliance of overseas-qualified doctors might lead to pressure to find ways of widening or accelerating the pathways into medicine.

Key Uncertainties

170 How would the GMC handle this, especially if there was disagreement among the UK jurisdictions? How important will harmonisation with other EU jurisdictions be following Brexit?

Quality of Undergraduate Medical Education

What we know

171 The GMC sets the standards medical schools must meet in teaching and accrediting medical students, and the skills and behaviours students must have learned to complete the course. Interviewees have suggested that one way of improving the
efficiency and effectiveness of medical regulation would be to move further towards a system based on risk assessment based on evidence of variable standards in individual medical schools.

**Key Uncertainties**

172 Would the GMC be able to achieve this in a way consistent with upholding patient safety? How would the GMC deal with credible evidence of significant variable standards in different medical schools, or a scandal in one?

**Postgraduate Medical Education**

**Change in medical education has been evolutionary – but more radical changes have been proposed**

- Postgraduate medical education and training enhancing its response to changing demographic needs and patient expectations
- A generic capabilities framework for curricula for postgraduate training based on good medical practice that covers, e.g., communication, leadership, quality improvement and safety.
- More ways of involving patients in educating and training doctors; doctors should have opportunities to support and follow patients throughout their entire care pathway, during medical school.
- Full registration should move to the point of graduation from medical school, and medical graduates at the point of registration must be able to work safely, in approved training environments, in a clinical role suitable to their competence level.

**What we know**

173 The GMC sets the standards for Foundation training for medical school graduates, and for specialty training. The Royal Colleges set the curricula, and the GMC monitors training to see that its standards are being upheld. Health Education England is concerned with ensuring that the right numbers of doctors are being trained in the right places.

**Key Uncertainties**

174 How will the GMC manage if differences between different UK jurisdictions increase, for example their appetite for regulation, and/or their policies on education and training
Revalidation

Learning the Lessons so Far

There is limited evidence of the health impact and cost-effectiveness of revalidation

“A major difficulty with ensuring fitness to practice is the lack of evidence on screening methods for physician assessment........ The evidence on CME and CPD and recertification suggests these methods can improve patient health outcomes, but reliable cost effectiveness data is largely absent.”

Source: EuroObserver, 2009

Research queries the high cost of recertification in the USA

Recertification costs were estimated to average $23k per physician over 10 years, mostly due to the monetary value of the time they required to fulfill requirements. The researchers noted the need to better evaluate costs and benefits of this large investment in physician education in comparison with alternative strategies for improving healthcare quality, and highlighted “the need for higher-quality evidence that it actually will lead to improved clinical outcomes for patients”.

Source: Annals of Internal Medicine, 2015

What we know

Revalidation became a legal requirement in December 2012. Doctors are required to demonstrate on a regular basis that they are up-to-date and fit to practise in their area of expertise. It is still early days in the life of revalidation, and the review led by Sir Keith Pearson is not due to report until 2017. However, interim research findings from an evaluation of revalidation commissioned by the GMC (which is due for completion in 2018), and DH-funded research show encouraging approval ratings among doctors themselves where revalidation is being carried out thoroughly and systematically, with a third of doctors saying they had changed their practice as a result of revalidation, and 40% saying appraisals were effective in helping doctors to change their clinical practice. A number of our interviewees supported this view. But some suggested that
there is room for improvement in some areas, and the studies themselves showed a minority of doctors disagreed about the effectiveness of revalidation.

**Key Uncertainties**

176 How will the GMC learn the lessons of revalidation? What scope is there to learn from best practice both here in the UK and abroad?

**The Future Direction of Revalidation**

What we know

177 Sir Keith Pearson’s report will set a proposed direction for revalidation, when it is published next year. However, other forces may come into play. If, for example the Government wishes to cut the cost of regulation on the NHS, it may encourage the GMC to look at other, more cost-effective models of monitoring doctors – “right-touch” regulation in the PSA’s phrase. Information technology may assist here, with distance learning approaches. The requirement for revalidation has made the GMC present in the life of every doctor in a way that was not the case in the past. Widespread concerns among doctors about the cost, administrative burden or equity of revalidation could thus cause damage to the reputation of the GMC.

**Key Uncertainties**

What will be the outcomes of Sir Keith Pearson’s review? Key implications for scenarios

178 This is our final driver in our list of close influences. As with the previous section, this has more to do with the internal operation of the GMC and so we conclude that it would be inappropriate to include it in the scenarios.
Chapter 4 – Building the Scenarios

Selecting the drivers

179 Following the voting exercise described in Chapter 2 – as a reminder, the 16 workshop participants voted on the impact of both the predictable and unpredictable drivers – the workshop was now ready to move to the next phase of the exercise – building the scenarios. For this purpose, the group took the top four “predictable” drivers – which would apply in every scenario; and three of the top four “unpredictable” drivers, which would vary in their impacts in different scenarios.

180 The drivers are set out below. We have added in brackets the reference to the full list of drivers in Chapter 3:

Predictable drivers

1. Changing Professional Roles (14 votes) (Chapter 3, Part 2 – Demographics of the Workforce)
   - Workforce demography – more female, more black & minority ethnic doctors; increasing multi-disciplinary teams and “panel” responsibility; more generalists (due in part to rise in co-morbidities); greater complexity of the workforce; increase in lay involvement; this may call into question the appropriateness of “uniprofessional” regulation

2. Patient & Public Expectations (14 votes) (Chapter 3 Part 1 – Zeitgeist – the Spirit of the Age)
   - Patients will expect faster access, and increasingly go online for access to health information (using sites such as “Netdoctor”. There will be growth of remote access and telemedicine; and growth of self-care via apps and implants; the rise of the expert patient (and patients seeking information, but not knowing which sources are best to access); patients will expect greater transparency in decisions affecting their care; a multiplicity of providers and data sources may lead to increasingly incomplete/fragmented patient records; there will be a need to be clear to taxpayers about the “value added” from regulation

3. Money (9 votes) (Chapter 3 Part 1 – The UK Economy)
   - Funding – funding model for health hard to sustain, but likely to remain for political reasons

4. Systems & Structures (6 votes) (Chapter 3 Part 1 – Divergent Policies within the UK)
   - Divergence in policy between UK jurisdictions means that services are evolving in different ways in different parts of the UK; there is likely to be greater integration of health & social care; In England, at least, there is likely to be an increased role for 3rd sector, and this would create extra complexity, and possibly difficulty, for regulators. Possible growth of private medical schools
Unpredictable drivers

1. The Regulators (Impact 15 votes; degree of uncertainty 3 votes) (Chapter 3 Part 3 – Wider Regulatory System)
   - There may be pressure from some quarters to have fewer health regulators; there will be a debate about the relative value of “system” regulation versus regulation of individuals; there may be concerns about consistency & fairness of different regulators. There will be political debates about whether, and how far the regulatory burden Can be reduced, and how to set regulatory standards if money is tight. Possible break-up of the UK will also raise questions about where regulation should sit, and the future of the GMC as a UK-wide body.

2. Workforce, Training & Skills (impact 12 votes, degree of uncertainty 3 votes) (Chapter 3 Part 1 Britain Post Brexit – Workforce of the Future)
   - Changing professional roles – impact of wider health care team changes, eg physician associates, increased community-based work & training; education & training. Requirements for entry may need to change; new skills gaps may emerge (or existing ones widen); pressure to train more UK doctors/pressure to regulate new medical schools; regulation of overseas undergraduate education; impact of Brexit – it is less certain where overseas doctors will come from. Skills gap for clinicians as between providers and commissioners (if commissioning remains).

   - UK Expenditure on health & social care – possible new models of funding for some care, eg rationalisation of services “free at point of use” available through the NHS; possible reform of health & social care systems – very specialised and automated health care, with more care delivered by 3rd sector; squeeze on funding of community services, due to increased pressure to fund hospital services; size of the private sector in the UK

4. Technology & Data (impact 9 votes, degree of uncertainty 9 votes) (Chapter 3 Part 2 – Technology)
   - Can the NHS keep up with genetech and personalised medicine? Changing role of doctors in a high tech world. How to regulate new technology? Technology will increase choice and accessibility, but there is a risk in reducing regulatory controls; there are regulatory implications of pan-border medical advice services; uncertain impact of technology on regulation and education & training; impact of big data/management of data

181 The top four predictable drivers would be taken into account in any scenarios that emerged.

182 As mentioned in Chapter 3, the first of the unpredictable drivers (the Regulators) was not used in the scenario building process because its timescale is probably shorter than our 10-15-year horizon and also it is very close indeed to the GMC itself (as opposed to its operating environment). However, Scenario D does include moves towards a multiprofessional regulator.
### Identifying the Range of Outcomes

The workshop looked at the unpredictable drivers to consider how each uncertainty might “pan out” in the wider health system. To do this, they identified a “best” outcome (for the system as a whole, ie the effectiveness and efficiency of the system, and quality, outcomes and patient satisfaction) and a “worst” one, with one or two intermediate outcomes. They then identified four possible scenarios, each of which was based on a different combination of the unpredictable drivers outcomes identified in the table. The table below shows the range of outcomes chosen by the group, with the capital letters **A, B, C and D** to indicate each of the four scenarios.

<table>
<thead>
<tr>
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<tr>
<td>Technology and data</td>
<td>Rapid adoption of technology changes, data driven delivery of care and outcomes</td>
<td>Rapid development but slow adoption</td>
<td></td>
<td>No change in adoption of technology of way we manage data</td>
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</tbody>
</table>

The Group decided not to dwell on “D”. Scenarios need to be challenging yet credible and D seemed to be too good and too easy as it envisages:

*Fully integrated health and social care system with adequate state funding, where there is rapid adoption of new technology, and where data drives the way we deliver care. We have the right number of professionals, in the right places, with the right skills, delivering high quality care.*

A, B and C form the “envelopes” for three of the scenarios that follow. A new Scenario D came out of a broad discussion of the drivers and polarities and the existing scenario D – in essence it is an optimistic but realistic view of how the health system – and thus the major operating environment of the GMC – might evolve.
The Scenarios

186 In this section we give a description of each of the scenarios, as developed by the workshop participants. As stated in the Executive Summary, the scenarios are pictures of how the future might look – they are NOT predictions, or forecasts. In reality it is likely that parts of each of the scenarios will prove accurate, rather than one entire scenario “coming true”.

187 In reading the scenarios, it will also be instructive to look at the comments on the drivers of change, and on each of the scenarios by the small group of doctors at Poole Hospital; their comments are set out in Chapter 5.

Scenario A – “Conspiracy or Carelessness”

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<td>high quality care</td>
<td>care but wrong professionals in the</td>
<td>quality of care</td>
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<td></td>
<td>delivery of care and outcomes</td>
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</table>
Scenario Summary

- Poor integration of health & social care, with many providers, and not enough state funding – leading to a very fragmented “market”
- The NHS hasn’t changed the rate at which it adopts new technologies, or the way it manages and uses data
- The NHS has the wrong numbers of staff in the wrong places with the wrong skills, and therefore is delivering poor quality of care

Description

188 This scenario unfolds against a backdrop of poor economic performance – low growth and rapid turnover of employment and business failures means that there is little new funding for health and social services despite the demographic pressures. Social and economic inequalities feed through into health inequalities.

189 In this scenario, there is also a pattern of poor performance – a lack of joined-up services, slow adoption of new technologies, and thus a failure to realise the potential benefits, and inefficient deployment of staff. Inevitably this leads to poor service quality, with regular untoward events in hospitals and care homes.

190 In this world, those who can afford to do so look to the private sector, which is smarter in its use of new technologies, as well as offering the traditional advantages of faster access and more personalised services. Private sector providers also build partnerships with large employers. Health inequalities widen between socio-economic groups.

191 The lack of funding for public services has other effects: the third sector – which seeks to step in to fill “gaps” in local service provision – becomes a more significant player alongside the private sector in the provision of social care services, and this leads to an increase in the number of different agencies providing services. The subsidies available to people who wish to train as clinicians reduce, placing more of a burden on the students (and their families) themselves.

192 The poor general state of health & social services perversely creates a sense of opportunity in some places, and there is a “postcode lottery”, as those places where the local health & social care economy is well-managed stand out from the rest of the country. In choosing where to live, people who can afford to do so take account of good local health services, as they do local schools. In poorer, and more excluded areas, there is discontent which leads to the potential for civil unrest.

Timeline

Now-2020

- Public dissatisfaction
- Conscious use of public investment to reinforce industrial development leading to shortage of funding for health & social care
- Growth of private sector in UK health
- Co-payments introduced

**2020-25**
- Large-scale virtual (and outsourced) healthcare; 24/7 access is there, but GMC says it cannot regulate online services
- Internal and external migration of skilled staff: the best ones leave the NHS (or leave the UK entirely)
- Adverse publicity and growing inequalities – healthcare “sink areas”

**2025-30**
- Rising mortality from common conditions and infectious diseases
- Average life expectancy falls in social groups 2-5
- Rising social inequalities lead to more inner-city riots

**Possible Headlines if this Scenario Came to Pass**
- Honda builds new hospital in Swindon – staff only
- Newly qualified doctor graduates with £500k debt
- Hospital mothballed because of lack of staff
- Baby dies after mum consulted Chinese doctor online
- No cardiologists left in Cumbria

**Early Indicators of this Scenario**
- Poor services and long waiting times leading to a rise in the numbers of complaints to the NHS and the GMC
- Low levels of NHS funding increases
- High turnover of staff
- Shortfalls in take-up of training place

**Implications for Regulation**
- More complaints about services
- Expanding private and 3rd sector requiring regulation
- Local shortages of doctors, due to the postcode lottery effect and uneven take-up of training places
## Scenario B – “Could Do Better”

<table>
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<tr>
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### Scenario Summary
- Health & social care are not successfully integrated but adequately funded
- Right numbers of health care professionals in mostly the right places but without the ideal skill set
- Rapid development of new technology but slow adoption

### Description

193 In this scenario, it is assumed that the percentage of GDP allocated to health & social care rises through the period covered, partly in response to financial problems in the early years. Structurally health & social care have not been integrated. There are broadly the right numbers of professional staff in terms of geography, setting and specialisation, but the services lack the skills and knowledge to make the most of the possibilities opened up by emerging new technologies.

194 The relatively benign funding regime has the perverse incentive of lessening the drive to remedy this lack of technological progress, and so technological progress tends to happen locally and on a small-scale, by groups of local enthusiasts. More money is going into the system, but it is far from clear that it is being spent as effectively as possible. NHS “waste” becomes an issue for its critics in the latter years.
For the public, for whom technology is increasingly prevalent in their everyday lives, the poor adoption of technology in health is an increasing source of frustration and complaint. Those who can afford to do so, or who have the motivation, are drawn towards private care, or the use of technology for self-care, and become less reliant on the NHS.

Professionals feel the frustration of patients – which they share to some extent, being increasingly used to technology themselves. Innovation is not encouraged, and progress in modernisation is slow; silo working remains stubbornly commonplace, with only very slow progress towards new professional roles and multi-disciplinary working in teams.

There is a widening “generation gap” between older professionals, who feel at home in the system, and are less technologically-minded, and younger professionals, who find the system at odds with other aspects of their lives, and tend to be more enthusiastic to explore different ways of working. Professional training and education also tend to be behind the curve on technology.

Politicians and NHS managers feel the pressure to improve efficiency in the early years, and meet the demand for care, but are risk averse when it comes to more radical innovation and reform.

Timeline

2020
- funding crisis; NHS poorly staffed, not coping with demand; long waiting lists, poor care; leads to major increase in state funding in response to these pressures, and expansion of training places across all traditional staff groups – planning more of the same, rather than changes in roles

2023
- Massive rise in litigation over poor quality healthcare and outcomes, possibly leading to demand for tighter regulation
- This drives management culture to become more risk averse

2025
- Staffing increases start to have a beneficial impact; waiting times fall, and the NHS starts to see better outcomes
- UK still lagging behind in use of technology

2027
- New private providers offering patient-focused commercial healthcare products
- Staff not up to date with new technology; this causes friction with more expert/informed patients with raised expectations
- Leads to dissatisfaction with the NHS

Possible Headlines if this Scenario Came to Pass
- Brexit Fails: NHS in Crisis (2020)
- Taxpayer pays billions for NHS failures (2023)
- NHS Hits Target – but misses the point (2025)
- Patients bypassing NHS (2027)
• Why Wasteful NHS Lost its Way (2030)

Early Indicators of this Scenario
• Waiting times rise between 2016 and 2020
• Increase in NHS litigation cases
• Higher funding increases from 2020
• Rapidly increasing uptake of new technology by individuals to manage their own health
• Low uptake of new technology in the NHS
• Little change in the number, type and distribution of training places for junior doctors

Implications for Regulation
• Pressure on Regulators to promote quality and innovation
• Policy discussion about the regulation of technology in health care
• More complaints – with greater focus on technological shortcomings in practice
## Scenario C – “A Town Called Average”

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### Scenario Summary
- There is integrated health & social care, but with inadequate state funding
- There is good and more rapid adoption of new technology & good use of data
- The NHS has some great staff with the right skills who deliver great care – but doesn’t have enough of them and they are in the wrong places

### Description

199 For this scenario, the group looked at a hypothetical town – in the South of England, with a population of about 200,000 and a small general hospital. The formal integration of health & social care has gone ahead, but there is not adequate funding to meet demand. Rationing of access and means-testing of social care are used to “manage” demand. This means that those who can afford to do so use the private sector to get access to the treatment and services they want.

200 On a slightly more positive note, the lack of access leads local authorities to take the lead in placing a greater emphasis on finding new ways to encourage people to stay fit and healthy, and to prevent ill-health, and some people respond to the perceived lack of access to services by investing more time and effort in self-care.
Digitally enabled people become more knowledgeable, and wish to have more autonomy in managing their own care, for example seeking to find direct routes to specialist care and advice, and access to medicines. In effect 24/7 services become a reality through technology for those who know how to access them. For those people, the expansion of digital services and the focus on health & well-being is a positive step forward.

But for those who cannot easily access technology, or who are unwilling and/or unable to manage their own care, things get worse. Health inequalities widen, and there are more complaints about delays and poor quality of some services.

Health and social services tap into the rising digital competence of the population, and begin to offer online access to services as a cost-effective alternative to traditional routes to care.

The changing world calls into question the role of the GP. Motivated patients are more sceptical of the GP “gateway”, when access is patchy, and rationing and means-testing are further barriers to access – at the same time as technology offers instant access to services. Employers offer private health insurance as a perk to key employees.

The growth of the private sector and digital services presents new options for professionals to work in different and more flexible ways.

**Timeline**

- **2016**
  - Scandal – Workforce Shock
- **2020**
  - Brexit recession
  - Scotland Votes for Independence
- **2025**
  - The Uber GP will see you now
- **2026**
  - Death of the first Baby Boomers

**Possible Headlines if this Scenario Came to Pass**

- Skype GP in Sex Scandal
- Trolley Wait Babies Scandal
- My House for My New Heart
- Could Celery Cure My Cancer?
- Bring Back Dr Finlay
- “Mars Health Day” – Massive Success
- Obesity reaches Record Levels
- Depression Rates Lowest in a Decade
Early Indicators of this Scenario

- Inability to fill training places in some parts of the country
- Rising waiting lists and times
- Rapid uptake of IT and other technologies in the NHS and among individuals
- Debate about the need to reform the role of the GP

Implications for Regulation

- More complaints about practice
- Demands for regulation of online and remote access services, and the professionals who provide them
- Possible review of the registration requirements for GPs, if role of GP comes seriously into question
### Scenario D – “Cautious Optimism”

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**Scenario Summary**

- A more patient-driven service, more local and more joined-up; integrated and holistic health & social services. Success judged on patient and population outcomes. Expert, empowered patients hold their own data.
- Potential release of resources through greater efficiency; improved adoption of new technology and big data – means that funding is adequate.
- More local workforce planning.
- Training more of a challenge for tertiary centres.

**Description**

This scenario envisaged a positive unfolding scenario, in which services would develop in response to local needs. There would be integration of health and social care, and service development would be locally- rather than nationally-driven. The focus would be on health outcomes and outcomes of care. Patients, who are becoming more technologically aware, and have better access to information, would be encouraged to become active partners in managing their own health; patient held records would be
encouraged, and there would be access to information about health outcomes and other key information in guiding patients in making decisions about their own care.

207 There would be a more marked separation between what is done locally, and what is centralised to specialist services; most care would be delivered close to people’s homes, but there would be clear pathways to more remote specialist services when needed. There would be a greater focus on prevention of ill-health and promotion of good health.

208 For professionals this would signify two simultaneous changes – a renaissance of the General Physician, charged with the overall management of a patient’s care (especially important when more patients will have complex co-morbidities); and increased sub-specialisation where appropriate.

209 Adoption of new technology and big data would free up resources to be deployed where they are most needed. Diagnostics would be better, cheaper and faster.

210 For regulators, the focus on local services would see an increase in multi-disciplinary team working, which would call into question the current professional dividing lines.

Timeline
- 2017 Curricular Drivers in Services
- 2018 UK Regulatory Summit
- 2019 Health Budgets devolved to local authorities
- 2020 Legislative changes
- 2024 Mergers of Health Professions Regulators
- 2028 First Generalists receive their Certificates of Completion of Training

Possible Headlines if this Scenario Came to Pass
- GMC to merge with NMC
- It’s NOT a local anaesthetic if it’s 30 miles away!
- NHS loses millions to fund social care

Early Indicators of this Scenario
- Higher levels of funding, but greater devolution to local authorities, leading to changes in distribution between health and social care
- Widespread changes in the type and distribution of training places or junior doctors
- Revival of the General Physician in secondary care
- High uptake of new technology in the NHS and among individuals

Implications for Regulation
- Possible legislative change to the regulatory system
- Calls for vocational training for general physicians
- No significant rise in complaints
- Increased tension between national standards and desire for local innovation
Reflections on the Scenarios

Generating the key drivers of change, weighting them for impact, and building scenarios was a very tall order indeed for a single day’s work. In discussion at the end of the day, some workshop participants felt that they were stretched to develop the uncertainties into scenarios. But overall, the view was that the workshop had developed a varied, differentiated and useful set of scenarios mapping out some alternative futures.

It is also clear that the scenarios have potential implications for the GMC. These include the following:

- The volume of complaints to the GMC – in Scenarios A and C there are increases in the number of complaints about practice; in Scenario B we see more complaints specifically about the failure of professionals to use the latest technology, whilst in Scenario D, there is no significant increase
- Expansion of the Private and 3rd sectors – in Scenarios A and C this is likely to happen, and will affect the nature of the GMC’s regulatory activity
- Local shortages of doctors – Scenarios A and C both envisage local shortages of doctors, either because of staff turnover or uneven take-up of training places for junior doctors; this would draw the GMC into sensitive discussions about service provision and training in affected areas
- The impact of technology – in all scenarios the uptake and use of technology is an issue: in Scenarios A and B the NHS makes little progress; in C and D it makes good progress; but in all scenarios there is continued growth in use by patients, and this throws up questions about the regulation of new forms of services, for example remote online consultations and management of patient data by professionals working remotely
- Changes to particular groups of doctors – Scenario C envisages challenges to the traditional role of the GP, whilst Scenario D sees the renaissance of the General Physician, with oversight of the increasing numbers of patients with comorbidities; these sorts of changes might have implications for registration, training and regulation of the professionals affected
- National standards versus local innovation – Scenario D envisages a much more devolved NHS in England (and we note that devolution to the UK administration has already led to marked differences in service systems and structures; this could lead to demands for a more flexible approach to regulation, especially of training

The next task was to subject those scenarios to some reality testing by a group of practising doctors. Chapter 5 reports on this.
Chapter 5 – Reality-Testing the Scenarios

Introduction

After the scenario workshop, SAMI met with a group of three doctors at Poole Hospital NHS Foundation Trust – a consultant surgeon, a consultant physician, and a registrar: we have not named them in this report in order to protect their confidentiality.

After an introductory discussion on the purpose and uses of scenarios, the group discussed the drivers of change, and then looked at each scenario in turn, and invited the doctors to give their comments and reactions to each, asking them for their thoughts on the regulatory impact as well as the impact on their own working lives.

The comments, which are set out below, provide useful extra context for reading the report on the key drivers and each of the scenarios.

Regulation Now

Although the primary purpose of the session was to examine the drivers of change and the scenarios, the doctors made a number of observations on the current regulatory system, which we have set out below for information, and for the record:

- Need to be clear about the role of regulation: why do we want it? Is there a downside? There is a risk that too much regulation enforces an “average attitude”, which is better at protecting patients from poor doctors than in improving practice generally
- It sometimes feels that the GMC is there to “catch you out”
- For junior doctors, revalidation involves duplication of effort with what doctors have to do in training
- Some GPs like their system of revalidation because it involves discussion with a respected, more senior, GP
- Revalidation is a bit of a paper-based exercise, but it can be useful in nudging people in the “middle” towards improved practice – less useful for the “stars” (who don’t need it) and the “bad guys” (who should be detected by other means anyway)
- A lot of what doctors actually do doesn’t fit a “tick box” approach; there has to be appraisal and revalidation, but need to understand that medicine is complex and ever-changing

Drivers of Change

The doctors made the following general observations:

- There is an increasing overlap between new professional roles and what were traditional medical roles – for example phlebotomists, nurse consultants and physician associates
- There were specified competencies in nursing regulation, but not medical (although the GMC is consulting on this). So the boundaries of clinical practice are in that respect clearer for nurses than for doctors currently
• Some approaches are bringing the professions closer together, eg new pharmacy prescribing framework which covers doctors, pharmacists, nurses, etc.

• Increases in part-time and flexible working will have an impact, as yet unclear, on professional regulation.

Scenario A – Conspiracy or Carelessness

• “This is what is happening already"
  o Self-funded training: juniors can spend £80,000 on their training already
  o It can be seen in application numbers for specialist training that people are choosing not to apply – doctors can choose to leave; many have done so (a doctor can earn £10,000 per month on a cruise ship)

• Scenario A is not pessimistic for doctors, who can move on; it’s doom and gloom for the NHS: many junior doctors will leave, making the NHS unable to provide a decent service The esteem in which the profession is still held allows doctors to put up with the nonsense the system throws at them

• There is a shifting view of work/life balance among doctors, in line with wider generational shifts

• If you try to offset the loss of junior doctors by reducing quality thresholds for training, you will make matters worse: the uneven distribution of good juniors will lead to uneven quality

• the doctors were sceptical about the likelihood of increased mortality from infectious diseases and common conditions, as the scenario posits (but agreed that there might well be the projected higher mortality rates in lower socio-economic classes)

Scenario B – Could Do Better

• On slow adaptation of technologies, doctors are up to speed with technology and generally comfortable with, even eager to take up, new equipment, but the NHS has failed with its recent big IT projects – Connecting for Health, the NHS Spine, the NHS Smartcard; people at the top keep bringing in the wrong or inappropriate systems

• The same lack of joined-upness applies to other things eg purchase of surgeons’ “scrubs”. Four South-West hospitals have four different colours/types of scrubs, which is wasteful and inefficient.

• The UK’s caution in adopting new technology is not necessarily wrong. In the US there is a market in tech; there is a multiplicity of apps and other devices aimed at patients, but most have not been validated; likewise, mobile phone to wearable technology for monitoring vital signs

• The NHS needs to focus on technology that directly interacts with the customer, like the banks which have done this well whilst retaining 1970s mainframes behind the scenes. Many patients complain about lack of WiFi in hospitals – not a problem elsewhere in people’s lives.

• A lot of complaints to the GMC are really irrelevant to fitness to practise
• A lot of patients are “inexpert”, even if they think otherwise; some (eg transplant patients) know more than the doctor, but many other people misdiagnose themselves on Google
• The doctors were sceptical about the extent to which statutory agencies could generate health

Scenario C – A Town Called Average
• This is an ideal scenario for regulators to step in to improve quality of care (not sure which regulator: could be GMC, system regulators or employers)
• Data is critical in regulation, but is currently the weakest link in the healthcare system. Doctors don’t trust current data – even their own data. If doctors had good data, they would have a better sense of how people were performing in relation to good practice. It’s a particular issue with non-surgeons, where mortality rates cannot be used as a basic guide
• The role of the GP – the group could not see it disappearing, but can see it changing (only if co-payments came in.) The gatekeeper role is important, but GPs are failing in it partly because protocols override their clinical judgment, for example the 10-minute allowance for consultations and the rise of co-morbidities; training is not long enough (at 3 years) to equip them to do their job effectively…. … but losing GPs would still be damaging to the NHS…. … there might be scope for GPs with special interests. 1 in 4 GP consultations is about children but GPs have very limited training in paediatrics.

Scenario D – Cautious Optimism
• The group were interested in the shift of regulation towards learning and away from punishment (and noted in passing that there is no regulator for managers, whose decisions can also lead to the deaths of patients)
• Should there be a separation between the training regulator and the punishing one?
• The group were uncomfortable with idea of a multi-professional regulator: in their view medicine was a distinct and different profession that required its own regulator
• The change in the workforce: generalism is like the tide – there has been a shift away from it, but there are some signs of it having a revival…. …If this scenario happened, specialist doctors would still be treating patients; generalists would need to be clear about their professional boundaries
• The group noted that over the last 20 years GPs and District General Hospitals had seen a diminution in their importance, but felt that the system is not working at the moment: there was a need for prevention, patients taking responsibility for their health, and better data.

Closing Remarks
• The group worried that regulation is an increasing burden: GMC could make things worse, as well as better. The regulator needs to explain how what it
does makes things better/show the added value. But the group said they do see the value of regulation to a proper standard

- There was a need for clarity about what the regulator wants to do. The introduction of revalidation felt negative at the time – there were reams of paper, without any evidence that revalidation would work. That said, the group felt that the profession could do more to improve appraisals, but felt that revalidation worked pretty well

- A single regulator for all care professions would be resisted: Multi-professional regulation runs the risk of “dilution” – a clinical manager is in charge of nursing as well as medical staff; he/she may not understand the nursing profession, so will tend to leave nursing practice issues to the matrons

- There is a responsibility to show that doctors are safe, therefore professional regulation is important
Chapter 6 – Key Driver Indicators

Introduction

219 As part of this project, the GMC asked SAMI to identify “key indicators that could potentially be monitored in order to identify whether each of the scenarios was becoming more or less likely over time”. In this Chapter, we set out some possible indicators.

220 It is important to bear in mind that scenarios are NOT predictions: they combine a common set of predictable drivers with different impressions of how unpredictable drivers of change might play out in the future. Indicators should be useful for both sorts of drivers: to check the rate of change for the predictable drivers, the direction of change for the “unpredictable” ones, and the salience of both. With that in mind, the list below relates the indicators to the key predictable and unpredictable drivers identified in Chapter 2.

221 We have not developed specific indicators for each individual scenario, because it would not be a particularly profitable exercise to attempt to measure whether or not a particular scenario “comes true” or not. However we have shown using the scenario letters (A, B, C and D) in bold, where we think particular indicators apply strongly to particular scenarios.

222 We have also highlighted those drivers where we think that the GMC may have scope actively to influence the future, rather than having simply to adapt to the course of events, as this is clearly a strategic area of interest to the GMC in taking forward its strategic planning. Indicators where the GMC may have direct influence, are highlighted in green.

223 However, taken together, the indicators below will allow a judgment to be made as to whether they point more towards (or away from) any of the specific scenarios in this report (or others that the GMC may subsequently devise). In this way, the indicators can be used both to track the unpredictable drivers – which were the building blocks of the scenarios – and to compare the emerging reality with the different scenarios.

224 We have suggested some indicators for the all the drivers, predictable and unpredictable, selected at the workshop for use in the scenarios, as in the first two tables below. In addition we have shown (in the third table below) indicators for other drivers selected at the workshop i.e. ones not used in the scenarios, on the basis that some of the drivers not selected may become more important over time, so it would be sensible to keep these in view as well.

225 Some indicators do not easily lend themselves to simple numeric assessment; these non-numeric ones will rely on horizon-scanning approaches, such as literature searches to supplement the numerical evidence gathering for other indicators.

<table>
<thead>
<tr>
<th>“Predictable” drivers</th>
<th>Possible Indicators (&amp; sources)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMC Final Report</td>
<td>Page 83</td>
</tr>
<tr>
<td>“Predictable” drivers</td>
<td>Possible Indicators (&amp; sources)</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Changing professional roles</strong></td>
<td></td>
</tr>
<tr>
<td>• Workforce demography – more female, more black &amp; minority ethnic; increasing multi-disciplinary teams and “panel” responsibility</td>
<td>• Trends in healthcare workforce composition (<em>NHS and GMC data</em>)</td>
</tr>
<tr>
<td>• Greater complexity of the workforce; more generalists (due in part to rise in comorbidities)</td>
<td>• Demand for training places in different specialties (<em>GMC and HEE data</em>) <strong>Scenarios B,C</strong></td>
</tr>
<tr>
<td>• Increase in lay involvement</td>
<td>• (See next section: self-care)</td>
</tr>
<tr>
<td><strong>Patient and public expectations</strong></td>
<td></td>
</tr>
<tr>
<td>• Patients expecting faster access:</td>
<td>• Waiting times (<em>NHS data</em>)</td>
</tr>
<tr>
<td>• Online access to health information (the “net doctor” patient, and growth of remote access/telemedicine)</td>
<td>• Public and patient satisfaction with the NHS and trust in doctors (<em>national patient survey</em>, <em>MORI surveys</em>)</td>
</tr>
<tr>
<td>• Growth of self-care via apps and implants; the rise of the expert patient (and patients not knowing what sources to access) [GMC may be influential in helping to establish professional standards]</td>
<td>• Population with internet access, internet use for health information (<em>ONS data, NHS Choices analytics</em>) <strong>Scenarios B,C,D</strong></td>
</tr>
<tr>
<td>• Increased drive for transparency in health care</td>
<td>• Uptake of health apps/access to health sites (<em>surveys and industry data</em>) <strong>Scenarios B,C,D</strong></td>
</tr>
<tr>
<td></td>
<td>• Patient involvement in self-care (<em>GP patient survey data</em>)</td>
</tr>
<tr>
<td></td>
<td>• Uptake of patient-held records (<em>NHS data</em>)</td>
</tr>
<tr>
<td></td>
<td>• Complaints from public to the GMC (<em>GMC data</em>)</td>
</tr>
<tr>
<td></td>
<td>• HCHS written complaints &amp; NHS litigation cases (<em>NHS and NHS Litigation Authority data</em>) <strong>Scenario B</strong></td>
</tr>
</tbody>
</table>
### “Predictable” drivers | Possible Indicators (& sources)
--- | ---
Clarity about the “value added” from regulation | Impact of regulation on behaviour and performance (*journal papers*)

**Systems & Structures**

- Divergence in policy between UK jurisdictions;
- Greater integration of health & social care
- Increased role for 3rd sector, and difficulty for regulators with more services being delivered by 3rd sector;
- Growth of private medical schools

<table>
<thead>
<tr>
<th>Systems &amp; Structures</th>
<th>Possible Indicators &amp; Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Divergence in policy between UK jurisdictions;</td>
<td>• Forward plans for health and social care (<em>UK and devolved Parliaments publications</em>)</td>
</tr>
<tr>
<td>• Greater integration of health &amp; social care</td>
<td>• Spend from Better Care Fund (<em>Dept of Health</em>)</td>
</tr>
<tr>
<td>• Increased role for 3rd sector, and difficulty for regulators with more services being delivered by 3rd sector;</td>
<td>• Adoption and breaches of provider integrated care licences (<em>Monitor</em>)</td>
</tr>
<tr>
<td>• Growth of private medical schools</td>
<td>• also see the integrated care indicators, (<em>Policy Innovation Research Unit, LSHTM</em>) and the core suite of integration indicators, (<em>Scottish Govt</em>)</td>
</tr>
</tbody>
</table>

#### Money

- % adult social care services providers in 3rd sector (*Care Quality Commission data*), **Scenarios A,B,C**
- Spend on voluntary sector strategic partner programme (*Dept of Health data*)
- Annual student intakes at first UK private medical school (*University of Buckingham data*)
- Plans for/opening of other new UK private medical schools (*university data*) **Scenario A**
<table>
<thead>
<tr>
<th>“Predictable” drivers</th>
<th>Possible Indicators (&amp; sources)</th>
</tr>
</thead>
</table>
| Funding – funding model for health unsustainable, but likely to remain for political reasons | UK spending on health care (as compared with other OECD)  
**Scenario A,B**  
Proportion of expenditure on hospital, community and public health services (**NHS data**)  
**Scenario D** |
### “Unpredictable” drivers

#### The Regulators

- Pressure to have fewer health regulators; “system” regulation versus regulation of individuals; Feasibility of a UK “multiprofessional” regulator? Possible break-up of the UK – where will regulation sit?

- Concerns about consistency & fairness of regulators

- Burden on the regulator

- Statements of Government policy on future of health regulation *(UK and devolved Parliaments publications)*
  - Scenario D

- Numbers of successful appeals against GMC decisions *(GMC data)*

- Public trust in doctors *(GMC Tracking Survey and social attitudes surveys)*

- Complaints to the GMC *(GMC data)*
  - Scenario A

- Time taken to process complaints *(GMC data)*

#### Workforce, Training & Skills

- Changing professional roles – impact of wider health care team changes, eg physician associates, increased community-based work & training;

- Education & training – requirements for entry, what will the skills gap be? How to recruit and retain a viable workforce? Pressure to train more UK doctors/pressure to regulate new medical schools;

- Spread of clinical specialisms (eg general medicine) in secondary care *(GMC data)*
  - Scenario D

- Numbers of physician associates, nurse specialists etc *(Health Education England, Royal College of Physicians, Royal College of Nursing and Social Care Information Centre data)*

- Demand for training places in different specialties *(GMC and Health Education England data)*
  - All Scenarios

- Health workforce gaps and
### Systems & Structures

- Regulation of overseas undergraduate education; impact of Brexit/where will overseas doctors come from?

<table>
<thead>
<tr>
<th>Plans (Health Education England data) <strong>Scenario A</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Numbers of overseas-trained doctors practising in the UK (GMC data)</td>
</tr>
<tr>
<td>• Numbers of UK-trained doctors not practising in the UK (GMC Data)</td>
</tr>
</tbody>
</table>

### Technology & Data

- NHS take up of genetech and personalised medicine. Changing role of doctors in a high tech world

<table>
<thead>
<tr>
<th>Plans (Healthcare Market Review) <strong>Scenario A</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Rate of adoption of new technologies, e.g. robot surgeons, AI diagnostics, telemedicine (NHS data, surveys and industry data) <strong>Scenario A,B (if low) C,D if high</strong></td>
</tr>
<tr>
<td>• Updates on medical device regulation (Medicine and Healthcare products Regulatory Agency data)</td>
</tr>
</tbody>
</table>

### Systems & Structures

- Funding of health & social care – new models of funding for health

<table>
<thead>
<tr>
<th>Plans (OECD) <strong>Scenario A</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• UK spending on health care (as compared with other OECD) (OECD) <strong>Scenario A</strong></td>
</tr>
</tbody>
</table>

- Reform of health & social care systems; more specialised and automated care; more care delivered by 3rd sector

- Squeeze on funding of community services, due to increased pressure to fund hospital services;

- Growth of the private health care sector in the UK

<table>
<thead>
<tr>
<th>Plans (NHS data) <strong>Scenario D</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Proportion of expenditure on hospital, community and public health services (NHS data) <strong>Scenario D</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plans (Healthcare Market Review) <strong>Scenario D</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Size of the private health care sector (Healthcare Market Review)</td>
</tr>
</tbody>
</table>

- Regulation of new technology; Implications of pan-border medical advice services;
- Impact of technology on regulation and education & training;

- Impact of big data/management of data

- Use of online learning for healthcare education (*Health Education for England, doctors.net.uk and RCGP data*)

- Uptake of health apps/access to health sites (*surveys and industry data, NHS Choices analytics*)

- Patient consent to data sharing for research (*NHS data*) and updates on replacement for Care Data programme (*NHS England*)

<table>
<thead>
<tr>
<th>Additional unpredictable drivers selected at the workshop</th>
<th>Possible indicators (and sources)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Identity</td>
<td>• Data on recruitment and retention of doctors (<em>NHS data</em>)</td>
</tr>
<tr>
<td></td>
<td>• Attitude surveys among doctors (<em>??BMA? NHS?</em>)</td>
</tr>
<tr>
<td>Funding the regulator</td>
<td>• Policy statements from Ministers and key influencers, such as PSA</td>
</tr>
<tr>
<td></td>
<td>• Complaints to the GMC from doctors about fee scales (GMC)</td>
</tr>
<tr>
<td>Trust</td>
<td>• British Social Attitudes and other surveys into public satisfaction with the NHS and trust in professionals (ONS)</td>
</tr>
<tr>
<td></td>
<td>• Attitude surveys among doctors for their trust in “the system” (<em>??BMA? NHS?GMC – see above</em>)</td>
</tr>
<tr>
<td>“Big Picture” Drivers</td>
<td>• Public attitudes to ethical issues British Social Attitudes and other surveys (ONS)</td>
</tr>
<tr>
<td></td>
<td>• One-off events, eg pandemics, and their</td>
</tr>
<tr>
<td>Section</td>
<td>Data Sources</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Changing Population</td>
<td>• ONS population data, annual migration statistics, census data</td>
</tr>
</tbody>
</table>
| Health Promotion/disease prevention  | • Horizon-scanning for evidence of treatment-resistant strains of disease (and/or breakthroughs in new forms of treatment)  
• Horizon scanning for evidence of effective health promotion interventions  
• Public health data (PHE)          |
| When Things Go Wrong                 | • GMC’s own data on numbers of complaints, time and cost of processing     
• Comparative data from other regulators |
Chapter 7 – Using the Scenarios

Why Use Scenarios

226 To be effective today public and private sector organisations must be strategic, agile and relentless in their focus on delivery. Horizon scanning (identifying the key drivers of change) and scenarios are important parts of achieving this and ensuring that policy and delivery is best informed to anticipate risks, identify opportunities and ensure that choices and trade-offs are as well informed as practicable.

Horizon scanning – using the key drivers

227 Horizon scanning is a structured approach for collecting evidence and insights to look beyond a single expected future to a range of possible futures. It is important to:

- Look ahead – gathering information beyond the usual timescales
- Look across – extend beyond the usual sources of data and consult people with different perspective and expertise, and
- Look around – beyond the usual cultures and technologies, including the important developments that may be occurring at the boundaries between them.

228 Continuing to monitor the drivers of change will give important insights to the future direction of health systems and regulation, and the potential mix of issues from the four scenarios. Monitoring these drivers over time will provide data on which on them are most subject to change. In those areas where the GMC is able to influence events, the drivers – and the way in which events develop in the coming years – will suggest possible key areas for strategic engagement for the GMC.

229 In planning this ongoing scanning we recommend that consideration is given to the following:

- Agree the objectives and scope; time horizon; and requirements for stakeholder engagement
- Compile existing scanning outputs, including other organisations’ horizon scanning (where relevant). This might identify the need for a ‘deep dive’ on a high priority topic, or into the areas that the GMC can influence
- Review existing scanning, looking for changes in the relative certainty and impact of the key drivers, and undertake supplementary scanning to look for any new drivers

Using the scenarios

230 The scenarios can be used for a wide range of reviews but the most common are below:
Policy analysis

231 The future will include elements from each of the four scenarios, in a mix that cannot be predicted. The scenarios contain events and changes to the health system many of which are not currently observable. However, recognition that these might happen makes it easier to identify early signs that they may be of increasing importance. The scenarios can be used as a 'lens' to help identify weak signals or emerging issues. The scenario 'time-lines' are particularly important for anticipation: if events on them are observed, this may suggest that the related elements of the relevant scenario are more likely to be important.

232 The future will be shaped by complex interactions between the key drivers of change and a range of other factors. These interactions and interdependences are often more important than the individual drivers. For example, the ability of the GMC to influence some of the key drivers has been noted, and the GMC will wish to develop and update its own strategies for doing this successfully.

233 The level of confidence in the regulatory system will be influenced by a wide range of trends. It can also be influenced by events, such as a serious adverse episode. The impacts of different events could well be very different between the scenarios. The scenarios are a tool to provide a framework to analysis these complex interactions and the impacts of events.

234 The scenarios can be used to analyse future challenges and opportunities and explore policies to achieve the best possible outcomes. The scenarios can also be used to test existing or potential policies against a range of future outcomes and their resilience against potential future events. The success of some policies is likely to vary across the scenarios and in many cases how they can best be implemented will be different. When testing policies against the scenarios it is important to consider:

- Their relevance, as the factor being addressed may not be a significant issue in a particular scenario
- Their practicality, as the policy may not be effective given the conditions in the scenario, or it may not be politically or financially deliverable, and
- Their implementation: It may be that a policy is potentially successful across a range of scenarios but the way it is presented and implemented in each could be quite different.

235 The greatest value from using scenarios for policy analysis usually comes from the strategic discussion of the result of testing a range of policies against different scenarios.

Stakeholder impact analysis

236 When using scenarios for stakeholder impact analysis it is important that those undertaking it are fully engaged with the specific scenario. The process involves analysis of potential negative and positive impacts of each scenario on stakeholders and how they are likely to respond. It is important to understand the reasons for any response of stakeholders and how this can be influenced.

237 The GMC might also use stakeholder analysis to determine where, and in what way, it needs to bring influence to bear in seeking to affect the way in which the key drivers develop.
Risk analysis

Risk management is a well-established tool of governance. The risk from a hazard or threat is the combination of the likelihood of it occurring and the impact that it may have. Before generating the scenarios, we identified those that had a high impact and a high level of uncertainty in their outcomes. For risk analysis, the drivers need to be analysed for impact and the likelihood of an event occurring. For example, the cost of regulation was not considered as one of the critical uncertainties for the scenarios, but it is a high risk that could become an issue in any scenario.

Those driver areas over which the GMC has little or no influence may be areas of particular risk for the GMC in developing its strategy and contingency plans.

The nature and level of the impacts for any risk is likely to vary across the four scenarios. The response required could also be different in each scenario. To test risks against the scenarios they can be applied as 'shocks'. The worst case practical example is applied at an appropriate point in the future timeline. The changes to the scenario are then analysed. For example, a Government decision to halve the cost of health regulation could be applied at a future point. The impacts could then be assessed and the timelines for the scenarios regenerated from that point. In some cases the shock can reinforce the scenario; and in others it may weaken it, or even result in a switch to another scenario.

The four scenarios themselves can also be used to help identify risks. Each scenario is considered and the risks analysed. These could be different or have different impacts across the scenarios. This ensures that a wider range of risks are identified. This gives a better coverage of the potential risks than can be achieved from the analysis of current plan or a single, 'accepted' view of the future.

Visioning

A vision is a description of the preferred future, supported by the steps required to reach it. It should convey the purpose and values of the policy or organisation both for those delivering it and all the affected stakeholders. A vision should be inspirational and challenging but also achievable within the timescale.

A vision should take account of the range of potential future environments in which it needs to succeed. The scenarios can be used to explore opportunities and challenges, potential visions and test a vision against different futures.

Modelling

A model is a simplified rendering of the world. As the great statistician, George Box observed, "All models are wrong, but some are useful". So while, say, a quantified computer simulation is certainly a model, so is a geographer's paper map, and so is a scenario. Scenarios can be at various of levels of sophistication ranging from a thumbnail sketch, to a scenario with some associated logic showing its development path (eg a timeline) or internal connections (eg an influence diagram), to a scenario giving a quantified snapshot of a possible world (eg from a simulation model). The feasible and useful point to which a model, and therefore a scenario, should be developed, obviously depends on the situation. For this project we developed scenarios up to the point of a descriptive account with illustrative timelines.

Development into quantified scenarios would not be feasible here, and anyway not helpful, but there might be value in using the scenarios as a basis for producing some mental maps or influence diagrams, preferably in a workshop setting, so further
consideration could be given to their internal coherence and external consequences.

**Influencing the future**

246 Both horizon scanning and scenarios are useful tools to support anticipation of the future and more robust plans. The scenarios can be used to develop, test and refine strategies against a range of futures and analyse their potential impacts ("wind-tunnelling"). The results of this analysis can help inform the best strategies and how they can be adopted to help influence the future.

247 Chapter 6 has indicated those areas in which the GMC may be best able to influence the outcome of particular drivers. The scenario timelines can also be used to help identify points where greatest influence can potentially be exerted.

248 While there are always short term pressures to be addressed, it is important to also spend time thinking about the future. This should increase the resources devoted to influencing the future and reduce the need to respond to events, or at least increase the level of preparedness.

249 Strategic futures analysis can be used as a 'laboratory' for longer term strategic decision making. However, it is important to recognise that horizon scanning and scenarios are, in themselves, purely a tool, and the value comes from the insights gained from using them appropriately.
Chapter 8 – Conclusions and Recommendations

250 The interviews with GMC and external people, and the participation of individuals in the scenario workshop and the reality-testing event, have provided us with a broad range of insights and perspectives on the drivers of change in the next 10-15 years, and the possible developments that might take place as a result of these changes. This work, and the further discussions that will flow from it, should be a beneficial exercise for the GMC and its stakeholders.

Recommendations

251 The more successful organisations are those that can instil in the mindset of leaders and managers the use of scenarios to test responses to different possible futures, so that the planning system can respond quickly and with confidence to new challenges.

252 Based on the results of this project we have the following recommendations:

- The GMC should use the four scenarios for analysis of the future opportunities and risks, so that potential strategies and policies can be tested against a range of operating environments: in doing so, it will be useful to bear in mind the comments of the doctors as set out in Chapter 5
- The GMC should use the output of this report – the drivers, the scenarios and the indicators – to test the robustness and flexibility of its strategies, and to determine its priorities in terms of influencing its partners and stakeholders
- The scenarios should be used as tool for strategic engagement with key stakeholders, and their comments also taken into account, as per Chapter 5
- The key drivers of change (Chapter 2) should be monitored and updated through regular horizon scanning and reviews
- The scenarios and the drivers of change should be used as an early warning tool for potential future developments, in particular to explore areas such as Brexit, where consideration of a detailed picture lay outside the practical scope of this project owing to the timing of the project

Acknowledgements

253 We would like to acknowledge the wide range of support that we have for all stages of the project. This includes valuable advice from interviews with senior GMC staff and external experts; the contribution of all who took part in the workshop and the reality-testing exercise; and comments from GMC colleagues at all stages of the project. The success of the project has relied greatly on all these contributions.

254 We also acknowledge the close support and advice that we have been given by Kerrin Clapton in the day-to-day management of the project.
Annex 1

List of People Interviewed

External

- Professor John Appleby, Chief Economist, the King’s Fund
- Professor Dame Sue Bailey, Chair, The Academy of Medical Royal Colleges
- Professor Ian Cumming, Chief Executive, Health Education England
- Professor Mark Exworthy, Professor of Health Policy & Management, University of Birmingham
- Professor Steve Field, Chief Inspector of General Practice, The Care Quality Commission
- Professor Sir Bruce Keogh, Medical Director, NHS England
- Caroline Lamb, Chief Executive, NHS Education for Scotland
- Gavin Larner, Policy Associate, The Health Foundation
- Professor Martin McKee, Professor of European Public Health, London School of Hygiene & Tropical Medicine
- Alastair McLellan, Editor, The Health Service Journal
- Bill McMillan, Assistant Director, Medical Pay & Workforce, NHS Employers
- Darshan Patel, Research Manager, The Health Foundation
- Dr Mark Porter, Chair of Council, British Medical Association
- Professor Sir Mike Richards, Chief Inspector of Hospitals, The Care Quality Commission
- Heather Stevens, Director of Workforce Policy, Department of Health, Social Services and Public Safety, Northern Ireland
- Dr Andrew Vallance-Owen, Chair, The Private Healthcare Information Network

GMC

- Niall Dickson, Chief Executive
- Susan Goldsmith, Chief Operating Officer
- Enid Rowlands, Member of Council
- Professor Terence Stephenson, Chair
Annex 2

Sources for Desk Research

The desk research has drawn on a wide range of sources including the following:

- The GMC
- The Professional Standards Authority
- Office for National Statistics
- Higher Education Statistics Agency
- Health & Social Care Information Centre
- Centre for Workforce Information
- OECD Database
- Eurostat
- Eurobarometer
- European Observatory on Health Systems & Policies
- Department of Health (England)
- NHS England
- Public Health England
- NHS Scotland
- The King’s Fund
- The Health Foundation
- The Nuffield Trust
- BBC
- MORI
- MOD Global Strategic Trends
- EU Global Trends
- World Economic Forum
- The Competition & Markets Authority
Annex 3

Scenario Workshop Participants

GMC
Susan Goldsmith
Paul Buckley
Richard Marchant

British Medical Association
Dr Tim Yates

Care Quality Commission
Professor Nigel Sparrow
Vicki Wells

DHSSPS, Northern Ireland
Peter Barbour

Faculty of Medical Leadership and Management
Professor William Roche

Health Education England
David Wilkinson

The Health Foundation
Darshan Patel

Health Improvement Scotland
Claire Sweeney

NHS Confederation
Sarah Parsons

NHS Education Scotland
Dr Stewart Irvine

Private Healthcare Information Network
Jonathan Finney

Royal College of General Practitioners
Susi Caesar

Welsh Government
Elaina Chamberlain
SAMI Consulting
Richard Walsh
David Lye
David Walden

GMC Support
Kerrin Clapton
Shannon Hewlett