

Critical use of scenario planning for medical training organizations

By Mr Robin Som MBBS, BSc (Hons), MSc, MBA, MRCS (Eng)

Specialty trainee year 6, General Surgery

This paper was originally written as a dissertation submitted in part-fulfilment of the requirements for the degree of Master of Business Administration from the University of Warwick. Its content has been streamlined for submission to the Commission on the Future of Surgery.

The learning outcomes for those reading this paper are:

1. Understand the theoretical basis and methodology of scenario planning
2. Learn how to apply this theory to organizations to generate future scenarios, specifically for the Royal College of Surgeons of England (RCSEng)
3. From the generated scenarios, extrapolate a future vision of surgery, what it might mean for patients throughout the next two decades, and consider scenario planning as a practical means to inform their inquiry.

The scenarios discussed in this paper are the end result of a sole practitioner's journey through the scenario generation process. Rather than provide a forecast for the aforementioned organizations, the overall purpose of scenario planning is to engage in analysis of the current situation and take it forward, and then extrapolate to understand how one thinks when strategizing. The reader may be surprised at some of the recommendations drawn from the scenario at the end of the paper, and even find them controversial, but this is welcomed.

Please note the word count = 3,031 – this excludes words in the figures, tables and references.

EXECUTIVE SUMMARY

Scenario planning is a well-researched tool for strategic thinking and futures research. The general goal of this paper is to demonstrate the usefulness of scenario planning for organizations involved in medical/surgical education and training.

As well as exploring the suitability of scenario planning for these types of organizations, I wished to also create an introduction for those who are involved in medical training to scenario planning; and in turn, provide insight into the future strategy of the organization of choice – the Royal College of Surgeons of England (RCSEng).

This paper is broadly divided into an introduction, theory of scenario planning, how it might apply to medical training organizations, the generation of scenarios, and what lessons have been learnt from the process.

The literature search uncovered previous examples of scenario planning in the realm of medical education. It also presented the different ways in which scenario planning can be undertaken. The most suitable methods were used to generate scenarios. The steps in achieving this are described in the paper.

Scenarios for the RCSEng were successfully generated, having been informed by an analysis of the college and its environment. From these scenarios, themes, patterns and insights were collated, and the strategy of the college was re-assessed with these in mind to produce a number of recommendations going forward. From this paper, the Commission can extrapolate a future vision of surgery, what it might mean for patients throughout the next two decades, and consider scenario planning as a practical means to inform their inquiry.

INTRODUCTION

There are multiple British medical training organizations that play a role in workforce planning (table 1). They have varying levels of influence and objectives, and thus this is a complex environment.

In their article, *Strategy under Uncertainty*, the authors state that where there are “alternate futures”, or “a range of futures”, scenario planning is useful (Courtney, Kirkland J and Viguerie, 1997).

Thus the aims of this paper are to:

- Explore scenario planning and the theory behind it
- Describe how to use scenario planning for a particular medical training organization
- Generate scenarios for the organization
- Explore the findings of the scenarios with a view to making recommendations for the organization

The organization that will be assessed in this paper is the Royal College of Surgeons of England (RCSEng).

Name of body	Type of body	Role and responsibilities
Department of Health (DOH)	Governmental department	Forms national healthcare policy
Health Education England (HEE)	Non-departmental public body	Providing and maintaining education and training of healthcare workforce
Local education and training boards (LETB)	Non-departmental public	Providing and maintaining education and training of healthcare workforce at a local level
Medical Royal Colleges	Professional body	Sets standards and guidelines of practice and training for relevant specialty
British Medical Association (BMA)	Trade union	Support professional interests of doctors
General Medical Council (GMC)	Regulatory body	Controls medical register and sets and actions on standards for doctors and medical students
UK Foundation Programme	Professional programme	Sets curriculum for newly qualified doctors based on standards set by GMC
Foundation schools	Educational body	Delivers curriculum set by Foundation Programme
Association of Surgeons in Training	Independent professional body	Supports professional interests of trainee surgeons
Medical schools	Educational institution	Teaches and trains medical students to become practicing doctors

TABLE 1: Bodies responsible and involved in medical education and training in the UK

THEORY OF SCENARIO PLANNING

Scenario planning – definitions

Scenario planning belongs to wide range of disciplines, including the fields of strategic management and decision making science. There is no consensus definition of scenario planning. Here, a ‘scenario’ is any hypothetical future generated by a technique or method relevant to scenario planning (Bishop, Hines & Collins, 2007).

In the literature, sometimes the word ‘development’ is used rather than ‘planning’. Scenario development describes the process, techniques or methods of generating scenarios; whilst scenario planning usually refers to the all-encompassing strategic approach (Bishop, Hines &

Collins, 2007). Here, scenario planning will refer to the theory and overall practice; scenario development is the process of scenario generation.

Why use scenario planning

Most of the benefits of scenario planning come from its ability to help “managers...expand their imaginations to see a wider range of futures,” thus becoming “much better placed to take advantage of...unexpected opportunities” (Schoemaker, 1995). Figure 1 summarises other situations where scenario planning is of use:

Situations where scenario planning may be beneficial (adapted from Schoemaker '95)
Management are unable to predict uncertainty
There have been multiple costly surprises in the past
The organization has not been able to detect or create new opportunities
Strategic thinking in the organization is too routinized or bureaucratic
The organization in the process of, or about to experience, significant change
The organization is seeking unity or a common language without losing diversity
There multiple options and opinions on strategy which all carry merit
Competitors are also using scenario planning

Figure 1: Situations where scenario planning may be beneficial (adapted from Schoemaker, 1995)

Scenario planning for medical training organizations – criteria

It is likely that most of the stakeholders within the world of medical education will not be familiar with scenario planning. The chosen method should be easily adaptable and replicable by the stakeholders, and should fit the following criteria:

1. No computerized models, simulations or databases
2. Scenarios can be generated by both individuals and groups
3. The methodology should not be quantitative: quantitative methods of scenario planning are believed to be flawed as they rely on assumptions drawn from retrospective data (Gordon, 1994)
4. The methodology should be simple to use without being dumbed down
5. The perspective of the methodology should be prospective; it is felt that the prospective method is easier, as an intuitive leap is required to work backwards (Bishop, Hines & Collins, 2007).

Scenario planning – how it is done

There is a degree of “methodological chaos” (Martelli, 2001) that has arisen from the vast number of techniques in which scenarios are devised and then utilised. A number of published sources were helpful in clarifying methodology and formulating criteria (Van Notten et al, 2003; Van der Heiden, 2004; Bishop, Hines & Collins, 2007; Varum & Melo, 2010; Amer, Daim & Jetter, 2013).

A literature search was conducted for papers on scenario planning specifically for medical training organizations (International Campaign to Revitalise Academic Medicine, 2005; CfWI, 2012; Nasca & Thomas, 2015).

Bishop et al provided the most systematised overview of methodology. The paper described 23 different techniques in total, their advantages and disadvantages; categorised as prospective or retrospective, and whether they are suited for groups or individuals and the resources needed (i.e. computers, databases etc.); and crucially, a score for ease of use. One of the least difficult to use is the Manoa technique; it also fits the aforementioned criteria, and so will be the scenario planning methodology of choice.

Manoa technique of scenario planning

The Manoa technique was originated by Wendy Schultz at the University of Hawaii. It works towards just one baseline/expected scenario.

The scenario building process is divided into *materials* and *tools* (Schultz, 1993). These materials – building blocks of the baseline scenario – are *trends* and *emerging issues*. Trends are defined as likely trends of change gleaned from current society and the environment e.g. an important trend for medical training bodies to understand might be the increasing proportion of female doctors in the UK.

Emerging issues are distinct from trends in that they are “nascent trends...that few people have yet noticed.” A possible emerging issue for this paper could be “what impact might telemedicine have on medical training?”

Trends and emerging issues can be framed with a *PEST/ESTEMPLE* analysis. These are useful frameworks for providing an overview of environmental pressures and drivers, and will be discussed later.

The tools of scenario building in the Manoa technique are *facilitation*, *brainstorming* and *provoked brainstorming*. The facilitation role is akin to that of the chairperson of a meeting. Schultz’s rules for good facilitation are shown in figure 2:

Create, explain and enforce ground rules
Ensure the conversational space is shared fairly by all participants
Listen actively
Exhibit a positive attitude and encourage participation
Protect participant's ideas
Capture all ideas
Smooth out "cantankerous, rebellious, irreverent...difficult people"
Review agenda, outcomes and expectations

Figure 2: Schultz's rules for good facilitation (adapted from Schultz, 1993)

Brainstorming also follows specific ground rules, enforced by the facilitator. During brainstorming, participants should not criticise or evaluate; and when contributing, should be brief to allow their ideas to be captured and keep the process moving.

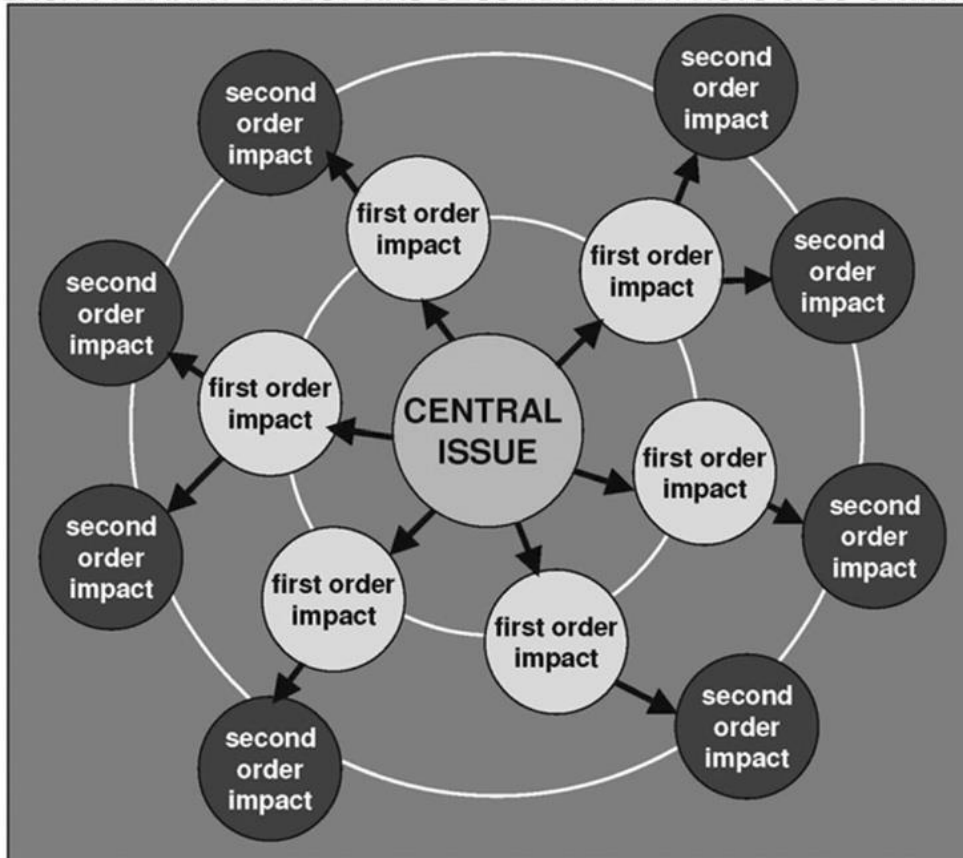
Provoked brainstorming helps with lateral thinking. The four ways to conduct provoked brainstorming are shown in figure 3:

1. CHALLENGE Recapture the "childhood innocence about why things happen the way they do"
2. EXAGGERATE Take any trend, quality or idea and "inflate it absurdum"
3. DISTORT "Transmute the familiar and render it unfamiliar"
4. REVERSE Restate an "assumption, constraint or concept as its logical opposite"

Figure 3: How to conduct provoked brainstorming (adapted from Schultz, 1993)

The number of trends or emerging issues is limited to the three that the group can agree on as being the most relevant. These form the materials for building the scenario. Brainstorming, and provoked brainstorming of the impacts of these trends begins the actual building. These impacts can be mapped onto a *futures wheel* (Schultz, 2015):

EACH PRIMARY EFFECT HAS SECONDARY IMPACTS & SO ON.....



Source: Inayatullah (2008, p. 10)

Figure 4: Example of a futures wheel (adapted from Inayatullah, 2008)

The group then needs to look at *potential collisions of trends* – how will the trends affect each other, what new patterns, opportunities and threats will arise? – again, answers to these will come through brainstorming and provoked brainstorming. The impact that one trend has on another can be assessed with a *cross impact analysis matrix* (Schultz, 2015).

CROSS-IMPACT EXPLORATION MATRIX			
	Personalised anti-cancer vaccines	Soaring economic inequality and polarization	Hot, dry climate now common across many temperate zones
Personalised anti-cancer vaccines	OUTPUT OF FUTURES WHEEL	Longer life > more wealth hoarding > longer life	???
Soaring economic inequality and polarization	Vaccines only for wealthy via private pharma	OUTPUT OF FUTURES WHEEL	Luxury biosphere and terraforming projects
Hot, dry climate now common across many temperate zones	Widespread famine prioritises basic medicine	Water wars; rich have A/C, poor live underground	OUTPUT OF FUTURES WHEEL

Figure 5: cross impact analysis/evaluation matrix (adapted from Schultz, 2015)

Schultz suggests that at this stage that the group needs to look at the list of impacts and be sure as many different *aspects of reality* are covered. This ensures that the practitioners have considered the widest impact these trends will have (figure 6).

Family structure
Community
Economy
Governance
Work
Arts and leisure
Vices and crimes
Ecology and the environment
Media and community
Transportation
Education
Subcultures
Religion and myths
Core values, worldviews and paradigms

Figure 6: Schultz's 14 aspects of reality (adapted from Schultz, 1993)

After brainstorming, the group should consider all the impacts and impacts across the trends, and begin to *characterise the infant scenario* – Schultz's guidelines for this part of the process are:

- Imagine headlines that sum up the infant scenario
- Think of bumper-sticker phrases to capture its essence
- If the infant scenario were a story, what would the title be?

Following this, the group should look at their infant scenario and its relation to the current activities, goals and missions – what patterns, themes, opportunities and threats are suggested by the infant scenario?

The infant scenario should be enriched to make it a more vivid, final *baseline scenario*. This can be achieved by linking the scenario itself to the trends and emerging issues that the group initially chose, and tracing them to the baseline scenario.

In closing, some practical questions should be asked (Schultz, 2015). These are:

- How would you describe your current activities, plans, mission and vision?
- How would they play out in the different futures you have imagined?
- What patterns or themes in each of these scenarios most affect your mission and vision?
- Which scenario offers you the most opportunities and the most challenges?

- How would your organizations or community need to evolve to thrive in each scenario? What new allies or resources would you need?

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND – CASE SUMMARY

What the RCSEng does

Figures 7 and 8 shows the RCSEng mission statement, and an overview of their activities:

College Mission Statement

The Royal College of Surgeons of England is committed to enabling surgeons to achieve and maintain the highest standards of surgical practice and patient care.

Figure 7: The RCSEng mission statement

What we do

- Supervise training of surgeons in approved posts
- **Provide educational and practical workshops** for surgeons and other medical professionals at all stages of their careers
- **Examine** trainees to ensure the highest professional standards
- Promote and support **surgical research** in the UK
- Support audit and evaluation of clinical effectiveness
- Provide **support and advice for surgeons** in all stages of their careers
- Provide a mechanism whereby trusts can seek independent advice
- House a current and historical information resource centre for surgeons in the **library** and **museums**
- **Act as an advisory body** to the Department of Health, health authorities, trusts, hospitals and other professional bodies
- Collaborate with other medical and academic organisations in the UK and worldwide
- Seek to convey the importance of, and provide support for, good, effective communication and interpersonal relationships between patients and surgeons

What we don't do

- Register or license surgeons to practise nor have responsibility for disciplinary actions; this is the responsibility of the **General Medical Council** (GMC)
- Process complaints from patients; this is another responsibility of the GMC or a function of individual hospitals
- Recommend individual surgeons to patients or offer patients medical advice; the College recommends that patients always seek referral through general practitioners.

Figure 8: The remit of RCSEng

Strategic priorities of the RCSEng

The RCSEng emphasised three strategic priorities for the years 2015-2019 to underpin its vision of “advancing surgical care” (Royal College of Surgeons of England, 2015b). In summary, these are:

1. *Advance standards and reduce variability of patient outcomes*
2. *Attract, educate, develop and support high-quality surgeons*
3. *Influence and shape future health policy and practice to advance standards of surgical care*

This outline of the RCSEng, their goals and strategy will be analysed. This is an essential step prior to scenario generation.

ANALYSING THE RCSEng

Analysis of the organization's current situation before scenario generation crystallises the issues and trends present in the internal and external macro environment.

Analytical tools for scenario planning

Because scenario planning is invariably used in strategy, any tool or framework that is used to analyse an organization can be employed for scenario generation – e.g. SWOT analysis, and Porter's Five Forces. In its original description, the Manoa technique uses *PEST/ESTEMPLE* analysis (figure 9) (Schultz, 1993). This framework encourages strategists and managers to think about the macro environment as widely as possible.

<u>ESTEMPLE</u>
<i>Economic</i> – general health and direction of the economy. Consider variables such as GDP, unemployment, inflation
<i>Social</i> – demographic variables e.g. ethnic mix, population age
<i>Technological</i> – innovation, new products – are these well supported?
<i>Ecological</i> – sustainability of the environment
<i>Media</i> – the influence of newspapers, the internet
<i>Political</i> – consider the government's stability and attitude to industry/organization
<i>Legal</i> – laws that affect the industry/organization directly
<i>Ethical</i> – codes of practice within the industry/sector

Figure 9: conceptual decomposition of the macro environment using ESTEMPLE (adapted from Angwin, Cummings & Smith, 2011)

The ESTEMPLE framework can be used in an *impact matrix* to provide a level of quantification of how much each driver will contribute to the macro environment, and whether this impact will be positive or negative.

Moore's theories of public value is another useful framework:

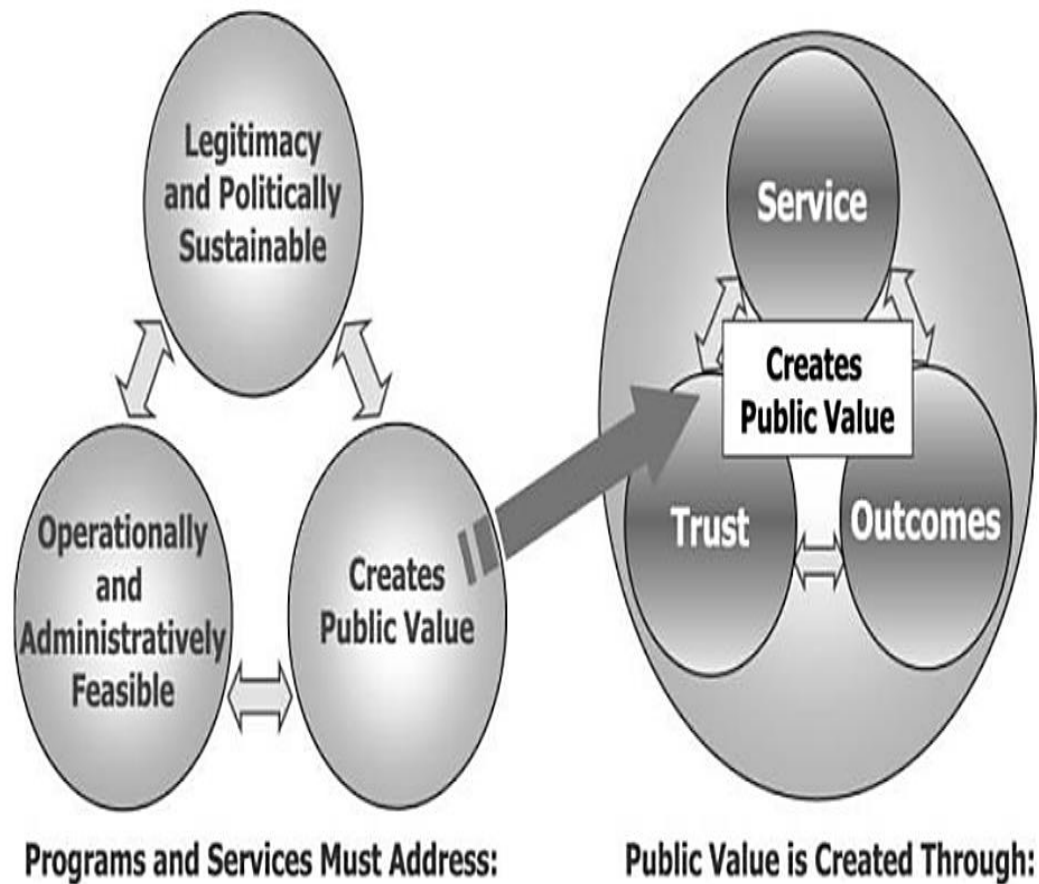


Figure 10: Moore's public sector triangle and public value model (Moore, 1995)

This framework implies that the above must all be aspired to and then fulfilled by the public services. It provides a means to analyse the strategic questions, especially with regards to operational/administrative feasibility and the creation of public value.

Weak signals, wild cards and black swans

Weak signals are important in scenario planning (Van der heijden, 2004). These are the subtle changes in the environment that hint at future trends, but are not obvious to most (Hiltunen, 2006). They are found in the voices of the stakeholders, in the literature and the internet (Hiltunen, 2006). Thus, exploring these and discussions with patients, managers and fellow surgeons will inform the analysis of the RCSEng.

Wild cards (Hiltunen, 2006) and *black swans* (Taleb, 2007) should also be considered in scenario planning (Hiltunen, 2006). These are surprising events which are difficult to plan for

and have a dramatic impact; in hindsight, these can appear to have always been in the making.

An analysis of the RCSEng with these two frameworks, whilst considering weak signals, wild cards and black swans, will be undertaken.

ESTEMPLE analysis of the RCSEng

Figure 11 demonstrates an ESTEMPLE analysis of the RCSEng and its strategic priorities, in combination with an impact matrix. The analysis is based on the author's own personal views. Efforts were made to pick up weak signals from, a) the three papers on scenario planning in medical education (ICRAM, 2005; CfWI, 2012; Nasca & Thomas, 2015); b) media browsing; c) papers concerning NHS workforce planning (GMC, 2012; Addicott et al, 2015); d) discussions between the author and colleagues.

DRIVER	Impact (No. of positive drivers - No. of negative drivers)	Probability	Potential impact
ECONOMIC -Government likely to maintain towards era of austerity; will affect investment in research -Public sector pay freezes and changes to NHS contracts will possibly making surgery a less attractive career -Rising tuition fees makes medicine in general a less attractive career & reduces diversity of medical student intake -RCSEng has potential to shape policy and influence investment -Globalization	0 – 3 = -3	90%	-2.7
SOCIAL -Aging population -Increasing rates of chronic illness related to lifestyle -Surgery and academic surgery becoming less attractive as motivations in workforce changes; young doctors seek "lifestyle" -New contracts & working patterns make surgery an unattractive career option to women -Patient expectation exceeds health services' capabilities -Increasingly health conscious public	2 – 5 = -3	80%	-2.4

-Globalization -Growing affection for the NHS -RCSEng is committed to education across all ages			
TECHNOLOGICAL -Advances in healthcare technology & pharmaceuticals -Advances in information technology -RCSEng is committed to innovation - Reluctance to adopt technology & innovation unless proven to be cost effective	3 – 1 = 2	70%	+1.4
ECOLOGICAL -Energy costs -Space to build and develop limited by costs, logistics -Improvements in transport links	1 – 2 = -1	60%	-0.6
MEDIA -Persistent portrayal in media of NHS ‘scandals’ and ‘blunders’ -Misreporting of surgeons’ outcomes -Rise of social media - Emphasis on safety & quality care	1 – 2 = -1	70%	-0.7
POLITICAL -Uncertainty over direction with no clear political party in power or unlikely to take power	1 – 2 = -1	80%	-0.8

-Unpredictable shifts in policy resulting and continuing to result in restructuring -RCSEng aims to shape policy; has genuine legitimacy as a royal college			
LEGAL -Recent policy reforms e.g. Health & Social care act	n/a	60%	n/a
ETHICAL -Publication of surgeons' performance data is ethically controversial -Issues around assisted dying unresolved	0 – 1 = -1	60%	-0.6

Figure 11 – ESTEMPLE Analysis of RCSEng. Green = positive driver, Red = negative driver, Black = equivocal. Where equivocal, seek to turn into an opportunity. Potential impact = probability x impact

The overall impact of the drivers is negative. This ESTEMPLE analysis highlights the economic, political and ethical pressures that may create tension between the college's need for legitimacy, operational feasibility and means to create public value.

However, the analysis also identifies equivocal drivers. These, along with positive drivers (e.g. technology), could be considered as opportunities or potential strengths of the organization e.g. the rise of social media.

Analysis with Moore's public value model

Figure 12 demonstrates an analysis of the college with Moore's public value model:

POTENTIALLY UNDER THREAT: The College's influence on health policy and to attract people to a career in surgery is potentially under threat by many of the negative factors outlined in the ESTEMPLE analysis

STRONG: As a royal college, and registered charity, and the sole standard bearer for surgical care, the college is likely to be able to continue to function as an organization

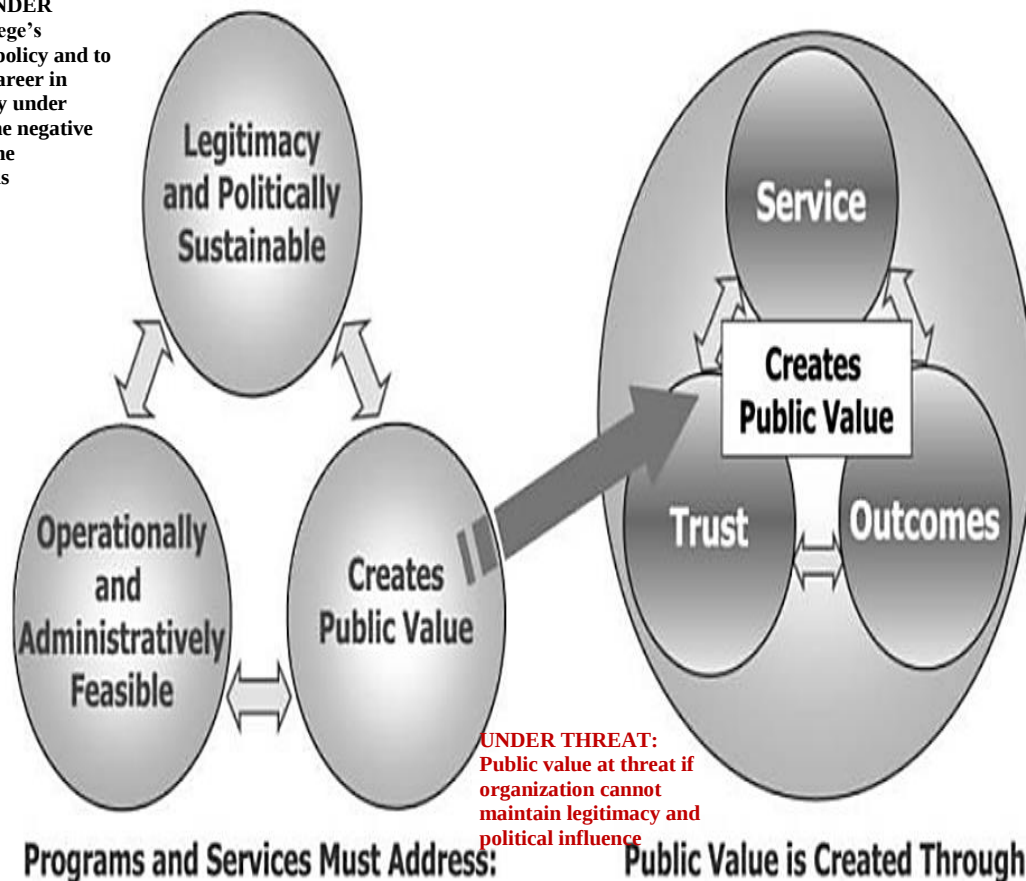


Figure 12: Moore's public sector triangle and public value model. Green text indicates strengths; red indicates threats or weaknesses; black indicates potential threats, or areas

This indicates a number of potential threats or weaknesses to the college. Whilst the RCSEng is likely to be operational for quite some time, its ability to remain influential is potentially under threat when almost all of the negative factors outlined in the ESTEMPLE analysis are considered. This has a negative impact on its potential to create public value, and in turn the trust and outcomes it generates. Trust from the public is threatened if outcome reportage, which the college is championing, is not undertaken with adequate transparency; however, reporting surgeons' outcomes is complex and controversial, and in turn, the college risks losing the trust of the surgeons and future surgeons it is hoping to provide professional support to.

SCENARIO GENERATION – BASICS OF METHODOLOGY

The Manoa technique can be used either by a group or by an individual. The author will act as a sole practitioner here.

The Manoa technique is best suited for constructing scenarios 20-30 years from the present. Thus, a scenario for the year 2035 will be generated.

SCENARIO GENERATION – THE MANOA TECHNIQUE

Identify three emerging issues/trends of change and state them as mature conditions

The ESTEMPLE analysis in figure 11 has already highlighted which broad drivers of change will have the most impact – economic, social and technological drivers. These are reproduced, in figure 13:

ECONOMIC

- Government likely to maintain towards era of austerity; will affect investment in research
- Public sector pay freezes and changes to NHS contracts will possibly making surgery a less attractive career
- Rising tuition fees makes medicine in general a less attractive career & reduces diversity of medical student intake
- RCSEng has potential to shape policy and influence investment
- Globalization

SOCIAL

- Aging population
- Increasing rates of chronic illness related to lifestyle
- Surgery and academic surgery becoming less attractive as motivations in workforce changes; young doctors seek "lifestyle"
- New contracts & working patterns make surgery an unattractive career option to women
- Patient expectation exceeds health services' capabilities
- Increasingly health conscious public
- Globalization
- Growing affection for the NHS
- RCSEng is committed to education across all ages

TECHNOLOGICAL

- Advances in healthcare technology & pharmaceuticals
- Advances in information technology
- RCSEng is committed to innovation
- Reluctance to adopt technology & innovation unless proven to be cost effective

Figure 13: highest impact drivers of change according to ESTEMPLE analysis in figure 11;
red is negative, green is positive

Of these drivers, three were picked as being the most relevant *trends* and *emerging issues* (figure 14).

1. GLOBALIZATION
In both economic and social spheres, this is likely to increase
2. THE ADVANCE OF TECHNOLOGY
This will progress and innovation will be pushed in surgery
3. PATIENT POWER AND EXPECTATIONS
This is likely to increase, and may well exceed the capabilities of the NHS

Figure 14: three most relevant trends and emerging issues produced from brainstorm

The impacts of each of these were mapped onto a futures wheel with provoked brainstorming, whilst always considering the *aspects of reality* and scanning for weak signals. In the following impact wheels, red represents primary impacts, green the secondary impacts that follow, and black the tertiary impacts. Black dotted lines represent inter-relations or connections between impacts.

Globalization

Globalization here is defined as “a process that encompasses the causes, course, and consequences of transnational and transcultural integration of human and non-human activities” (Al-Rodhan & Stoudmann, 2006). The future wheel in figure 15 shows the brainstorming process for how globalization might affect the RCSEng.

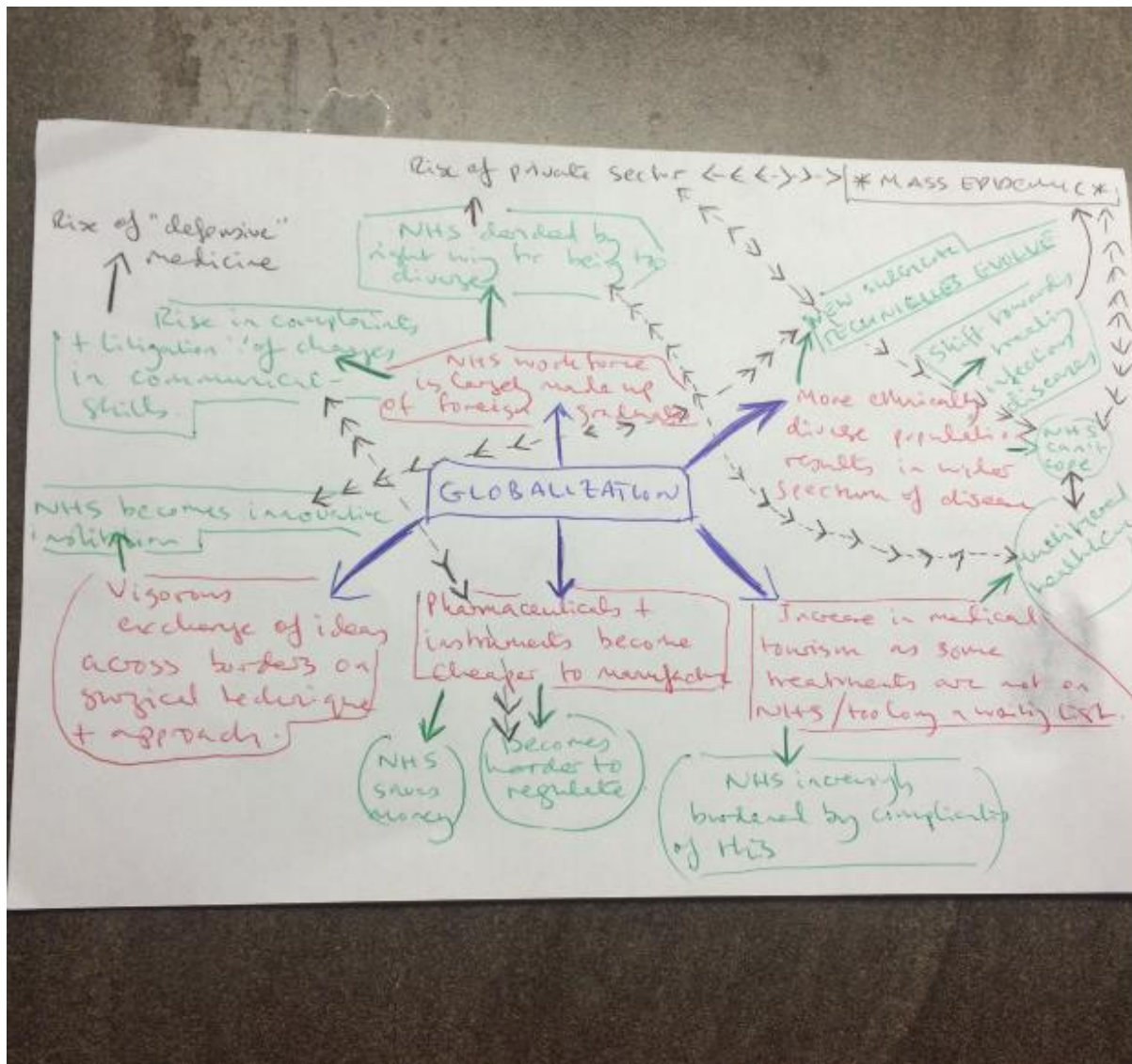


Figure 15: future wheel of how globalization might impact the RCSEng

The freer exchange of ideas and research between countries could lead to the NHS being a global centre of innovation, of which the college can be an integral part of (bottom left of wheel). However, the potential influx of doctors from abroad to meet demand could lead to a rise in complaints from patients – it is possible that a communication barrier exists between foreign-trained doctors and British patients (upper, central aspect of future wheel). It is feasible that some patients will seek treatment abroad, leading to a rise in medical tourism. The NHS may have to pick up the complications of these (bottom left).

The advance of technology

The wheel shows how surgery might change, or even die out (right of the wheel shows the “rise of the interventionalist” – to make health care quicker and less invasive, specialities like radiology force surgery to evolve their techniques, or simply cease to exist as a specialty).

Technology might change the way patients interact with surgeons, as telemedicine becomes more prominent (top left).

Technology can also impact on medical training, with simulation becoming an increasing part of the medical school and surgical training curriculum (bottom left).

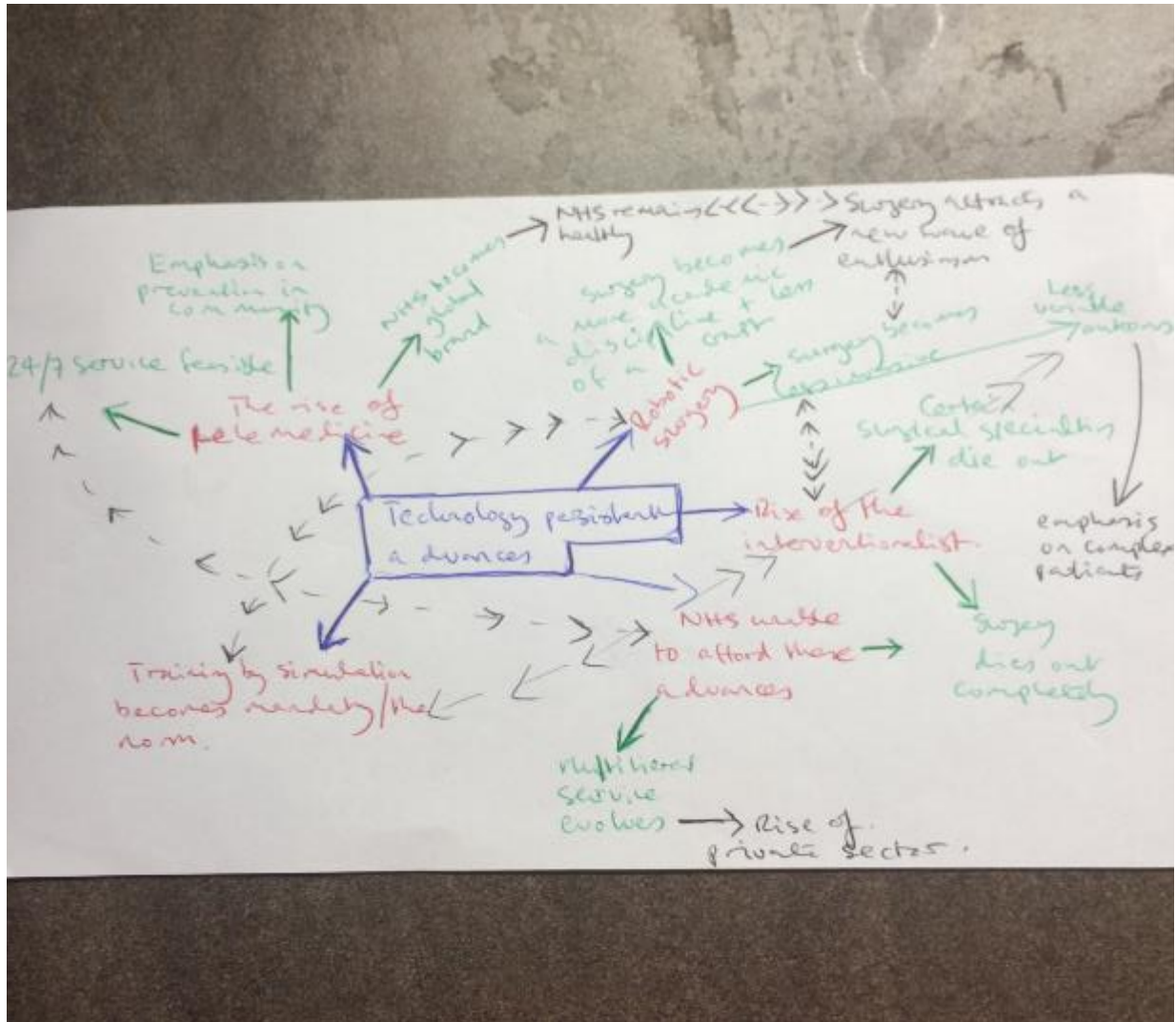


Figure 16: future wheel of how technology might impact the RCSEng

The rise of patient power and expectations

The paternalistic model of healthcare is dead. Patients have more power and high expectations of doctors. They want care to be delivered quicker, and to be accessible when it suits them.

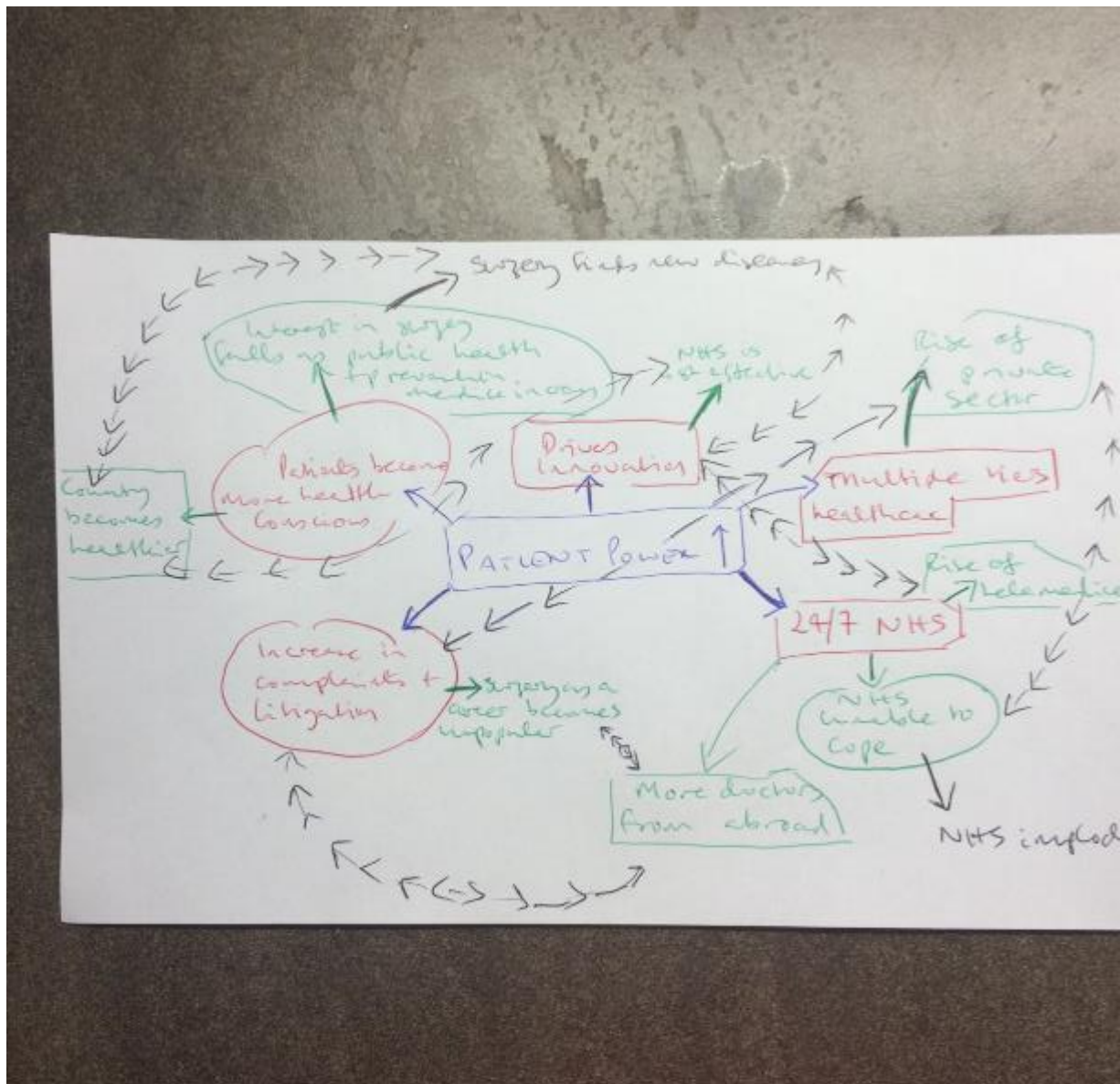


Figure 17: future wheel of how increasing patient power and expectations might impact the RCSEng

It will be difficult for the current health service to meet these demands. There are a number of possible impacts – more doctors from abroad may need to be recruited (bottom central); perhaps the NHS will not cope at all, and two-tiered, or multi-tiered service will have to take its place; it may completely fall apart, leading to the rise of the private sector (left of the wheel).

Common themes derived by future wheels

The commonest impacts or themes thrown up by the three futures wheels are:

1. A 24/7 NHS
2. A multi-tiered health service

3. The rise of the private sector
4. The collapse of the NHS
5. An increase in surgeons recruited from abroad
6. The NHS as a beacon of innovation

Interestingly, these conflict with and contradict one another in places.

The next step was to assess how globalization, technology and patient power might impact one another.

Cross-impact analysis and evaluation

Further brainstorming, including provoked brainstorming, was used to see the cross-impact of these trends:

<u>CROSS IMPACT MATRIX</u>		
	<u>Globalisation</u>	<u>Technological Advances</u>
<u>GLOBALISATION</u>	largely positive new ideas flow into the country	Enhances patient power - there is more choice. Patients can go abroad -
<u>TECHNOLOGICAL ADVANCES</u>	Positive feedback loop - as technology advances, it becomes cheaper + easier for ideas + people to cross borders	Enhances patient power - patients want more + drive cutting edge technology to reach faster, better care
<u>PATIENT POWER + EXPECTATIONS INCREASE</u>	Both positive + negative. Patients want new med. + more choice but do not always like foreign doctors	Positive, enhances technology. Patient demands new ways of doing things

Figure 18: cross-impact matrix demonstrating impacts across trends

The matrix indicates that each trend has a powerful influence. They appear to enhance each other – e.g. the expansion of globalization will allow technology to advance further and further; similarly, patient expectations will push technology as well, even if it means incorporating innovations and doctors from abroad. However, paradoxically, a proportion of patients will not want treatment from doctors trained in another country, but their demand for fast, accessible treatment will mean recruiting from overseas is unavoidable.

Characterising the infant scenario

The infant scenario is characterised by imagining how it may be summed up in headlines, bumper stickers or short story titles (figure 19).

"Royal College commissions report on overseas doctors' induction following scandal of foreign surgeon"
"Royal College to introduce simulated surgery into membership exam"
"Royal College calls for detailed publication of private hospital outcomes"
"Diversity saves the day"
"Your tele-appointment will be at 11.30 pm. Please log in 15 minutes prior to your appointment time with your insurance details"

Figure 19: characterising the infant scenario

The themes that the infant scenario presents encompass many of the ideas brainstormed and displayed in the futures wheels and cross impact matrix. These headlines suggest that the Royal College will be taking a large role in quality assurance, especially in relation to an increase in foreign doctors making up the surgical workforce and regulating the private sector.

The infant scenario will now be fleshed out into a full scenario for the year 2035. This will take into account the current climate, the RCSEng's strategic priorities for the years 2015-2019, and the results of the futures wheels and cross impact analysis. This is outlined in figure 20:

FINAL BASELINE SCENARIO

"WATCHDOG"

In the year 2035, the RCSEng will be at the heart of a complex, multi-layered, highly diverse, and thriving NHS that continues to make the headlines.

Towards 2020, the NHS was in the midst of a financial crisis and teetering on the brink of extinction. Medicine, and in particular surgery became an unpopular career choice. This was in part due to the negative press that surrounded healthcare around this time, but also because of high university fees that precluded widespread entry into medical school.

However, innovative ways of delivering care in a cost effective manner were rushed into hospitals and GP surgeries meaning the health service just about stayed afloat. Primarily, this was achieved through telemedicine, driving down costs, and became the norm. Telemedicine developed rapidly and cheaply because of the cheap costs of smart phone technology, but also because it was favoured by patients.

In order to deal with the financial crisis, the NHS was split geographically, eventually leading to what was essentially devolution by 2025. Local government, rather than central government, ran each devolved region.

A drive to recruit doctors from abroad meant the NHS just about kept up with the demands of the population. The NHS workforce became even more diverse than ever. With a large number of surgical trainees having dropped out of surgery towards 2020, the shortfall was met by appointing these overseas doctors to consultant posts.

The cost savings achieved by telemedicine and the overseas recruitment drive meant that more money could be invested in translating the copious volume of research in surgery into daily practice. The technological promise finally paid off.

By 2035 health insurance is mandatory, though care that is free at the point of delivery still exists. The NHS now resembles the Canadian health care system – a universal, publically funded system of healthcare exists. The government does subsidize some of the system, whilst the rest comes from private insurance premiums – the government subsidy keeps prices down. This has meant super-specialist surgical clinics now run throughout the land, independent of general practice and hospitals. What is provided for by the universal system is determined by the local government. The public can receive private insurance through their employer. The role of the private sector is greater in 2035. This remains a thorny issue politically, with some stating that this is essentially a two tiered health care system that is unfair. However, data suggests that patient satisfaction with the NHS overall is very high.

These independent clinics, along with the re-investment in surgical research, have made surgery a popular career once again by 2035. Simulation takes a central role in the medical student and surgical trainee curriculum. Many operations are now conducted with robot assistance, with

excellent results. The operations are barely invasive. Most surgery is now done as day case surgery. Robot-assisted surgery and simulation add more shine to the surgical career.

The RCSEng, in order to fulfil its mission statement of ensuring surgeons deliver the highest quality care, takes on the role of a “watchdog”. It has devised methods of reporting surgeons’ outcomes that are published frequently – advances in information technology mean that data is collected, analysed and reported daily. This is the chief manner in which the college tries to prevent variation in quality of care between the various layers that now exist within the health service. The reporting methods however remain controversial, and there is persistent debate over how best to do this.

The data shows that doctors trained abroad are more likely to receive complaints, and this makes the headlines repeatedly. Such incidents are seized upon by politicians, and thus, the NHS continues to be a political football. The RCSEng, having pushed for and pioneered the publication of surgeon data, is at the centre of this storm. The college maintains that this results in higher quality care; however, many surgeons express their concern with how the process is undertaken.

Figure 20: final baseline scenario

Evaluating the scenario

Schwartz poses some questions that the practitioner should ask themselves at the end of the construction of the scenario (Schultz, 2015:

1. Current activities, plans, mission and vision: these are encapsulated by the RCSEng’s strategic priorities and mission statement
2. How would they play out in the scenario: here, the RCSEng achieves this by playing a watchdog role – hence the title of the scenario. The college needs to be prepared to embrace an environment that is undoubtedly set to become increasingly complex, diffuse and layered in the next few decades. The college will need vigilance to stay ahead of changes that will arise when patient expectation clashes with changes in the workforce
3. Patterns and themes in each of this scenarios that most affect the mission and vision: the predominant pattern is tension between patient expectations, and how best to meet these. Patients want to be seen quickly and with transparent results, which can be achieved, yet this can only be delivered with a sizeable workforce. A largely British-trained workforce is probably not feasible given the economic pressures facing the nation; because of this, neither is a health service without input from the private sector. Another tension point between patients and professionals is the reporting of outcomes – surgeons fear that unless their outcomes are reported appropriately, they

risk intense public scrutiny; however, patients demand to know outcomes. The RCSEng needs to tread this line carefully

4. How would the RCSEng need to evolve or transform to thrive in this scenario: more than anything, the RCSEng needs to manage the tension between patients and professionals. Their needs are not necessarily aligned.
5. What new allies or resources are needed: input into the NHS is going to be needed from abroad and from the private sector. These are not immediately palatable to the British public. Its strongest ally in this setting will be the media – perception is reality, and the college needs to find a way to frame these inevitabilities so that they are acceptable, without compromising its own values and mission. The ESTEMPLE analysis highlighted social media as a possible opportunity for the college.

Referring back to Moore's theory of public value is useful following the generation of this scenario. The college is unlikely to become extinct – in this sense it is operationally feasible. It thus needs to find a way to leverage itself against the threats to its legitimacy, and its ability to create public value. To avoid being a lame duck organization, it needs to engage with changes in how the NHS might be funded and run; and it needs to find a way towards advocacy for both patients and professionals.

FINDINGS AND IMPLICATION FOR THE RCSEng

The themes and lessons from the scenario generation and the impacts these have on the RCSEng strategic priorities are outlined below:

Strategic priority 1: Advance standards and reduce variability of patient outcomes

- Both the workforce and patient population is likely to become more diverse.
- A health service with many tiers poses problems for monitoring and reducing patient variability. The college could consider modelling itself along the lines of a watchdog, as suggested by the scenario.
- Technology is a beacon of hope for surgery and the NHS. The college should continue to champion, collate and share this research, setting standards based on this evidence.
- Reducing variability in patient outcomes is likely to require reporting individual surgeon outcomes and is a source of tension. Research indicates that doctors, who are being scrutinized, especially where complaints are levied

against them, are at risk of depression, anxiety and suicidal ideation (Bourne et al, 2015).

Strategic priority 2: Attract, educate, develop and support high-quality surgeons

- Generally speaking, the scenarios allude to surgery potentially becoming an unpopular career choice.
- A multi-tiered service, with private practice, may well make it a popular choice.
- Surgery embraces cutting edge technology. The RCSEng should continue to be enthusiastic about technology, and use it as a selling point to young minds.
- The college needs to find ways to mediate the opposing agendas of different stakeholders. Patients these days are more likely than ever to complain or bring legal action against doctors, and this will put individuals off a career in surgery.
- Simulation is likely to be a valuable tool in training future surgeons.

Strategic priority 3: Influence and shape future health policy and practice to advance standards of surgical care

- The constant theme from the scenarios is tension – between patients and doctors, between doctors and the government, and between the government and patients.
- Thus, in the author's opinion, strategic planning 5 years ahead is not sufficient. The college must plan further ahead, and in more depth. These scenarios indicate the sheer volume of work that needs to be done.

RECOMMENDATIONS

Based on the exercise, the following recommendations can be made to the RCSEng:

1. A broader strategic vision is required to deal with what lies ahead. Planning for 5 years is not enough. The macro environment is complex, turbulent and unpredictable.
2. This paper has outlined how scenario planning can be used for the college. The second recommendation is that scenario planning be used as a method of strategic planning.

3. The key priority for the college is mediating tension between stakeholders. Stakeholder analysis may be helpful in providing direction on this. The author believes that an understanding of the weak signals in this environment will help the college understand stakeholders better.
4. The college should anticipate working with a diverse group of surgeons *and* patients – not just ethnically, but also in terms of class, gender and sexuality. Diversity is good for surgery. It drives innovation and creativity.
5. A multi-tiered service is likely, and rather than fight this, the college should seek a way to ensure patients receive the best care possible in this setting.
6. Technology will provide wonderful things for surgeons. By being the gatekeeper to this research, the college can solidify its legitimacy and also be an advocate for patients and surgeons simultaneously.

CONCLUDING THOUGHTS

The general aim of this paper was to use scenario planning for an organization involved in medical education in training. The themes and lessons learnt from the scenarios were re-applied to the organization's strategy to provide recommendations. Group work behind these scenario planning methods would enhance the process further. The process is highly subjective, but the purpose of scenario planning is to capture this subjectivity, and lay it open for all to see.

In conclusion, scenario planning is a useful method of strategic planning for organizations involved in medical training.

References

Addicott R, Maguire D, Honeyman M, Jabbal J, 2015. *Workforce planning in the NHS*. The Kings Fund

Al-Rodhan NRF & Stoudmann G, 2006. *Definitions of Globalization: A Comprehensive Overview and a Proposed Definition*. Geneva Centre for Security Policy

Amer M, Daim TU, Jetter A, 2013. *A review of scenario planning*. Futures (46) pp 23-40

Angwin D, Cummings SMD, Smith C, 2011. *The Strategy Pathfinder*. John Wiley and Sons

Bishop P, Hines A, Collins T, 2007. *The current state of scenario development: an overview of techniques*. Foresight, 9(1), pp 5-27

Bourne T, Wynants L, Peters M, Van Audenhove C, Timmerman D, Van Calster B, Jalmbrant M, 2015. *The impact of complaints procedures on the welfare, health and clinical practise of 7926 doctors in the UK: a cross-sectional survey*. BMJ Open, 5(1) e006687

Bradfield R, Wright G, Burt G, Cairns G and Van Der Heijden K ,2005. *The origins and evolution of scenario techniques in long range business planning*. Futures, 37(8), pp 795-812

CfWI (Centre for Workforce Intelligence), 2012. *A strategic review of the Future Healthcare Workforce*. Available at www.cfwi.org.uk [accessed 1st November 2015]

Courtney H, Kirkland J and Viguerie P, 1997. *Strategy under Uncertainty*. Harvard Business Review, 75(6): pp 66-80

Gordon TJ, 1994. *Trend impact analysis* in: Glen JC (Ed) *Futures Research Methodology*, American Council for the United Nations University; Washington DC, USA

GMC, 2012. *The state of medical education and practice in the UK*. London, GMC

Hill A, 2012. *Majority of UK doctors struck off have been trained abroad* [online] Available from <http://www.theguardian.com/society/2012/dec/30/majority-of-doctors-disciplined-trained-abroad> [accessed 1st November 2015]

Hiltunen E, 2006. *Was it a Wild Card or Just Our Blindness to Gradual Change?* Journal of Future Studies, 11(2): pp 61-74

Inayatulla S, 2008. *Six pillars: futures thinking for transformation*. Foresight, 10 (1), pp 4-21
International Campaign to Revitalise Academic Medicine, 2005. *The Future of Academic Medicine: Five Scenarios to 2025* [online] available from <http://www.milbank.org/uploads/documents/0507FiveFutures/0507FiveFutures.html> [accessed 1st November 2015]

Martelli A, 2001. Scenario building and scenario planning: state of the art and prospects of evolution [online], available at http://www.antoniomartelli.com/html/articoli/scen_building.asp [accessed 1st November 2015]

Moore M, 1995. *Creating Public Value: Strategic management in government*. Cambridge, MA, Harvard University Press

Nasca TJ, Thomas CW, 2015. *Medicine in 2035: Selected Insights From ACGME's Scenario Planning*. Journal of Graduate Medical Education, 7(1), pp 139-42

Porter ME ,1985. *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: The Free Press

Royal College of Surgeons of England, 2015a. *History of the college* [online] available from <http://www.rcseng.ac.uk/about/college-history> [accessed 1st November 2015]

Royal College of Surgeons of England, 2015b. *Strategic priorities 2015-19*. London, Royal College of Surgeons of England

Schoemaker PJH, 1995. *Scenario Planning: A Tool for Strategic Thinking*. MIT Sloan Management Review, 36(2), pp 25-40

Schultz W, 1993. *Scenario building: the Manoa approach* [online] available at: www.infinitefutures.com/tools/sbmanoa.shtml [accessed 1st November 2015]

Schultz W, 2015. *Manoa: The future is not binary*. APF Compass

Taleb NN, 2007. *The Black Swan: The Impact of the Highly Probable*. Penguin

Van der heijden K, 2004. *Scenarios – The Art of Strategic Conversation*. John Wiley and Sons

Van Notten P, Rotmans J, van Asselt M. and Rothman D, 2003. *An updated scenario typology*. Futures, 35, pp. 423-43.

Varum CA, Melo C, 2010. *Directions in scenario planning literature – review of the last decade's*. Futures 24, pp 355-369.