The College of Medicine 2017 Michael Pittilo Student Essay Award – runners-up

First launched in 2010 by the College of Medicine, the Michael Pittilo Student Essay Award recognises and celebrates the integration of conventional and complementary approaches to healthcare.

The award is open to UK students studying any healthcare discipline at degree level or above, including CAM therapies that are statutory regulated or on an Accredited Register, approved by the Professional Standards Authority. The FHT is delighted to have been a member of the judging panel and publisher of the winning essay for eight consecutive years.

Our congratulations to Reshma Bharamgoudar, who received second prize, and Jessica Anderson, who came third – you can read their essays below.

How can patients, communities, healthcare professionals and governing bodies work together to ensure sustainability of the healthcare system?

By Reshma Bharamgoudar, Year 6 MBChB, University of Birmingham

Introduction

Healthcare as we know it today is not sustainable. Whilst healthcare advances are one of the key successes of the last century, this has come at a cost with healthcare expenditure outstripping GDP growth [1]. In the developed world, healthcare systems are facing ever increasing demand for high quality care and services whilst battling with tightening resource constraints [1]. With changing healthcare priorities, the challenges generated by demographic, economic and social trends all play a part affecting the sustainability of healthcare.

The last few decades have seen great changes to the healthcare scene. Chronic disease patients present one of the greatest burdens upon health systems when compared to acute admissions [2]; with an aging population [3] and increasing consumer expectations [4], the long-term future of healthcare is under threat. In the United Kingdom (UK), the 2015 Carter Review modelled a plan to save the National Health Service (NHS) £20 billion by 2020 [5] to help it become more sustainable, highlighting the immense financial pressures and clear need to bridge the gap between supply and demand, population health and individual health.

The core challenge of sustainability, defined as "the ability to meet the needs of the present without compromising future generations to meet their own needs," [6] is to find new organisational approaches that deliver the health value that society needs. This is unlikely to be achieved through incremental changes, rather disruptive innovation is needed to challenge the traditional boundaries of healthcare and enable us to take transformative actions today to secure and shape the future of healthcare [7]. Healthcare systems need to think for the future, expand the group of responsible stakeholders and break from the status quo to deliver high quality, accessible, affordable and most importantly, sustainable healthcare. Based on existing literature regarding the challenges and opportunities for sustainability, I have focused on three themes to show how different stakeholders can work together to achieve sustainability.

Prioritise prevention

Disease profiles are shifting, with a staggering increase in the prevalence of chronic illnesses that consume a rapidly increasing percentage of healthcare expenditures [8]. To illustrate this, in 2007, chronic diseases affected almost a quarter of EU citizens [9], yet now they represent the leading cause of mortality [10]. This is of course intrinsically linked to the world's aging population, facilitated by advances in medical practice and technology, which enable people with chronic illnesses to live longer. "We [may be] living longer, but are we necessarily living better?" [11].

Fundamentally, these demographic and disease trends point to the need for a substantial shift in resources and innovation towards prevention. In Europe however, only 3% of healthcare expenditure is spent on prevention and public health programmes [12]; this needs to change. Governments must commit to allocating a greater proportion to preventative health and must explore innovative methods to make this spending economically beneficial. In higher income countries, where health information is more accessible, there is already a growing acceptance towards taking personal responsibility for health however, this varies across the socio-economic groups [13]. There must be a greater emphasis on health education through public health programmes and improved population health literacy. Doing so aids the shift towards more patient-centred, collaborative approaches that empowers patients and gives them greater autonomy over their own health.

Additionally, community partnerships within and across schools, workplaces and groups increase community capital, connecting people and instilling trust within society. These networks are essential for individuals' health as they encourage health-seeking behaviour, reduce loneliness, encourage activity and improve overall well-being. Social engagement further encourages a sense of autonomy, and in particular can support those with chronic conditions to better understand and manage their illness. Engaged individuals are often more active within the communities and can better shape and co-create services to suit their community's needs.

Streamline operational processes
Changes in healthcare organisations are historically slow, challenging and uncertain. The focus needs to shift to minimising costs and improving productivity through better clinical practice, day surgeries, reduced hospital stays and complications. Making organisations sustainable requires creating a culture of collaboration and teamwork. This includes the smallest minutiae of tasks to the most complex capital development schemes. Lord Darzi's three pillars for healthcare quality are clinical effectiveness, patient safety and patient experience [14]; for these to co-exist, there must be consistent and reliable performance. Much of this utilises lean theory that has started to be adopted within healthcare [15, 16].

Integrated care is an umbrella term that has gained a lot of traction in recent years due it's myriad of health benefits whereby a system is able to be tailored to the patient's needs [17]. For example, integration of primary and secondary care leads to reduced patient hospital stays that are otherwise both expensive and disruptive. Integration also embraces the use of medical devices with information technology to streamline work processes, record accurate patient data, and overall improve patient care. Whilst complex to achieve, better use of reliable integrated systems can help to streamline care, improve patient experience and enhance the value proposition of healthcare. An effective healthcare system must also be ably supported by a robust feedback system. This includes regular reporting to encourage transparency of financials and patient safety, both of which cannot be compromised. An active learning culture is essential and can be promoted through incident reporting systems and strong leadership to allow diffusion of key lessons learned.

A current, significant trend that will have an impact on future healthcare is the global shortage of healthcare workers [18]. Developed countries are still able to recruit overseas; for example, over 30% of doctors in England are internationally trained [19]. Nevertheless, with the rise of developing countries, workforce shortage amidst rising healthcare demand is

a real concern. How Brexit and political uncertainty affects staff shortage and motivation remains to be seen and has a significant bearing on future staff planning. With rising demographic pressures, it is likely that there will also be greater pressure on family and community members to provide care [3]. Regardless of medical and technological advances, healthcare is a service rooted in human interaction and governments need to make the profession attractive for professionals, through stimulating work and meaningful incentives.

Promote innovation
Innovations provide the blueprint for adoption and act as sustainable solutions for the future. Health startups numbers are rising [20], and could provide the solution to high quality, accessible care whilst achieving cost efficiencies. Innovations comes in all forms from audits and quality improvements to digital health and data. Front-line staff have a better awareness of key issues and empowering them with skillsets to develop and innovate can have huge positive impacts on organisations. It fosters a culture of constant improvement that adapts to changing healthcare needs - becoming a powerful tool in achieving sustainability.

In recent years, technology is playing an increasing role in delivering healthcare. Complex, personalised care can be provided outside of traditional medical settings and with 93% mobile ownership in the UK [21], options such as telemedicine and portable technology are great tools that also have the added potential to reach underserved populations too. Whilst it has huge scope to be explored further, only 34% of countries have a health technology national policy [22] and as a result, governing bodies need to prioritise health technology to incorporate it into national health plans. There has also been an increasing focus on personalised healthcare, particularly for chronic diseases, whereby patients can directly input decisions regarding their care. A combination of community education, policy development and informed healthcare professionals creates empowered patients who are more willing to self-manage conditions and better navigate the health system.

Big data is often said to be the latest currency and is drastically changing the way we look at information. Data can be rapidly analysed to reveal trends and patterns which can be used to address many of today's health challenges. This includes aiding procurement, staffing and equipment decisions to using data to assess consenting, prescribing and operating practices. Moreover, data can identify healthy individuals who may be future patients; this enables policy makers to introduce preventative programmes and targeted interventions now to prevent potential health decline.

Conclusion
With the twin challenge of an aging population combined with limited resources, demand for healthcare is increasing at an unprecedented rate. The cumulative effect of these pressures means that Governments need to act in response and take steps to ensure that healthcare systems are sustainable for future generations. At the individual level, there needs to be much greater emphasis on education and prevention, whilst making it easier for those with illnesses to navigate the healthcare system. Operational processes need to not only drastically improve to allow for the projected volumes of patients, but to also ensure that clinical safety and quality are not compromised. Whilst there have been many advancements, healthcare still lags far behind other industries on capitilising the potential of technology [23]. Governments need to encourage and foster creative innovations as these

are the foundations of which future sustainability concepts are built on. Creating a vision for the future will help to improve the decision making of today.

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How can patients, communities, healthcare professionals and governing bodies work together to ensure sustainability of the healthcare system?

By Jessica Anderson

Type 'sustainability' into Google and the first response you get is, 'the ability to be maintained at a certain rate or level'. Apply this definition to our health service, and it immediately throws up issues. How can we be expected to maintain the highest level of quality care that is intrinsic to the NHS, whilst at the same time, the population is growing, and comorbidity is increasing? The success of the health service keeping people living longer, with more complex and chronic illness is ironically a large contributor to its current strains.

With health being amongst the most salient of concerns - it would be absurd to assume a future without a health service able to provide for its people. As when it was established, the NHS should be free at point of contact and available to all who require it. Thus, sustainability for the health service is not only about how we can maintain the highest quality care, but how we can make our future, the cause of the present. To change habits and work together efficiently and economically to ensure the health of the population doesn't become health pollution.

Recent uncertainty within government, coupled with the constant plight for funding across the health service has led to an increased urgency for preventing ill health, such as promotions aimed at reducing the prevalence of obesity, type 2 diabetes and the causes of cancer, whilst promoting a collaborative approach to designing and producing services with patients, communities and professionals all being involved. In short, co-production and co-design: perhaps the most prevalent buzzwords within government papers and management meetings at this current time. So if we assume co-production and co-design are the starting point for creating a sustainable health service- what do they mean, how do they play out in practice and are they actually enough?

There is no doubt that a collaborative approach to our healthcare system is required, but this in itself is multifaceted. We need to train and enable a workforce that can effectively diagnose, treat and empower patients. We need to inspire and facilitate patients to take account and control of their own health and treatment. We need to design services with the patient at the table, and we need to provide the right support, information and resources necessary to encourage communities to adopt healthy mindsets and habits to promote a better population health.

To enable this, and help create a sustainable heath service, there also needs to be investment in education (giving patients the ability to handle their own health), research and

technology and a fostering of lean principles (learning from the most efficient companies in the world and their ethos of doing more with less to keep healthcare services viable). Ultimately however, what is required is cultural change and collective uptake and participation across the whole health system, including those on the fringe- such as charity groups, wider government, industry leaders, local community councils and the general public. The average Joe Blogs doesn't necessarily need to understand the term 'co-production' – but they need to be informed and made aware of the strains within the health service in order to cooperate. To maintain a service that is free and accessible to all at point of contact, the public need to be able to make better informed choices over their health, such as which service is most appropriate, and when, perhaps a local pharmacy or charity group would be a better option.

One example of a cultural change and collaborative co-design, co-production approach to healthcare is currently taking place within diabetes care in Northern Ireland. Affecting nearly 6% of the population and accounting for roughly 10% of the overall health budget [1], the Diabetes Network was established in 2016. This is a collaborative approach to service design, with a network of people living with diabetes, multi-disciplinary clinicians, senior representatives from the Health and Social Care Board, Public Health Agency, Government and the main charity for diabetes (DUKNI), working together to shape how diabetes can be prevented and patients educated and supported to manage the condition with as little complications or added health concerns. The Network consists of 13 work streams, spanning inpatient care, pregnancy, type 2, education, transition and technology. These are co-chaired by service users and healthcare professionals, and have larger working groups of patients, professionals and government representatives. This structure allows for service users to be at the forefront of planning their care and designing their services, with healthcare professionals aiding the implementation and transition across services on the frontline, and government helping to shape policy and direct commissioning to relevant areas. On average, a diabetic patient spends 15 hours a year [2] with their Diabetes team, meaning that for 364 days a year they self-manage their condition. With a robust patient education strategy in place, investment in technology to aid management and blood sugar control (advancements in blood monitoring, CGM systems and pumps) and providing service users with a platform to have their needs heard and met, as well as empowerment and support for the ability to self-control.

The key to the Network working is the collaboration between the parties involved. The World Economic Forum (2015) [3], promote that engagement with government can facilitate the integration of cultural changes and ways of working into mainstream health systems and pave the way for system transformation- yet warn that resistance to service change can form if an 'outsider' to the system champions it. The Network allows for government support and funding, yet keeps the crusade for an improved and sustainable future for Diabetes service within the power of those who live, breathe and work it.

Another fundamental component for achieving a more sustainable health system that involves co-production and wider community and government collaboration is the campaign for healthier lifestyles and the reduction of preventable health issues. A population that encompasses healthy habits, diets and mindsets will consume less time, money and health resource on poor lifestyle and diet related consequences. Therefore, not only do we need to be tackling ill health, we need to be actively promoting good health- inside and outside of the hospital walls. It's not a novel idea to focus on prevention rather than firefighting health issues. Local councils and government have put funding and energy into developing cleaner parks, better leisure facilities and promoting healthier school lunches. The health service has introduced smoking liaison officers, increased cancer screening and explored more complementary medicine and practices, whilst charities such as Chest Heart and Stroke and Diabetes UK have healthy living partnerships with industry giants such as Tesco.

Yet, despite these strategies being widely beneficial, and indeed, there is some merit in the phrase 'an apple a day keeps the doctor away', - this 2 pronged promotion and prevention approach can be taken further in its ability to create a more sustainable health system. We should not only be promoting good health and preventing ill health, but we should be building resilience to health matters into our communities.

If we take frailty as an example. Frailty is a condition that is commonly associated with the older population. As afore mentioned, the health service has been such a success that people are generally living longer- resulting in a greater occurrence of frailty. Frailty however, is not irreversible, and instead of focusing on what is wrong with the person, we should be focusing on what is strong. We should be building resilience into our service users and communities, and connecting with people up stream, as opposed to tackling frailty as though it is an inevitable consequence of old age. A current European project [4] on Frailty being piloted across Italy, Poland, France, Spain and Northern Ireland is seeking to identify the risk a person may be at of developing social, psychological or biological frailty- so that the appropriate community or healthcare prevention can be put in place. In Northern Ireland, an outcome of the pilot has lead to a Sunfrail directory [5] being developed that consists of community groups, charities, government information and healthcare advice, so the public are able to access the appropriate service- should they require it. This is a small example of a collaborate approach between communities, charity groups and the health service to building resilience into the health of the public.

Type 'sustainability' into Google: 'the ability to be maintained at a certain rate or level'. Our health system was recently ranked number 1 [6]. We have the ability to maintain this level as the highest quality of care service. We have the knowledge, we have the energy- we just need to keep consolidating our resources, build on and strengthen our community and government relationships and continue to foster a spirit of empowerment, resilience and healthy living into our society. To quote Aneurin Bevan,

"The NHS will last as long as there are folk left with faith to fight for it" [7]

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