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Chasing the golden fleece : increasing healthcare quality, efficiency and patient satisfaction while reducing costs

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Introduction

There are a number of global concerns in healthcare today including ageing populations, high cost of developing new drugs, high-risk lifestyles, and how to transfer research into practice. However, the overarching goal of healthcare systems everywhere, regardless of the particular issues, is to improve care while at the same time reducing cost. This could be called the 'Golden Fleece' of healthcare. Just as in Greek mythology, Jason and his Argonauts embarked on a long and risky journey to find something of which they had only heard rumours, healthcare managers seek methods of providing better care more efficiently, yet many fail on the quest. Healthcare workers may suffer from burnout as they struggle to provide more and better care with fewer resources. This results in rapid turnover and low morale in the health care sector, while reducing patient safety (Hall et al 2016)

Is Lean the solution?

A growing number of health care institutions believe they have found a solution in Lean healthcare management. Lean is variously described as a philosophy, a technique or a process, or possibly all three. Originally a system for improving manufacturing processes, Lean was first developed by the Toyota factory in the 1930s when the founder, Kiichiro Toyoda, identified problems in engine casting production. He proposed a solution termed 'Kaizen' or 'change for the better'. The concept of Kaizen has developed to include ten principles which include: continual improvement, rejecting traditional ways of doing things where there is little evidence of their effectiveness, gaining opinions from the people doing the work and empowering everyone to participate in problem solving. A graduate student, John Krafick, who had previously worked at Toyota coined the term 'lean production' in an article he wrote from work done on his Masters thesis. The concept was later popularized in a book published in 1990 titled "The Machine that Changed the World" by authors James Womak, Daniel Jones and Daniel Roos (Sorin and Fady 2013).

From Toyota to healthcare

An early innovator in bringing lean management to healthcare was the Virginia Mason Medical Center in Seattle, Washington. In 2000 the board of directors voted to restructure their systems based on client needs. To this aim, they developed a new system of management modeled on the processes used at Toyota and based on the four pillars of people, quality, service and innovation (IHI 2005). In the intervening period, lean has been adopted by a number of health care institutions and systems, who are seeking the ultimate 'golden fleece' of higher quality at a lower cost.

The Swedish experience

In the articles reviewed for this issue of IJHG, Gadolin's article on Sweden's attempts to implement lean healthcare and how this affects policy makers is the most directly relevant. One problem in the implementation of Lean healthcare is that conflicts can arise between policy makers and those who must implement the policies. Lean healthcare relies on the active involvement of staff at all levels. The cleaner is just as important as the surgeon if he or she can identify areas where improvements could be implemented to save time or costs. This shift in focus requires managers willing to relinquish a top-down management approach, instead empowering staff to become active change makers using a team approach to innovation. Another issue is that for lean to work most effectively, the philosophy and techniques must be adopted across a whole organization. Improvements in surgical turn around time, for instance, will be lost if the surgical admissions process is cumbersome and therefore patients are not booked and prepped for surgery when the operating theatres are ready.

In Sweden health services are devolved to county level and therefore Gadolin analysed qualitative data from annual county reports where lean was mentioned. 17 out of the 21 Swedish counties stated clearly that they had implemented lean management in their healthcare institutions or were planning to do so. The three main themes identified from the data were: 1) What is lean; 2) Why do we implement lean; 3) How do we implement lean.

Defining lean proved difficult as there are multiple definitions and some of these are quite vague. Without a clear definition of lean, it is even harder to specify why or how it should be implemented. Despite this, it was clear that the reasons for implementing lean were about improving quality and the patient experience while reducing waste. When discussing implementation, reports indicated an understanding that introducing lean requires changing the culture of healthcare and respecting the voice of the patient and of front line health workers.

The cultural dimensions of Lean

In their discussion of three American institutions where lean has been successfully introduced, Toussaint and Leonard (2013) describe lean as a 'cultural commitment', stressing the requirement for a shift in management thinking from a top-down approach to one that values all levels of health care worker, facilitating change through a group process of problem identification and problem solving. Adopting such values may be easier in Japan where lean originated due to cultural beliefs, which embrace harmony, consensus and respect for the individual (Sorin & Fady 2013).

The 1st Global Lean Healthcare Summit in 2007 highlighted these issues but provided encouragement to health institutions in the process of changing to a lean management approach. The overall message of the summit was that the quality of care and the patient experience *can* be improved while at the same time resources can be managed in the most effective way. Another message was that repeated practice in identifying and solving problems makes teams better at

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3 the process and thus they gain confidence in their ability to create lean solutions
4 that improve patients' lives (Jones 2015).
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6 **Could Lean support new governance structures?**

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8 Emerging structural models for public hospitals may serve to support the move
9 toward lean management. Lipunga, Tchereni and Bakuwa (2019), in their
10 examination of organizational governance in the UK, New Zealand, Ghana and
11 South Africa, explain that traditional hierarchical hospital management
12 exemplifies a top-down decision-making model that ignores the needs of the
13 various stakeholders and reduces clinicians' autonomy. This model focuses on
14 implementation of pre-determined policy and may fail to acknowledge the best
15 research evidence, basing decisions instead on tradition. A more effective
16 method of governance is consensual and transparent, involving all stakeholders.
17 This requires flexibility and the ability to adapt to changing circumstances,
18 whether those are political, cultural or demographic. This is congruent with
19 WHO guidelines which also point out that governance and management are
20 different, with management being just one aspect of governance.
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24 A specific problem identified by Linpunga et al was that hospital governance in
25 developing countries is devolved to local government, while in developed
26 countries organizational governance is most commonly the responsibility of the
27 organization. The implications for organizational governance in developing
28 countries is an increase in levels of bureaucracy which make the flexibility
29 necessary for adapting to change difficult to achieve. This flexibility, and
30 enabling grassroots practitioners to become the problem solvers is the key to
31 changing over to a lean management or governance system (Jones 2015).
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34 **Rationing care and Lean governance**

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36 Harmful health behaviours including obesity, high-risk activities such as
37 dangerous driving, alcohol, smoking and drug abuse make health governance
38 even more complex. Whether or not these have an impact on lean management
39 has not been explored within the lean management literature. However, the way
40 in which lean management systems engage all practitioners and take
41 stakeholders' needs into account, could stimulate some new some solutions for
42 managing care more effectively. Pinho and Pinto (2019) surveyed members of
43 the public to ascertain their views on restricting care for people who may have
44 caused their own illness or injuries through risk-associated behaviours. The
45 researchers wanted to know if Bulgarian citizens would advocate rationing
46 health care according to whether or not poor health had been self-inflicted. The
47 first difficulty with the premise that this would be a legitimate money saving
48 exercise is that it is difficult to prove a direct link between behaviour and illness.
49 In addition, rationing care to people who may need it the most could contravene
50 medical ethics.
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55 Data was collected using an online survey and the results showed that just over
56 half of the respondents did not agree with rationing health care and did want
57 taxes to be used to provide care for everyone regardless of lifestyle. However,
58 this means that a substantial minority was willing to consider rationing. As the
59 sample included only 322 self-selected participants conclusions about whether
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3 these findings are representative of the views of the general population cannot
4 be determined. The fact that the sample contained more females than males who
5 were likely to be educated to degree level or above and believed that lifestyle
6 affects health outcomes could also skew the findings. However, this survey may
7 represent a first step in gaining feedback from Bulgarian health service users
8 about ways in which costs could be reduced. If an exercise in cost reduction is
9 implemented as part of a change to lean governance, the quality of patient care
10 must be a priority. Effective teamwork and putting strategies in place to
11 maintain any gains that have been achieved help to ensure continual
12 improvement (Simon and Canacari 2012)
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15 16 **The importance of access to medication in the implementation of lean**

17 There are a variety of factors that can help or hinder the implementation of lean
18 governance in health care. A major factor is the availability and pricing of drugs.
19 According to lean philosophy drugs administered to patients should be the right
20 drug, in the right dose, at the right time. Necessary medication should be readily
21 available when needed. Availability and correct administration reduces the time
22 required to access drugs and prevents wasting drugs when they are not required.
23 Having the right drugs available at the point of need also maximizes clinician
24 efficiency thus reducing time-wasting. Access and availability can be a problem
25 in developing countries as their health services are often reliant on imported
26 drugs. Siagian et al (2019) explain that importing drugs is seen as cost effective
27 because of the expense of creating a home-grown pharmaceutical industry.
28 However, this does not ensure long-term sustainability as prices may rise due to
29 political or economic factors where drug production takes place. Many countries
30 do have the capacity to develop drugs in terms of scientific knowledge and
31 availability of raw materials, but it requires coordination of market factors and
32 political incentives. Saigian et al (2019) propose a model of predictive drug
33 development showing the relationship between pharmaceutical capabilities,
34 innovation incentives and political factors. However, even when these are in
35 place, drug development can be hindered when pharmaceutical companies are
36 unwilling to invest in research and development. An example cited by Siagian et
37 al (2019) is Indonesia where the government instigated incentives to develop
38 vaccines, biopharmaceuticals and herbal medicines. However, lack of
39 commitment to research and development on the part of drug companies is
40 slowing development of initiatives that could mean the difference between
41 sustainability and reliance on imported medications.
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48 **The importance of research and lean health governance.**

49 Research is an important part of lean philosophy as it supports the use of
50 evidence based practice and policy development, as opposed to reliance on
51 traditional ways of providing and managing health care. However health
52 research and policy often fails to interact to create research-based policies as
53 Mapalunga, Raju and Matingwina (2019) discovered when they collected data
54 from both health researchers and health policy makers in Malawi
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57 While the Colleges of Medicine and Nursing in Malawi are both research aware
58 and research active institutions, there seems to be a lack of coordination in the
59 dissemination and application of research findings. Most of the studies done in
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3 Malawi are reported at international conferences, but at home many
4 dissertations/theses and technical reports are only available as hard copies in
5 libraries. When policy makers do not have access to research produced in
6 Malawi they tend to rely on WHO data or government ministry reports. As a
7 result, research that is done locally and therefore is very relevant for local needs,
8 is not seen or used by health policy makers. Policy makers require more active
9 dissemination of research findings, packaged for and targeted at a specific
10 audience. As lean policies can't work without reference to current relevant
11 research findings, changing internal structures to promote better interaction
12 between researchers and policy makers could have a significant impact on health
13 governance in Malawi.
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16 17 **Informal payments: Corruption or social norm?**

18 The final article in this issue of IJHG might, at first glance, seem to have little
19 relevance to Lean healthcare governance. Meskarpour et al (2019) have done a
20 systematic literature review into the problem of informal payments in health
21 care settings. For health professionals from a culture where all members of
22 society have equal access to health care, the idea of paying to receive better or
23 faster care smacks of corruption. In other countries it can be seen as a cultural
24 norm. Informal patient payments (IPP) are often associated with developing
25 countries, but the reality is that they happen all over the world, from Peru to
26 Poland, from Hungary to Bangladesh. In some places IPP are illegal, but in others
27 they happen within the law and are often a significant source of financing in
28 developing or transitional countries (Meskarpour et al 2019). The acute problem
29 with IPP is that they are hidden and thus disruptive to healthcare planning and
30 provision. In a discussion promoting Lean health governance, it is a reasonable
31 observation that Lean can not be introduced effectively where aspects of
32 healthcare are impossible to plan for effectively due to the subversive and
33 disruptive nature of undocumented expenditure.
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38 **Conclusion**

39 All healthcare providers aim to provide good care at a reasonable cost. The
40 articles in this issue of IJHG have explored different aspects of health governance.
41 The issues raised have been examined within this review in relation to the use of
42 Lean as a tool to improve health care while reducing waste and engaging health
43 professionals in contributing to management and policy decisions. Lean is not a
44 magic formula to solve the problems inherent in modern health care. It requires
45 investment and commitment but can be a tool to improve healthcare delivery for
46 both patients and staff while using resources as effectively as possible.
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NB Additional information about lean management was sourced from the Kanbachi Blog. Accessed on 13.06.2019 from: <https://www.kanbanchi.com/lean-management>

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