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

the process and thus they gain confidence in their ability to create lean solutions that improve patients' lives (Jones 2015).

Could Lean support new governance structures?

Emerging structural models for public hospitals may serve to support the move toward lean management. Lipunga, Tchereni and Bakuwa (2019), in their examination of organizational governance in the UK, New Zealand, Ghana and South Africa, explain that traditional hierarchical hospital management exemplifies a top-down decision-making model that ignores the needs of the various stakeholders and reduces clinicians' autonomy. This model focuses on implementation of pre-determined policy and may fail to acknowledge the best research evidence, basing decisions instead on tradition. A more effective method of governance is consensual and transparent, involving all stakeholders. This requires flexibility and the ability to adapt to changing circumstances, whether those are political, cultural or demographic. This is congruent with WHO guidelines which also point out that governance and management are different, with management being just one aspect of governance.

A specific problem identified by Linpunga et al was that hospital governance in developing countries is devolved to local government, while in developed countries organizational governance is most commonly the responsibility of the organization. The implications for organizational governance in developing countries is an increase in levels of bureaucracy which make the flexibility necessary for adapting to change difficult to achieve. This flexibility, and enabling grassroots practitioners to become the problem solvers is the key to changing over to a lean management or governance system (Jones 2015).

Rationing care and Lean governance

Harmful health behaviours including obesity, high-risk activities such as dangerous driving, alcohol, smoking and drug abuse make health governance even more complex. Whether or not these have an impact on lean management has not been explored within the lean management literature. However, the way in which lean management systems engage all practitioners and take stakeholders' needs into account, could stimulate some new some solutions for managing care more effectively. Pinho and Pinto (2019) surveyed members of the public to ascertain their views on restricting care for people who may have caused their own illness or injuries through risk-associated behaviours. The researchers wanted to know if Bulgarian citizens would advocate rationing health care according to whether or not poor health had been self-inflicted. The first difficulty with the premise that this would be a legitimate money saving exercise is that it is difficult to prove a direct link between behaviour and illness. In addition, rationing care to people who may need it the most could contravene medical ethics.

Data was collected using an online survey and the results showed that just over half of the respondents did not agree with rationing health care and did want taxes to be used to provide care for everyone regardless of lifestyle. However, this means that a substantial minority was willing to consider rationing. As the sample included only 322 self-selected participants conclusions about whether

these findings are representative of the views of the general population cannot be determined. The fact that the sample contained more females than males who were likely to be educated to degree level or above and believed that lifestyle affects health outcomes could also skew the findings. However, this survey may represent a first step in gaining feedback from Bulgarian health service users about ways in which costs could be reduced. If an exercise in cost reduction is implemented as part of a change to lean governance, the quality of patient care must be a priority. Effective teamwork and putting strategies in place to maintain any gains that have been achieved help to ensure continual improvement (Simon and Canacari 2012)

The importance of access to medication in the implementation of lean

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

The importance of research and lean health governance.

Research is an important part of lean philosophy as it supports the use of evidence based practice and policy development, as opposed to reliance on traditional ways of providing and managing health care. However health research and policy often fails to interact to create research-based policies as Mapalunga, Raju and Matingwina (2019) discovered when they collected data from both health researchers and health policy makers in Malawi

While the Colleges of Medicine and Nursing in Malawi are both research aware and research active institutions, there seems to be a lack of coordination in the dissemination and application of research findings. Most of the studies done in

Malawi are reported at international conferences, but at home many dissertations/theses and technical reports are only available as hard copies in libraries. When policy makers do not have access to research produced in Malawi they tend to rely on WHO data or government ministry reports. As a result, research that is done locally and therefore is very relevant for local needs, is not seen or used by health policy makers. Policy makers require more active dissemination of research findings, packaged for and targeted at a specific audience. As lean policies can't work without reference to current relevant research findings, changing internal structures to promote better interaction between researchers and policy makers could have a significant impact on health governance in Malawi.

Informal payments: Corruption or social norm?

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

Conclusion

All healthcare providers aim to provide good care at a reasonable cost. The articles in this issue of IJHG have explored different aspects of health governance. The issues raised have been examined within this review in relation to the use of Lean as a tool to improve health care while reducing waste and engaging health professionals in contributing to management and policy decisions. Lean is not a magic formula to solve the problems inherent in modern health care. It requires investment and commitment but can be a tool to improve healthcare delivery for both patients and staff while using resources as effectively as possible.

References

Gadolin C (2019) The influence of policy makers over lean implementations in healthcare *IJHG* 24(3):

Hall LH, Johnson J, Watt I, Tsipa A, O'Connor DB (2016) Healthcare staff wellbeing, burnout and patient safety: A systematic review. *PLOS One* 11(7): e0159015 Accessed 15.06.19 from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4938539/

Institute for Health Improvement (IHI) (2005) *Going Lean in Healthcare*. IHI Innovation Series White paper, Cambridge, MA.

Jones TD (2015) Four lessons on lean. *The Lean Enterprise Academy* published 19 Feb. 2015. Accessed 12.06.19 from: http://www.leanuk.org/article-pages/articles/2015/february/19/four-lessons-on-lean-healthcare.aspx

Lipunga A, Tchereni B, Bakuwa R (2019) Emerging structural models for the governance of public hospitals *IJHG* 24(3):

Mapalunga P. Raju J, Matingwina T (2019) Research evidence based health policy formation in Malawi: An assessment of policy makers and researchers perspectives *IJHG* 24(3):

Meskarpour AM, Bahadori M, Motaghed Z, Ravangard R (2019) Factors affecting informal patient payments: A systematic literature review *IJHG* 24(3):

Pinho M and Pinto BA (2019) Holding individuals accountable for engaging in harmful health behaviours when managing scarce resources: Yes or not really? *IJHG* 24(3):

Siagian R, Besral B, Achadi A, Ayuningtyas D (2019) A predictive policy model to forecast outcomes of drug development in developing countries *IJHG* 24(3):

Simon RW and Canacari EG (2012) A practical guide to applying lean tools and management principles to health care improvement projects *AORN Journal* 95(1): 85-100

Sorin TT and Fady FF (2013) Lean Management – The journey from Toyota to healthcare *Rambam Maimonides Medical Journal* 4(2): e0007

Toussaint JS and Leonard LB (2013) The promise of Lean in health care. *Mayo Clinic Proceedings* 88(1): 74-82

NB Additional information about lean management was sourced from the Kanbachi Blog. Accessed on 13.06.2019 from: https://www.kanbanchi.com/lean-management