

## ***The progress made with Lean Implementation within the healthcare sector***

*providing examples from a South African context*

**Professor Norman Faull, Chairman, Lean Institute Africa**

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### **Adoption and application of lean in healthcare**

Lean is now widely applied in hospitals around the world, with a growing body of research literature critiquing the practices.

Geographically the strongest areas have been in the USA, UK and Australia, with most applications being in hospitals, in operating theatres and emergency departments.

The work in South Africa has largely been initiated by the Lean Institute Africa, beginning in 2003. Lean work has been done mostly in hospitals, in every province. Some clinic-level work has also been done, mostly in Limpopo and Gauteng.

Areas receiving most attention have been:

- Pharmacies
- Patient Records
- Outpatient Clinics
- Emergency Departments

### **Recent SA work – November 2014 to October 2015**

A proposal developed by the Lean Institute Africa (LIA) was adopted by the Gauteng Department of Health. The concept was to work with a 'cohort' of four hospitals at a time, to allow for learning from peers, building internal capacity, and provincial support personnel, whilst achieving benefits to patients, staff and funders.

Each of the four hospitals was counselled to initiate the same three 'model lines', all three involving and tracking the typical outpatient journey, with a view to reducing the patient's time in the system:

- Patient records
- Outpatient Clinic
- Outpatient Pharmacy

In turn, each hospital hosted a 5-day Rapid Improvement Workshop (RIW). The RIW was followed by fortnightly coaching days by LIA facilitators. Each of the four hospitals, across each of its three model lines, relatively quickly (within three months of the RIW) experienced significant reductions in patient journey times as well as improved staff morale. Taking a four-year view of one of the hospitals, the improvements have largely been sustained, and improved upon.

Four staff members, in Provincial and not hospital positions, were taken on as 'apprentice' facilitators. Two were young and non-medical. Two were relatively senior, medically trained, with responsibility for quality assurance. The latter two fell away. The former two became competent facilitators, supporting ongoing lean work and initiating new lean work in other hospitals.

### **The way lean is often implemented**

This is usually done by choosing an area, e.g. Pharmacy, providing some training for staff, running a 5-day RIW during which value stream mapping is used to describe the current condition, to identify

waste and apply counter-measures (using the PDCA steps). Results are often pretty good, enough to celebrate and sustain. But longer-term, sustaining the gains is difficult.

However, sometimes, even when good buy-in is not achieved over the first few days of the RIW, the gains are sustained over many years, because the staff themselves experience benefits of serving less grumpy patients.

### Testing an hypothesis about sustaining

LIA has partnered with the US organisation, Catalysis, to test the hypothesis that it is leadership behaviour and a stable management system that bring about sustained improvement.

The view is that the culture of an organisation reflects the habits of the people in the organisation. Furthermore, managers are teachers of their direct reports, whether consciously done or not. Thus, if one wants to improve the culture, one must work to change the behaviour of managers.

The question we put to leaders and managers is: *“What do you need to do to be the leader of an organisation filled with problem solvers?”* We ask them to work on a ‘personal development A3’ to examine

- What that might achieve
- What their current sense of purpose is and the behaviour that goes with that
- The outcomes being experienced
- Where they would like to be; the ‘target condition’
- Obstacles between where they are and where they would like to be
- Etc. as per the A3 structure

### The purpose of managers

We promote the idea that the purpose of managers should be to develop their people to become problem solvers in order to improve performance for patients, staff and funders. In order to do this, they cannot themselves be problem solvers. By coaching and modelling their direct reports they will develop them as problem solvers.

### The more recent work – January 2017 to March 2018

Catalysis wanted to develop an approach to supporting hospitals on their lean journey without having to go see too often. LIA was asked to be the ‘local coach’. Catalysis developed an approach with monthly tranches of materials: readings, videos, PowerPoint presentations and tasks. LIA coaches had weekly contact with the staff in two provinces (Western Cape – 2 hospitals; Gauteng – 3 hospitals). The two young ‘apprentices’ were also involved in supporting the Gauteng hospitals.

Two of the Gauteng hospitals were new to lean and had to go through initial training and RIWs before their CEOs were ready to participate in the ‘leader behaviour change’ initiative.

To start, each CEO was asked, *“What do you need to do to be the leader of an organisation filled with problem solvers?”*. They were then asked to develop their thinking by considering just the first few sections of an A3

- What that might achieve
- What their current sense of purpose is and the behaviour that goes with that
- The outcomes being experienced

They were challenged to consider five dimensions of their approach to lean leadership:

- Willingness
- Humility
- Curiosity
- Perseverance
- Self-discipline

Asked to choose two dimensions for priority personal work, most chose humility and self-discipline.

Each of the dimensions has 'supporting behaviours', like reflection, listening, coaching, etc. which can be observed.

All five CEOs did not stay with the programme. But three did, their commitment resulting in further improvements in patient care and staff morale.

### **Most recent work - April 2018 to April 2019**

This phase was to introduce and bed down a 'Lean Management System.' Because the programme became more intense, just two hospitals could be accommodated, one in Gauteng and one in the Western Cape. Weekly interaction with the local and international coaches was necessary as new materials arrived with relentless regularity. The Gauteng hospital applied their attention to two ward-based model lines, whilst the Western Cape hospital concentrated on a pharmacy.

Catalysis required that all those who would be involved in this phase should be familiar with A3 Thinking. To this end a preparatory workshop was run by LIA in Gauteng, involving most of the staff from the two ward-based model lines, and the young apprentices.

This is the structure followed:

#### **Module 1**

-Stat Sheet

-Scorecard

-Performance Review Meeting

-Performance Huddle

-Visual Management

#### **Module 2**

-Leader Standard Work

#### **Module 3**

-Process Observation

#### **Module 4**

-Countermeasure Summary

(With travel support, Catalysis would normally charge over R1 000 000 for their involvement. Instead, their work, and most of that by LIA in Gauteng, was pro-bono.)

It is not possible in this brief presentation to go into each of the sections. It is hoped that the titles are indicative.

## Gauteng results

The two wards, Maternity and Neonatal, showed meaningful reductions in deaths. The Western Cape hospital pharmacy reported reduced waiting times and fewer errors.

## Lessons

Peer-group learning is helpful to both the learning and the sustaining

Not all leaders are ready for this, either because of circumstances or other reasons

The Catalysis materials are well formulated and are effective when applied

The CEO behaviour change approach requires considerable self-discipline and careful management of 'one-ups'; it is not simply formulaic. It is not easy!

The lean management system approach is complex, with many 'moving parts', and involves staff at multiple levels

The lean management system approach requires extraordinary focus from the senior leadership and close attention by the coaching staff

Start small. Go big or go home! (Theme of the 2019 Lean Healthcare Summit in Johannesburg in October; see <https://www.lean.org.za/lean-summit/>)

## Professor Norman Faull, Chairman, Lean Institute Africa



**Norman Faull is** Emeritus Professor of Operations Management at the Graduate School of Business, University of Cape Town. In his academic career he conducted research and taught Operations Management, Operations Strategy, Supply Chain Management and Operations Strategy Implementation locally and internationally. He continues to supervise research by students of the Graduate School of Business.

He is the Founder and Chairman of the Lean Institute Africa (LIA), a not-for-profit company and member of the Lean Global Network. LIA promotes the effective use of lean in improving competitiveness and service delivery across many industries. Through LIA he offers conferences and workshops in the lean methodology and conducts applications of lean in areas in which it has not traditionally been applied.

A key emphasis over the past decade has been in applying lean in public sector healthcare. Furthermore he has been involved in supplier development for large state-owned entities and he has worked with financial institutions and their IT divisions. His current research is on implementing lean in large-scale systems.

He holds the following formal qualifications: BSc BEng (Aeronautical) *Stellenbosch University* MSc (Air Transport Engineering) *Cranfield University UK* MBA PhD *University of Cape Town*

## Contact details

<b>Email address</b>	norman.faul@gsb.uct.ac.za
<b>Website</b>	<a href="http://www.lean.org.za">www.lean.org.za</a>
<b>Telephone</b>	021 406 1433
<b>Twitter</b>	@nfaull

## References

D'Andreamatteo A, et al. Lean in healthcare: A comprehensive review. Health Policy (2015), <http://dx.doi.org/10.1016/j.healthpol.2015.02.002>