

Applying lean improvement methodology within a public health context: administration and organisation of a training programme

Elisabeth Smart, Valerie MacDonald, Cameron Stark, Lynda Thomson, Hugo van Woerden

To cite: Smart E, MacDonald V, Stark C, *et al.* Applying lean improvement methodology within a public health context: administration and organisation of a training programme. *BMJ Open Quality* 2018;**7**:e000257. doi:10.1136/bmjopen-2017-000257

Received 17 November 2017
Revised 31 July 2018
Accepted 11 August 2018

PROBLEM

The Health Improvement team, housed within the Public Health Department of National Health Service (NHS) Highland, deliver key objectives around health improvement, tackling health inequalities and building capacity. The processes surrounding the delivery of the building capacity objective had been built up over a period of time and historically were administered by different staff members. This led to different ways of

organising training and no overall agreed approach.

The impact of a non-standard approach meant that it was often difficult to get an overview of what was being delivered and who was attending the various training offered. Furthermore, there were duplicate processes in place that were person dependent processes that could be done in a more effective way. Our overall aim for the project was to introduce a standard approach to how training

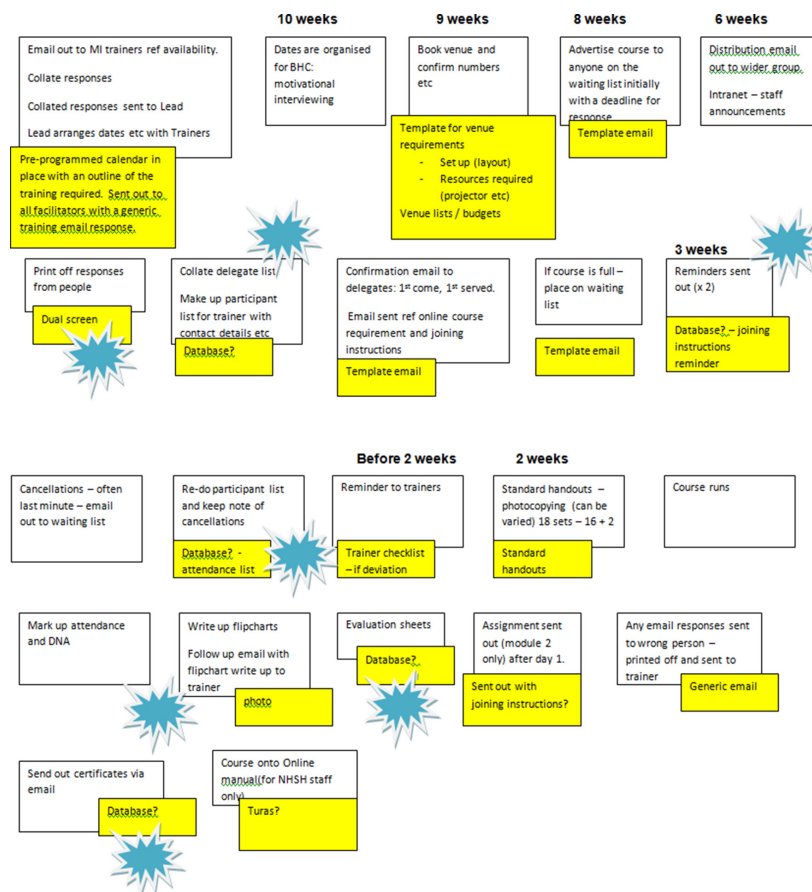


Figure 1 Current state administrative training processes. BHC, behaviour change; MI, motivational interviewing; NHS, National Health Service Highland.



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Department of Public Health, NHS Highland, Inverness, UK

Correspondence to

Elisabeth Smart;
elisabeth.smart@nhs.net

was organised and a way of ensuring that data could be collected and reviewed instantly so that we could report out on a monthly basis.¹

METHOD

We began by applying a tool called process mapping,² which sets out the steps that take place within any specific function. The particular function that we looked at was organising and booking the health improvement motivation interviewing training.

Once the map was completed, it is then interrogated in order to understand why some of the steps were required

and whether there is any duplication (non-value-added waste). See [figure 1](#).

Following on from this, we mapped out what a desired process or future state might look like and developed standard work.³ We tested out the standard work with two members of staff initially and amended accordingly before applying it further. See [figure 2](#).

We also tested out using a PDSA (Plan, Do, Study, Act) cycle the introduction of a standard evaluation tool in order to compare results across different training courses delivered.

By carrying out observations, it was apparent that staff were recording information in different ways which

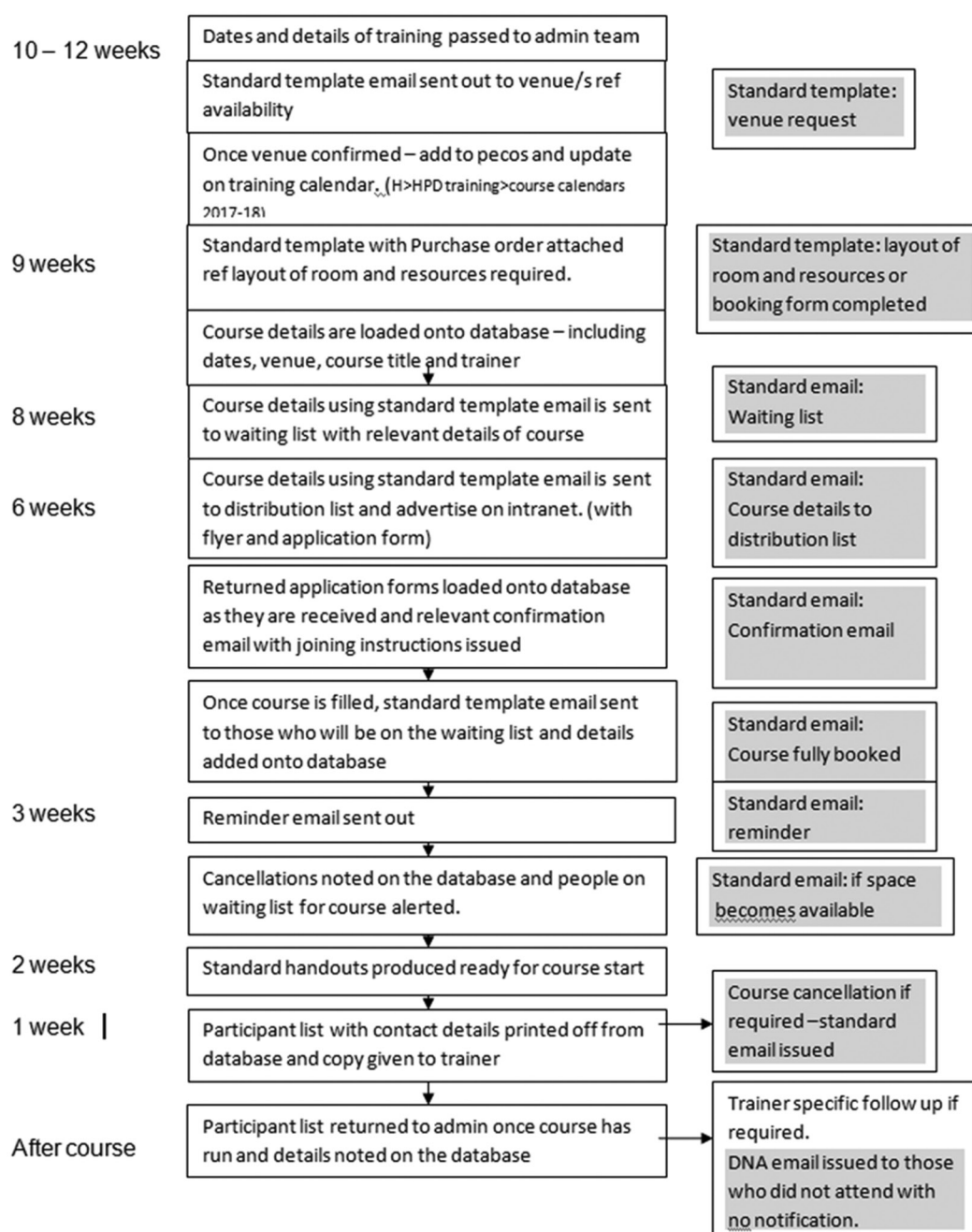


Figure 2 Future state training administration—flowchart. HPD, Health Promotion Department.

resulted in duplication of work. To improve the process, we developed a database which set out agreed steps for all administration staff about how a course should be managed. The database records all the information in one place and enables instant reporting of numbers of attendees, role and location of courses.

The success of the training programme is underpinned by access to and use of training resources. Observations showed that staff had developed their own resources, and these were often housed in different places making it difficult to locate the desired items. Furthermore, this led to poor stock control. We used a lean tool called 5S,⁴ which consists of five different stages in ensuring resources are effectively managed. The five steps consist of sort, simplify, sweep, standardise and self-discipline. The photographs below illustrate an example of how the resources were managed before we began the process and the results after we applied 5S. See [figures 3 and 4](#).

Stock control was improved for three standard training packs by introducing a kanban inventory control system of cards that outlined the information needed when re-ordering items. This has resulted in timely restocking and less waste as we now only order items needed.

RESULTS

We collected measurements ([table 1](#)) before we applied the lean tools that demonstrated it took between 4 and 5 days to find the information and then produce

a training activity report. With the new capacity of the database, a report can be generated in minutes. We estimated that we were able to reduce the length of time taken in organising a course from 2 hours to 1 hour. This allowed the team to reallocate the time saved in administration to other health improvement programmes. The staff delivering training and staff involved in the administration were often being asked to organise training at the last minute resulting in additional pressure. By introducing a standard operating procedure (SOP), which included the minimum notice required for staff, this was breached on one occasion only within the test period.

Other metrics, showing an improvement, included training requests being 10 weeks in advance of the start date and a reduction in length of time spent in organising the training. The 5S audit was also included in the metric sheet.



Figure 3 Before the 5S process was applied.



Figure 4 After the 5S process was applied.

Table 1 Metrics training programme**Intermediate lean training****Improvement project measurement**

Title: Applying Improvement Methodology within a Public Health Context	Date of reporting: 26 May 2017	Report by: team leaders	Change against baseline	
	PDSA cycles			
	Baseline	Cycle 1	Cycle 2	
Length of time to collate training data	4–5 days	30 min	30 min	98.3% reduction (4 days)
Generate report for Motivational Interviewing course	1 day	10 min	4 min	99.1% reduction
Training requests sent to administration 10 weeks in advance of training taking place	50%–60% of courses requested less than 10 weeks' notice	90% compliance within first month of testing	90% compliance within first month of testing	40%–60% increase
Reduction in length of time taken in organising training	2 hours administration time per course	1 hour 30 min	1 hour	50% reduction
5S audit	1	2	4	–

PDSA, Plan, Do, Study, Act.

CONCLUSIONS

Lean is about identifying value-added activity and non value activity in systems and ensuring that in eliminating the waste, we can operate in a much more efficient manner. The application of lean within a Public Health context was less well known; however, this project demonstrates that lean can be as easily applied to processes within public health as to a clinical setting. Furthermore, given the pressures on NHS budgets it is vital that Health Improvement programmes are run as efficiently as possible. We estimated that by introducing these improvement tools, we saved 25% of each hour spent on the training administration at a cost of £9.38 per hour (Agenda for Change), which was then reallocated to support other work. The introduction of a SOP is key to sustaining this work. The next steps are to apply our learning in larger-scale pieces of health improvement work.

Acknowledgements Thank you to VMacD and LT from the NHS Highland Health Improvement team who saw the potential of applying improvement methods to the project and to Tanzeela Bashir for administrative support. CS, Consultant in Public Health, provided lean training and ongoing support.

Contributor ES: co-ordinated all contributions and edited report. CS: advice and guidance in relation to content and support with referencing. VMacD: planned and delivered the project; supported the writing. LT: planned, delivered the project and wrote and edited the report. HvanW: advice, encouragement and guidance in relation to publishing.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Provenance and peer review Not commissioned; externally peer reviewed.

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