20,000 Days and Beyond
Evaluation of CMDHB’s Quality Improvement Campaigns

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Acknowledgements

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A particular thanks to Diana Dowdle of Counties Manukau District Health Board who offered tremendous insight and support throughout.

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Executive summary

The Campaigns

In order to avoid a projected growth in demand of 20,000 hospital beds, two sequential quality improvement Campaigns were run by Ko Awatea at Counties Manukau District Health Board (CMDHB). Between them, these Campaigns involved up to 29 Collaborative teams testing ideas to reduce length of stay, increase access to community support, and reduce harm and subsequent readmissions. The diversity of Collaborative team activity was supported by the Breakthrough Series Collaborative (BTS) process, developed by the Institute of Healthcare Improvement [1].

The CMDHB Campaigns were distinctive in the way they extended the BTS approach. The more common approach is to position a Campaign to collectively learn how best to implement the same clinical best practice. The goals for these Campaigns were about managing demand: to give back 20,000 healthy and well days over an 18 month period (20,000 Days Campaign), and continue giving back healthy and well days over a further year (Beyond 20,000 Days Campaign). Rather than driving improvement through a group effort of learning and applying the same clinical practice, in these Campaigns the Collaborative teams were collectively learning how best to apply the model for improvement.

The Evaluation

A realist evaluation design was used to understand more about what worked in the Campaigns, in what contexts [2]. This evaluation explores what it is about the CMDHB Campaigns that has helped or hindered their operations. Our starting point was that the Campaigns were designed to encourage CMDHB staff to think about how they might improve their services, to test ideas (recognising that some collaboratives might fail) and to develop capability in quality improvement, as well as to reduce hospital bed days (20,000 Days Campaign) and improve services (Beyond 20,000 Days Campaign).

Internal analysis undertaken by CMDHB, shows they achieved saving 20,000 bed days by tracking the difference between projected demand and actual use. The assumption was that if the actual use was less than predicted, then CMDHB had a bed day gain. Two growth models were used to record changes towards the Campaigns goals. The first, developed specifically for the 20,000 Days Campaign, concluded that 23,060 days were saved by 1 July 2013, based on a growth model that used extrapolations from past activity, combined with demographic growth. The second growth model concluded that 34,800 days were saved by 1 April 2015, using a model based on demographic growth from 2011.

The CMDHB Campaigns did make a difference in managing demand, but this can be tracked more confidently to the specific gains being worked on by the Collaborative teams in
changes to services across the hospital, and in the community, than it can to any bigger system changes. These bigger system changes, such as an ongoing decrease in actual bed days over the last nine months, could have also been caused by non-Campaign linked activity.

The Campaigns were highly successful in capturing the energy and motivation of participants. The questionnaire results, for example, found seventy-one percent of respondents agreeing or strongly agreeing that the 20,000 Days Campaign was a success. Interviews with Beyond 20,000 Days Collaborative team members highlighted how opportunities provided by the Campaign, particularly the attention to collecting and using data to understand what was actually happening in delivering care, was a powerful way to work around entrenched cultures.

The evaluation paid particular attention to the different contexts that influenced how the Campaigns worked. In particular, we explored the ways in which the resources and structure provided by the Campaigns influenced participants to engage in quality improvement activities.

The evaluation distilled five influential mechanisms: (1) the organisational preparedness to change; (2) enlisting the early adopters; (3) creating strong team dynamics; (4) supporting learning from measurement; and (5) sustaining improvement through learning and adaptation.

**Organisational preparedness to change**

The majority of Campaign participants came from the same organisation, so participants were already aware of the local evidence of the need to manage hospital demand, were part of the same organisational culture receptive to change, and collectively witnessed senior management support. Together, this built a strong platform for engagement.

**Enlisting the early adopter**

Campaign participants were motivated to come up with their own ideas for change, which built positive momentum and lessened the type of initiative fatigue often seen in health sector changes. As one Campaign fed into the other, there was an opportunity to be more selective in the topics chosen for the Collaborative teams for the Beyond 20,000 Days Campaign. In practice, this meant using a Dragons’ Den process to test ideas coming from the grassroots with an assessment of what was most likely to achieve the Campaign’s goal.

**Strong team dynamics**

There was not the same consensus around the scientific evidence on best practice as in single-topic clinically-based Campaigns, so some ideas for improvement were expected to be less effective than others. Sixty-two percent of the 20,000 Days Collaborative teams and
sixty-nine percent of the Beyond 20,000 Days Collaborative teams went on to spread their improvement ideas permanently once the Campaigns finished.

Given the model for improvement relies on a philosophy of “fail early and fail small”, a winnowing out of Collaborative teams was expected. The evaluation also found that some teams did not continue in the Campaign, not because they were working on an idea for improvement that failed to demonstrate its worth, but because they failed to engage with the model for improvement.

Successful teams developed skills in applying the model for improvement. These teams described how applying small scale measurable cycles, to test whether their idea for improvement actually delivered what was expected, was an eye opener in terms of challenging initial assumptions of how change would work. Reflecting on what helped teams succeed, the majority of Beyond 20,000 Days Collaborative team leaders credited the model’s ability to turn ideas into action as a major advantage.

**Learning from measurement**

Participants in the 20,000 Days Campaign reported applying improvement tools such as Plan Do Study Act (PDSA) cycles and agreeing goals and learning from tests that failed, but were more tentative when assessing how well they measured progress. As each improvement idea was so distinctive, responsibility for finalising the measures of success lay within each Collaborative team.

The robustness of the indicators used by teams improved between the Campaigns. By the Beyond 20,000 Days Campaign, the secondary review of team measures saw stronger reporting of process measures. The emphasis in the Beyond Campaign, away from a goal focused solely on the number of days saved, opened up the possibility for a wider range of outcome indicators. During the Campaigns, teams often experimented with a wide range of outcome measures – e.g. reduced waiting times, improved patient functioning scores. However, after the Beyond 20,000 Days Campaign finished, those teams which wanted to make the case for permanent funding paid increased attention to backing up their claims for improvement with long range predictions around saving bed days.

**Sustaining improvement**

Campaign sponsors’ own preparedness to adapt and learn as one Campaign transitioned into another meant these Campaigns were implemented in an adaptive climate. From the beginning, the Campaigns’ communications - with the tagline, “wouldn’t you rather be at home” - sought to make the Campaigns relevant to what patients valued. Although the 20,000 Days Campaign had a specific bed days target in mind, by the Beyond 20,000 Days Campaign, this was replaced by a continuing focus on giving back “well days” to the community. This definition of a “well day” focused on what patients and families valued, rather than the hospital bed day management system.
Lessons for similar Campaigns

The evaluation found the IHI breakthrough series and model for improvement could be successfully applied to such a broad topic, with the following implications:

1. In situations where the majority of Campaign participants come from the same organisation, the shared background and culture can help prime the environment for Campaigns. In this case, earlier work highlighting to staff the problem of increasing demand for secondary services within a constrained budget, along with a culture open to doing things differently, meant the CMDHB Campaigns were “pushing on an open door”.

2. As there is greater uncertainty around what actions would have the biggest impact on managing demand, so the complexity of what needs to be measured is increased. Despite the Campaigns only expecting to last for either a year or eighteen months, the reality is that teams required a two year turnaround to move from collecting enough data to show the impact of the change, to then working to embed that change within the organisation.

3. In an environment with little funds to do anything different, there is a potential to sweep up many improvement ideas into such a broad topic. Strong levels of engagement were reported in the first Campaign, and teams actively came forward to participate in the second Beyond 20,000 Days Campaign. A Dragons’ Den process helped to mediate between harnessing the energy of those with ideas for change, with wanting to back the ideas most likely to achieve the overall goal of the subsequent Beyond 20,000 Days Campaign.

4. Given the diversity of change ideas being trialled, there was little benchmarking between teams. What did unite teams was the opportunity to share the experience of applying the model for improvement. This resulted in a heightened awareness that each Collaborative team needed conditions that supported the application of the model for improvement. In these Campaigns, this required an ability to release a high number of team members to attend learning sessions and learn about PDSAs, and sufficient infrastructure to start early on regular cycles of PDSAs. For those teams whose improvement ideas required co-ordination across a number of different services, the technical know-how of how to apply the model for improvement was valued alongside the collective experience of learning to manage change.
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1. Introduction

The purpose of the 20,000 Days Campaign, and its follow up the Beyond 20,000 Days Campaign, was to reduce predicted hospital demand at Middlemore Hospital by resourcing sets of Collaborative teams to implement different ideas to save bed days.

In this report, the two Campaigns are considered as a package. They drew on the same organisational support and branding and had a shared focus on managing hospital demand.

The need to save 20,000 days was derived from a CMDHB bed model that estimated the number of beds required in Middlemore Hospital to meet the peak hospital bed demand in a year. The aim was to avoid this projected growth in demand.

An independent evaluation of both the 20,000 Days and Beyond 20,000 Days Campaign was requested by Counties Manukau District Health Board (CMDHB) in order to capture the impacts of the Campaigns and provide formative lessons for future Campaigns.

Following advice that the best way to evaluate context-sensitive improvement initiatives is to explore how and in what contexts the quality improvement initiative works [3], this realist evaluation explored how the Campaigns achieved their goals to:

1. Give back to our community 20,000 healthy and well days so reducing hospital demand by 20,000 Days by 1 July 2013 (20,000 Days Campaign).

   *This was an 18 month Campaign which began with a launch in October 2011, and continued until July 2013.*

2. Continue giving back healthy and well days to our Counties Manukau community by 1 July 2014 (Beyond 20,000 Days Campaign).

   *The follow-up year-long Campaign, started planning in March 2013 with a launch in May 2013, and continued until July 2014.*

The implementation of the Campaigns drew on the learning and wisdom embedded in the Institute for Health Improvement (IHI) Breakthrough Series Structure [1]; a structure centered on the theory that small immediate changes to practical problems accumulate into large effects. Box One overleaf lists the individual aims for each of the Collaborative teams that finished the Campaigns. Throughout both Campaigns the numbers of teams involved varied, according to whether they started the Campaigns (29 teams), maintained momentum right up until the end of the Campaigns (24 teams), went on the make a case to implement their change permanently (19 teams), or returned to business as usual (10 teams).

This report is organised into two major sections: the first describes what happened (Campaign Background), and the second presents the evaluation results organised around
five causal mechanisms (Campaign Evaluation Results). A series of enabling and constraining factors made each of the five mechanisms presented more or less likely to work in the context of the distinctive form of the CMDHB Campaigns.

The results were developed from qualitative and quantitative data from semi-structured interviews, case studies and a questionnaire, along with a review of Campaign documents and measures from both Campaigns.

Appendix One provides a list of abbreviations and terms used in this report.

Box 1 The Campaign Collaborative Teams

<table>
<thead>
<tr>
<th>20,000 Days Campaign</th>
<th>Beyond 20,000 Days Campaign</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10 teams finished the Campaign</strong></td>
<td><strong>14 teams finished the Campaign</strong></td>
</tr>
<tr>
<td>Reduce hospital admissions/length of stay:</td>
<td>Reduce hospital admissions/length of stay:</td>
</tr>
<tr>
<td>Enhanced Recovery After Surgery (ERAS) – reduce length of stay for hip and knee patients by 1 or 2 days</td>
<td>Inpatient care for diabetes – reduce length of stay and readmission for people with diabetes by changing the model of inpatient diabetes care from reactive review to virtual review</td>
</tr>
<tr>
<td>Hip fracture care – reduce length of stay for over 64 years old from 22 days to 21 days</td>
<td>Early Supportive Discharge for Stroke – aim for a reduction of 4 days in average length of stay, functional improvements comparable to in-patients and a patient satisfaction score of 95% or greater</td>
</tr>
<tr>
<td>Transitions of care – provide a goal discharge date for patients in surgical and medical wards and increase the number of low acuity patients managed in the primary care setting rather than transported to hospital (St John)</td>
<td>Kia Kaha – achieve a 25% reduction in overall hospital and GP utilisation for 125-150 individuals with long term medical conditions and co-existing severe mental health/addiction issues engaged in the programme</td>
</tr>
<tr>
<td>Helping High Risk Patients – identify high risk primary care patients and reduce unplanned hospital admissions by 1625 bed days</td>
<td>Mental Health Short Stay – provide a safe environment in Emergency Care for the assessment and initial treatment of mental health service users, reducing unnecessary inpatient admissions</td>
</tr>
<tr>
<td>Skin Infections and Cellulitis – reduce the number of bed days used for patients with cellulitis by 5%</td>
<td>Acute Care of the Elderly – improve the care of acute medical patients over 85 years by developing and implementing a model of acute care for the elderly</td>
</tr>
<tr>
<td>Increase access to community support:</td>
<td>Increase access to community support:</td>
</tr>
<tr>
<td>Better breathing – increase pulmonary rehabilitation places from 220 to 470 a year</td>
<td>Healthy Hearts – aim for a mean improvement of 20% in the exercise tolerance test and health index questionnaires for those enrolled in a fit to exercise programme</td>
</tr>
<tr>
<td>Healthy Hearts – establish a patient flow process for patients admitted with new/acute or established heart failure under the care of cardiology teams</td>
<td>Very High Intensity Users (VHIU) – increase the number enrolled in a very high intensity user programme from 120 cases to 600 cases</td>
</tr>
<tr>
<td>Reduce harm to patients:</td>
<td>Franklin Health Rapid Response – develop a service to reduce avoidable presentations to Emergency Care by 4% and support a smooth transition back to their community.</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Safer Medicines Outcomes On Transfer Home (SMOOTH) – reduce medication-related readmissions by providing high risk adult patients with a medication management service at discharge and during the immediate post discharge period.</td>
<td>Healthy Skin – achieve a 20% reduction in recurrent presentations for skin infections among patients enrolled at Otara Family and Christian Health Centre.</td>
</tr>
<tr>
<td>Delirium – increase identification and management of delirium through Confusion Assessment Measure</td>
<td>Helping At Risk Individuals – reduce unplanned hospital admissions for the identified at risk population by providing co-ordinated planned management in the community.</td>
</tr>
<tr>
<td>Reduce harm to patients:</td>
<td>Memory Team – support people with dementia, their families and carers, to live independently as long as possible with the best possible health and mental wellbeing, within the bounds of their condition.</td>
</tr>
<tr>
<td>Feet for Life – reduce the number of lower limb amputations by at least 10% (from 42 to 37 per year) by 1 July 2014</td>
<td>Reduce unplanned hospital admissions for the identified at risk population by providing co-ordinated planned management in the community.</td>
</tr>
<tr>
<td>Safer Medical Admission Review Team (SMART) – by 1 July 2014, the SMART (doctor and pharmacists working together early) model will be applied to 90% of triage category 2-5 patients in Emergency Care between 8am -10pm</td>
<td>Memory Team – support people with dementia, their families and carers, to live independently as long as possible with the best possible health and mental wellbeing, within the bounds of their condition.</td>
</tr>
<tr>
<td>Well managed pain (WMP) – complete a multi-disciplinary assessment for 100% of patients referred to the WMP team within 4 days from referral – where relevant, document a multidisciplinary pain care plan</td>
<td>Reduce harm to patients:</td>
</tr>
<tr>
<td>Gout buster – screen 200 patients with a history of gout using the Gout Trigger tool</td>
<td>Reduce harm to patients:</td>
</tr>
</tbody>
</table>
2. Evaluation Design

This evaluation explores what it is about the CMDHB Campaigns that has helped or hindered their operations. Our starting point was that the Campaigns were designed to encourage CMDHB staff to think about how they might improve their services, to test ideas (recognising that some collaboratives might fail) and to develop capability in quality improvement, as well as to reduce hospital bed days (20,000 Days Campaign) and improve services (Beyond 20,000 Days Campaign).

In undertaking this evaluation, we aimed to explore what it was about the Campaigns that worked well [2], and to distinguish between the activities used to engage participants and change how they act (the execution theory), from the expected changes in clinical processes and outcomes improvement work (the content theory) [3]. The evaluation focuses on the Campaigns overall, and does not, for example, evaluate in detail each of the 29 collaboratives and their achievements.

The model that predicted CMDHB needed to save 20,000 days, to avoid a predicted increase in bed days is discussed in section 3.1 on page 21. Those with a research mind-set at the start of the first Campaign, were concerned that other factors could also explain any resulting difference between actual and predicted bed days, and it would be difficult to confidently attribute any difference to the work of the collaborative teams. Factors such as; physical capacity constraints, change in weather patterns, the lack of infectious disease outbreaks, or changes in elective volumes could come into play, as well as the recognition that a number of other interventions were underway seeking to manage demand outside of the Campaigns.

Reflecting on the contrast between measurement for improvement and measurement for research, Solberg and colleagues point out that measurement for improvement is designed to have a practical use, and not to produce new knowledge of a widely generalisable or universal value [4]. This distinction was picked up by those sponsoring the Campaigns, when they explained the first target of reducing bed days by 20,000 in the 20,000 Days Campaign was good enough for improvement, and set the scene for a more general target for the Beyond 20,000 Days Campaign:

_In [Beyond 20,000 Days] we were fortunate in that a lot of the argument [over numbers] has died away now. In two years we have worked through quite a lot...there is still a background of unhappiness around is it pure enough...and the answer is not a lot. It is messy and dirty but is it good enough for improvement. It probably is. That is why we kept the 20000 days language in beyond 20,000 days._ (Campaign sponsor).

As evaluators we were conscious of this tension between using specific systems measures as a means to garner energy around driving change, and using measures with a high degree of reliability and preciseness. In evaluating the Campaigns, our focus was less on whether the
specific numbers were achieved or not, and more on how the Campaigns were implemented and what worked well to support those involved.

We adopted a theory-based realist design in order to provide insights into the causal mechanisms through which these type of interventions lead to change, drawing on the findings from systematic reviews and other studies [5-9]. International literature on quality improvement collaboratives regularly finds variable evidence for their effectiveness [10-12], with some suggesting the modest effect sizes underscore the limitations of positivist evaluation, and signal a need for more sophisticated evaluation approaches [8].

A set of “top tips” of the characteristics most likely to lead to success is the common response when systematic reviews find insufficient evidence to draw definitive conclusions about the effectiveness of quality improvement collaboratives [12]. Dixon Woods and colleagues stress the importance of developing a sophisticated theory of how quality improvement initiatives really work to help avoid the assumption that all that needs to be done is to implement a simple checklist [13]. They recommend a theory-based evaluation approach for quality improvement initiatives, to elicit the causal mechanisms and conceptualise the social processes involved.

This evaluation follows this approach. The overall evaluation tests how CMDHB was able to reduce predicted demand on bed days and achieve improvements in services, by applying the IHI Breakthrough Series Structure to a diversity of improvement ideas, wrapped around the communications and energy of two Campaigns. The realist approach used in this evaluation pays particular attention to how different contexts shaped the outcomes achieved [2].

2.1 Data collection and analysis

The 20,000 Days Campaign ran from October 2011 until July 2013. The follow up Beyond 20,000 Days Campaign ran from May 2013 until July 2014.

Data to evaluate the Campaigns was collected in three stages between March 2013 and November 2014 (Figure 2.1), which allowed for an emerging picture of the ways in which the Campaigns were working to create change.

All research procedures were approved by the Victoria University of Wellington Human Ethics Committee and by CMDHB’s own ethics process. The evaluation provided ongoing feedback of results to those running the Campaigns.

In July 2014, a first report was produced for CMDHB evaluating the 20,000 Days Campaign. The experiences of the Beyond 20,000 Collaborative teams were followed up in a series of interviews and case studies to produce this final report on both Campaigns.
Eliciting the theory of how the Campaign operates

During March 2013, an evaluability assessment was undertaken to build the theory of how the 20,000 Days Campaign was expected to result in change [14]. This included a review of Campaign planning documents, and eight semi-structured interviews with those most closely associated with Campaign. An initial chain of reasoning of why the activities undertaken should lead to the outcomes sought was developed as an initial logic model to shape the subsequent evaluation.

Testing the experiences of those involved in the 20,000 Days Campaign

To test the experiences of those involved in the 20,000 Days Campaign, three sets of data were gathered; (1), semi-structured interviews were undertaken eight months after the 20,000 Days Campaign finished, (2) a questionnaire to all participants was sent via email using an address list provided by Campaign management (nine months after the Campaign ended), and a (3) secondary analysis of the Collaborative team dashboards was undertaken.

The interviewees for the semi-structured interviews were identified in discussion with the Campaign project leaders and were split between:
• Campaign sponsors, i.e. those in roles overseeing the budget, the relationship with Ko Awatea, and the relationship with CMDHB senior management team, as well as Campaign project leaders and improvement advisers (N=6).
• Collaborative team leaders who directly oversaw a topic-based Collaborative team within the Campaign (N=5).

During the interviews, which lasted up to 40 minutes, interviewees were asked to reflect on their experience during the Campaign, including where they thought they made the greatest progress, and what enabled them to do so, as well as where they faced the greatest challenges, and how they addressed these.

The questionnaire assessed the overall helpfulness of six specific features of the Campaign’s design and implementation adapted from two instruments developed to identify the features of quality improvements programmes that lead to their success [15 16].

The questionnaire was emailed to 150 participants from CMDHB mailing list and 39 replies were received. Given the large size of the original email the response rate was small at only 26 percent (39/150). Discussions with Campaign leaders indicated that a potential pool of active Campaign participants was likely to be 80 rather than the 150 emailed, so 39 replies could be viewed as more representative than initial response percentage suggests, i.e. 39/80 = 48.7%.

For the questionnaire virtually all questions were completed by all respondents, and every Collaborative team was represented, although in some cases, by only one or two respondents (Figure 2.2).

Figure 2-2 Collaborative teams represented in questionnaire responses

Those that replied were mainly team members (54%), while team leaders made up 19 percent of the responses and clinical expert advisers another 19 percent. The remaining 8 percent were project managers, or other expert advisers.
Dashboards and quantitative data were assessed against the defined indicators in the final project charter\(^1\) of the Collaborative. A researcher based within CMDHB was able to obtain dashboard data from eight of the ten final Collaborative teams. The aim was to understand more about how the teams measured their achievements.

The results of the interviews, questionnaire and secondary analysis of dashboards were synthesised to produce an updated theory of how the Campaign operated. A fuller description of the results and methods is available in the report that analysed the results of the 20,000 Days Campaign\(^{[17]}\).

Testing the experience of those involved in the Beyond 20,000 days Campaign

For the Beyond 20,000 Days Campaign, three further sets of data were collected: (1) semi-structured interviews with representatives of nine Beyond 20,000 Days Collaborative teams, (2) case studies of 4 teams, and (3) a secondary analysis of the system dashboard CMDHB used for both Campaigns.

The interview guide for the semi-structured interviews was informed by the experiences in the 20,000 Days Campaign, and further shaped by scholarship on how evidence-based ideas are implemented and spread \(^{[18]}\). The resulting analysis distilled an initial set of conditions that characterised successful teams, which was further tested against the experiences of the Case Study Collaborative teams.

Four Collaborative team case studies with the following distinguishing features were selected in discussion with the Campaign managers:

- a team working on a complex change (Stroke)
- a team working on a less complex change (Feet for Life)
- a team whose change experienced difficulties (In-patient Diabetes)
- a team with high participation from those outside CMDHB, as well as within CMDHB (Kia Kaha).

Figure 2.3 displays the numbers of people interviewed for each case study. Reflecting the diversity of health professionals involved in the Campaigns, those that took part included specialist diabetes nurses, podiatrists, charge nurses, physiotherapists, clinicians, primary care practitioners and pharmacists, as well as improvement advisers. We also accessed Collaborative team dashboards, presentations, posters, and business cases.

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\(^1\) The project charter is the official project description where aims, expected outcomes and measures are defined by each one of the Collaborative teams.
Our case study analysis combined both inductive analysis where themes were generated from the data, and a more structured deductive approach where the data were assessed against pre-selected constructs developed from the first set of interviews.

### 2.2 The logic model

Figure 2.4 presents the logic model for how the Campaigns were expected to have the hoped-for effects. Both Campaigns were run using IHI advice on important elements most strongly associated with success [1]. These cover understandings about how complex systems operate [19], the value of health professional communities of practice [20], and the underpinning philosophy of the model for improvement [21].
Figure 2-4 Logic model for both Campaigns

### Campaign Logic Model: 20,000 Days Campaign and Beyond 20,000 Days

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Short term outcomes</th>
<th>Medium term outcomes</th>
<th>Long term outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources distributed to those who identify an issue with the potential to reduce demand on the hospital.</td>
<td>Widespread attendance at 3 learning sessions</td>
<td>20,000 Days: Give back to our community 20,000 well and healthy and well days so reducing hospital demand by 20,000 days by 1 July 2013</td>
<td>5 team goals directly seeking to reduce length of stay</td>
<td>5 team goals directly linked to reducing length of stay</td>
<td>20,000 Days: Give back to our community 20,000 well and healthy and well days so reducing hospital demand by 20,000 days by 1 July 2013</td>
</tr>
<tr>
<td>13 Collaborative teams (20,000 Days) started</td>
<td>Collaborative teams produce project charters, and dashboards and undertake PDSA cycles during action periods.</td>
<td>Beyond 20,000 Days: Continue giving back healthy and well days to our Counties Manukau community by 1 July 2014</td>
<td>Expert coaching provided to Collaborative teams</td>
<td>8 teams made a business case to continue to receive funding (20,000 Days).</td>
<td>Beyond 20,000 Days: Continue giving back healthy and well days to our Counties Manukau community by 1 July 2014</td>
</tr>
<tr>
<td>11 Collaborative teams (Beyond 20,000 Days) started</td>
<td>See Box Four for more details</td>
<td>See Box Six for more details</td>
<td>See Box Five for more details</td>
<td>See Box Two for more details</td>
<td>See Box Six for more details</td>
</tr>
<tr>
<td>See Box Three for more details</td>
<td></td>
<td>2. Dedicated resources to teams including:</td>
<td>10 teams made a business case to continue to receive funding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Short term FTEs</td>
<td>• Operating costs</td>
<td>• Project manager support</td>
<td>• Improvement adviser support</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Investment of 2.7m (20,000 days) and 2.5m (Beyond 20,000 Days) covered:
- Campaign management and communications support
- Dedicated resources to teams including:
  - Short term FTEs
  - Operating costs
  - Project manager support
  - Improvement adviser support

### 8 team goals directly seeking to reduce length of stay
1. 2 teams testing new medical discharge service and delirium identification tool.
2. 4 teams providing safer and timely medicine management in EC, new services for patients in pain, with gout, or requiring podiatry.

### 5 team goals directly linked to reducing length of stay
1. 5 teams providing different types of care in the community
2. 5 teams providing different types of care in the community
3. 1 team testing new medical discharge service and delirium identification tool.
4. 4 teams providing safer and timely medicine management in EC, new services for patients in pain, with gout, or requiring podiatry.

### 3 team goals providing different types of care in the community
1. 3 team goals providing different types of care in the community
2. 3 team goals providing different types of care in the community
3. 3 team goals providing different types of care in the community
4. 3 team goals providing different types of care in the community
5. 3 team goals providing different types of care in the community

### Reduced harm to patients
1. 2 teams testing new medical discharge service and delirium identification tool.
2. 4 teams providing safer and timely medicine management in EC, new services for patients in pain, with gout, or requiring podiatry.

### Reduced hospital admissions/Length of Stay
1. 5 team goals directly seeking to reduce length of stay
2. 5 team goals directly linked to reducing length of stay
3. 10 team goals providing different types of care in the community
4. 8 team goals providing different types of care in the community
5. 3 team goals providing different types of care in the community
6. 2 team goals testing new medical discharge service and delirium identification tool.
7. 4 team goals providing safer and timely medicine management in EC, new services for patients in pain, with gout, or requiring podiatry.
2.3 Limitations

This evaluation relies on self-reported interview and questionnaire data, to assess the extent and type of engagement with the Campaigns. In the interviews, apart from the case studies, only 1-2 representatives of each Collaborative team were interviewed, and we relied on recall of experiences which were either 8 months past (20,000 Days campaign), or 4 months past (Beyond 20,000 Days).

The 26 percent response rate to the questionnaire was lower than desirable. This was due in part to it being emailed to a larger group who were not all actively involved in all aspects of the Campaign, and to being distributed after the Campaign finished, when teams were considerably smaller in size. While the results of the questionnaire could be argued to cover a small group who are unduly positive, this can be countered by: (1) a recognition that this group may be more representative than the initial response percentages suggest given the caveats above, and (2) a concurrence of themes and experiences with those that were interviewed in greater depth.

We did not re-calibrate the measures used in each Collaborative to predict whether the proposed change would work, but we did review the quality of data presented in the dashboards to assess how well teams measured the impact of their changes.

The claims in the 20,000 Days Campaign that 23,060 bed days were “saved” may not have happened if the initial model used to predict the savings needed turned out to be flawed or inaccurate, but we have not been able to test that model. However, as one Campaign transitioned to another, the emphasis on a numerical target diminished in favour of a more general target of improving care in ways that also reduced demand on the hospital.
3. Campaign Background

3.0  Introduction

The Campaigns followed the recognisable features of the Breakthrough Series (BTS) Collaborative developed by the Institute of Healthcare Improvement (IHI) [1], but were distinctive in extending the BTS model from one that normally spreads well-known clinical practice, to the broader topic of reducing demand for hospital care. Box Two provides a nutshell description of the BTS process.

Collaborative teams came together in each Campaign to work in a structured way over a limited period. By applying the BTS model, the expectation was that small immediate changes to practical problems would accumulate into large effects, with the large effects being the respective Campaign goals to:

1. Give back to our community 20,000 healthy and well days so reducing hospital demand by 20,000 Days by 1 July 2013 (20,000 Days Campaign)
2. Continue giving back healthy and well days to our Counties Manukau community by 1 July 2014 (Beyond 20,000 Days Campaign)

The small immediate changes were developed by frontline staff and covered a diversity of ideas to reduce length of stay, increase access to community support, and reduce harm and subsequent readmissions. Box One earlier on page 10 outlined the improvements sought by the Collaborative teams in each Campaign. Many involved new organisational models or processes of care, and were reliant on promoting new behaviours from health professionals.

Each idea for improvement required approval by Campaign sponsors before the Collaborative teams were given resources to implement the proposed changes over the life of the Campaign. A Campaign team\(^2\) provided individual Collaborative teams with a project manager, an improvement adviser, training in the theory and practice of the model for improvement, and specialised improvement support.

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\(^2\) An Operational Group, comprising Campaign Manager, Campaign Clinical lead, along with Improvement Advisers and a Communications Co-ordinator, was the focus of centralised activity throughout both the 18 month 20,000 Days Campaign period and the year-long Beyond 20,000 Days Campaign.
Campaign sponsors spent time in the early days of the Campaign engaging the senior leadership team of the hospital and actively recruiting clinicians to support the work of each Collaborative team.

The Campaigns were well resourced. At $2.7 million (2012-2013 actual costs), the 20,000 Days Campaign budget allocated approximately one-third for improvement support, which covered improvement advisers and project managers, with the other two-thirds going towards new activity in the Collaborative teams. The Beyond 20,000 Days budget was divided in a similar ways, and came in at $2.5 million for the 2013-2014 period.

### 3.1 Why 20,000 Days?

The goal of the first 20,000 Days Campaign of giving back to the community 20,000 well and healthy days was derived from a CMDHB bed model that estimated the number of beds required in Middlemore Hospital to meet the peak hospital bed demand in a year (allowing for only three hospital full days in a year). As reported in internal measurement papers\(^3\) (see Figure 3.1), 66 extra beds were needed by 1 July 2013 to reduce the number of full hospital days to three per year. This equated to 4,500 bed days needing to be averted in 2011, with another 7,800 beds by 2012, and a further 8,000 bed days by 2013, resulting in the total bed days to be prevented by 1 July 2013 estimated at 20,300 bed days.

This model looked at where additional growth had occurred in the past 5 years (from 2005 to 2010) - for example in 2010/2011 bed days had increased by 5.8 percent compared to the previous corresponding year – as well as demographic growth.

#### Figure 3-1 Estimated number of bed days savings needed to reduce the number of full hospital days to 3 per year

<table>
<thead>
<tr>
<th>Timeline</th>
<th>1/07/11</th>
<th>1/07/12</th>
<th>1/07/13</th>
<th>1/07/14</th>
<th>1/07/15</th>
<th>1/07/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed day savings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>needed immediately</td>
<td>4,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed day savings from demographic growth</td>
<td>4,900</td>
<td>5,000</td>
<td>4,300</td>
<td>4,500</td>
<td>5,100</td>
<td></td>
</tr>
<tr>
<td>Bed day savings from non-demographic growth</td>
<td>2,900</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td></td>
</tr>
</tbody>
</table>

The modelling outlined above was regularly summarised in leaflets and other presentations as part of the communications developed for the Campaign. For accessibility of messaging, rather than talk of reducing bed days, communications focused on returning healthy and well days to the community.

Following on from the 20,000 Days Campaign, the Beyond 20,000 Days Campaign aimed to continue giving back healthy and well days to the community. The Campaign sponsors were conscious that the original predictive model that calculated 20,000 bed days needed to be saved was now based on historical figures which had not been updated - the original model

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\(^3\) CMDHB bed model – 2009/10 base year (01/09/2011)
was only intended to be used as forecast through to 1 July 2013. In addition, the earlier 20,000 Days Campaign had problems attributing the collective number of days saved to the work of the Collaborative teams, so in the Beyond Campaign, a specific number of days to be saved was not set. Each Beyond 20,000 Days Collaborative team identified their own target of how many days they would like to save, or how many admissions or readmissions they would like to prevent.

The driver diagrams in Appendix Two highlight how each Campaign thought about the Collaborative teams likely to influence their overall goal. While the goals between each Campaign were relatively similar, apart from a specific target of days saved, the thinking around the primary drivers was different. The 20,000 Days Campaigned focused strongly on change concepts related to admissions, length of stay, readmissions, and community well-being. In contrast, the Beyond 20,000 Days Campaign listed a broader set of primary drivers: the provision of equitable, patient/whānau centred, safe, timely, effective and efficient care.

Comparing the documents summarising the results of each Campaign, this difference in primary drivers is also apparent. The 20,000 Days document celebrates the number of days saved and healthy well days returned to the community - calculated at 23,060 days by 1 July 2013. The Beyond 20,000 Days document puts greater emphasis on: (1) the advantages of building a group of people with quality improvement skills – “the superheroes of improvement” and (2) the positive impact the work of the teams had on patients and families.
3.2 The Campaigns

The 20,000 Days and Beyond 20,000 Days Campaigns were run according to the stages laid out by the IHI Breakthrough Series (BTS) Collaborative model [1]. The boxes below provide details on what was happening in each stage with an emphasis on the adaptations made between the Campaigns. These details were informed by a review of Campaign materials, and semi-structured interviews with Campaign sponsors and Collaborative team leaders in both Campaigns.

Box 3 Topic selection

<table>
<thead>
<tr>
<th>20,000 Days Campaign</th>
<th>Beyond 20,000 Days Campaign</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>October 2011-July 2013</strong></td>
<td><strong>May 2013-July 2014</strong></td>
</tr>
</tbody>
</table>

Drawing on a history of concerns about increasing hospital demand and constrained public funds, the goal of saving 20,000 Days was agreed by CMDHB management and Board. An evidence-based session was held to select those interventions most likely to have a measurable impact on the goal.

Discussions drew heavily on what was learnt from a range of previous work looking to integrate primary and secondary care across the region. Evidence was sourced from international experiences and local pilots.

Most teams were comprised of CMDHB staff. Teams chose to participate and were not mandated to do so. The 20,000 Days Campaign worked with those willing to apply the IHI method, and often inherited work that was already underway.

**13 Collaborative teams of between 8-10 members each were initially assembled.**

While the overall goal of reducing bed days was maintained, CMDHB wanted to move beyond hospital-based teams in order to demonstrate the change being sought occurred across the health system. More attention was given to ensuring the next set of Collaborative teams had members and topics addressing access to community support and were of a size and complexity that required multi-disciplinary teams to come together in regular meetings.

An open call was made for prospective Collaborative teams. 40 proposals needed to be short-listed. Team leaders presented their ideas at a Dragons’ Den to get support on whether to proceed. Unlike a more traditional Dragons’ Den, where entrepreneurs bring ideas and get a straight yes or no answer, this process put more emphasis on improving the fit of the proposed change idea with the overall objective of Beyond 20,000 Days.

**16 Collaborative teams of between 8-10 members were initially assembled.**
Box 4 Activities

BOX FOUR: ACTIVITIES
Participants attend a structured set of activities built around collaborative learning in learning sessions and action periods.

Learning sessions are face-to-face meetings (usually three in total) which bring together multidisciplinary teams to exchange ideas. At these sessions, experts teach participants about the evidence base and quality improvement methods (e.g. how to plan, implement, and evaluate small changes in quick succession), and participants report their changes and results, share experiences, and consider how to spread their innovations to other sites.

Between learning sessions (during “action periods”), teams test and implement changes in their local settings and collect data to measure the impact of their changes.

<table>
<thead>
<tr>
<th>20,000 Days Campaign</th>
<th>Beyond 20,000 Days Campaign</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 20,000 Days campaign ran for 18 months. A total of six days of learning sessions were attended by 80 - 100 people.</td>
<td>The Beyond 20,000 Days Campaign ran for a year. A total of five days of learning sessions were attended by 100 - 120 people.</td>
</tr>
<tr>
<td>A cohort of people experienced at using the tools of improvement science was built through a partnership between Ko Awatea and IHI at the time the Campaign started. The expectation was that these skills would support the development of the change package, and the application of Plan Do Study Act (PDSA) cycles within Collaborative teams.</td>
<td>An experienced improvement adviser continued to provide training and coaching on the IHI model for improvement.</td>
</tr>
<tr>
<td>The style of implementation of the first Campaign was widely reported as one of shared learning. Campaign leaders acknowledged they were taking cues from how the IHI method rolled out in the nation-wide CLAB Campaign⁴.</td>
<td>The amount of work completed by the Collaborative teams was generally viewed as larger the second time around. This was attributed to the skills built from the 20,000 Days Campaign, and prior experiences which meant team members anticipated the importance of preparing results for learning sessions.</td>
</tr>
<tr>
<td>13 Collaborative teams started the Campaign, and after the Campaign was completed 8 teams moved on to permanently implementing changes. The other 5 teams returned to business as usual.</td>
<td>Having observed the impact of different team combinations in the first Campaign, in the Beyond 20,000 Days Campaign sponsors made sure each team had 2 elements: (1) the expert team that provides the governance to make sure that it is clinically safe and appropriate, and (2) working group members who are able to meet weekly or fortnightly to actually do the testing and the analysis.</td>
</tr>
<tr>
<td>16 Collaborative teams started the Campaign, and after the Campaign was completed 11 teams moved on to permanently implementing changes. The other 5 teams returned to business as usual.</td>
<td></td>
</tr>
</tbody>
</table>

⁴ Target CLAB Zero Campaign was run across New Zealand from October 2011 to April 2013. This Campaign also used the IHI Breakthrough Series Methodology and was run out of Ko Awatea at CMDHB on behalf of the Health Quality and Safety Commission. The aim was to reduce the rate of Central Line Associated Bacteraemia (CLAB) in hospitals throughout the country towards zero (<1 per 1000 line days by 31 March 2013).
Box 5 Immediate outcomes

**BOX FIVE: IMMEDIATE OUTCOMES**
When the Campaign concludes, the work of the Collaborative teams is documented and teams make plans to sustain or spread improvements to others within the organisation.

<table>
<thead>
<tr>
<th>20,000 Days Campaign</th>
<th>Beyond 20,000 Days Campaign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change packages were captured in booklets called “how to guides” to be shared with other health service providers. Five “how to guides” have been published (<a href="http://www.koawatea.co.nz">www.koawatea.co.nz</a>)</td>
<td>Further change packages are in the process of being captured in “how to guides”.</td>
</tr>
<tr>
<td>Internal business cases needed to be drafted to make the case for ongoing funding when projects had reached a point where they were ready to be sustained and spread at the end of 18 months. These cases required the type of information that supports ongoing resourcing decisions within CMDHB - i.e. job descriptions, options for different service combinations, and cost information - rather than just the evidence that came from measuring change for improvement.</td>
<td>The year-long nature of the Beyond Campaign meant there was a very short time period to amass evidence of results for business cases. A number of teams were engaged in two types of activity by the end: (1) still designing the type of change that was most effective, and (2) developing a case to continue with the original extra implementation resource using a version of Treasury’s Better Business template.</td>
</tr>
<tr>
<td>8 teams made a business case to continue to receive funding when the Campaign finished. All teams were successful in securing permanent funding.</td>
<td>11 teams made a business case to continue to receive funding when the Campaign finished. Four received permanent funding and 7 are in the processes of completing business cases.</td>
</tr>
</tbody>
</table>

Box 6 Medium and longer term outcomes

**BOX SIX: MEDIUM AND LONGER TERM OUTCOMES**
Through system level dashboards, the aim is to build an understanding of how a system operates over time in order to recognise an inflexion point that tells you permanent change is occurring, and conversely when statistical variation is to be expected.

<table>
<thead>
<tr>
<th>20,000 Days Campaign</th>
<th>Beyond 20,000 Days Campaign</th>
</tr>
</thead>
<tbody>
<tr>
<td>The outcomes of the Campaign were measured in three different ways: (1) a graph tracking whether the Campaign target of 20,000 bed days saved was achieved against the predicted increase, (2) a family of measures in an overall Campaign Dashboard which aimed to identify the type of permanent change occurring throughout the system, and (3) Collaborative team level dashboards displaying data demonstrating the outcomes achieved by each particular change idea.</td>
<td>The outcomes of the Beyond 20,000 days Campaign were tracked through a continuation of the family of measures in the overall Campaign Dashboard and the individual team Collaborative team level dashboards.</td>
</tr>
<tr>
<td>When the Campaign finished in July 2013, it was announced that 23,060 days had been saved.</td>
<td>When the Campaign finished in July 2014, it was announced that CMDHB had “saved more bed days, increased access to community based support, improved efficiency, reduced costs, and continued to build on the improvement expertise established by 20,000 Days”5.</td>
</tr>
</tbody>
</table>

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5 Quoted in Beyond 20,000 Days summary document produced at the end of the Campaign
At CMDHB, the decision to run a Campaign using the IHI Breakthrough Series methodology was fairly straightforward, linked to the emergent capability in Ko Awatea⁶, the appointment to Ko Awatea of a senior leader with IHI links, and a CEO who had had experience with earlier IHI Campaigns in other countries.

Apart from an earlier small scale Collaborative involving the Auckland District Health Board and Ministry of Health in 2007, the application of the IHI methodology is not well known in New Zealand. When they trialled the approach across 15 general practices involved in managing longer term conditions, the Auckland DHB found their Collaborative teams made small but clinically significant improvements. Building off the gains made in the “stimulation of discussion, practice team work, and practices learning from each other” [22], p333, the evaluators concluded that the approach had the potential to do more.

3.3 The distinctive nature of these Campaigns

The IHI approach has been adopted on a large scale by the United States’ Health Resources and Services Administration, and the United Kingdom’s National Health Service, but it is still relatively uncommon to cover such a diversity of change ideas under one Campaign umbrella.

The well-known IHI Campaigns to save 100,000 lives in the United States were pivoted around six evidence-based practices including medication reconciliation and the prevention of central line infections. The 20,000 Days Campaign and Beyond 20,000 Days, extended the IHI Breakthrough Series Collaborative from one that normally spreads a shared and well-defined best practice, to the broader topic of reducing demand for hospital care.

Three attributes distinguish the CMDHB Campaigns from others covered in the literature:

1. the teams generally come from within CMDHB, rather than across organisations and sites
2. different change ideas were tested as opposed to the same bundle of best practices
3. two sequential Campaigns were implemented with elements that flowed from one to another.

More intra-organisational learning than inter-organisational learning

Locating the Campaign teams mainly within CMDHB meant the Campaigns experienced little of the tension found in other Collaborative initiatives where participants found they needed

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⁶ Ko Awatea is CMDHB’s learning and innovation centre. Ko Awatea provided the coaching, the teaching and the venues for the structured learning sessions as well as bringing together the “content experts’ and improvement advisers.
to reconcile the interests of their main employing body with that of the inter-organisational network created by the Collaborative [8]. The Beyond 20,000 Days Campaign sought to extend the range of participants from community-based, rather than hospital-based organisations. Nevertheless, participants who worked in the community rather than the hospital were still employed by CMDHB. Across CMDHB, there was an incentive for those who wanted to implement new programmes to retrofit their ideas to the Campaigns’ aims, as there was little funding available for any other new projects.

Being focused on intra-organisational rather than inter-organisational learning, had the advantage of drawing on a common organisational understanding. Unlike Safety Campaigns, which often use data to rupture participants’ perceptions’ or assumptions that there is no problem to be addressed [13], the CMDHB hospital demand problem was already a well-recognised issue at the beginning of the 20,000 Days Campaign. Historically, Counties Manukau has been at the forefront of a number of initiatives to improve service delivery [23-26]. During the 2000s, 30 separate projects were undertaken to improve coordination and integration of health services, driven by what was described as an “imminent crisis in the provision of healthcare to its population”, due to increasing demand for secondary care services [26, p1].

As a result, the organisational environment was well primed from this past work, alongside the modelling work at the start of the Campaign persuading staff of the existence of a shared problem around which they could organise. By contrast, the 2007 Auckland Collaborative reported initial problems encouraging participation from general practices, suggesting this was due to suspicion stemming from the DHB’s historical role in contract monitoring and compliance [22]. The quality improvement literature has reinforced that the history of change matters. One of the explanations as to why there were lower levels of support and engagement between a similarly structured National Health Service and United States Safety Collaborative Campaign, was linked to the National Health Service history of strong sanctions for hospitals that failed to meet externally imposed accountability requirements [27].

Little benchmarking between teams given the diversity of change ideas being trialled

The expectation in single topic Campaigns is that the sharing of information between teams drives improvement through a group effort, or in some circumstances, competition between teams working on the same topic may be more of a spur [28]. Benchmarking between teams may be variously experienced as friendly rivalry, or time consuming and stressful [8]. Either way, the group effort in the CMDHB Campaigns was focussed on the shared experience of using the model for improvement as a way of driving change, rather than sharing learning on how to implement the same best practice.

This had advantages and disadvantages. Øvretveit and colleagues have pointed to potential difficulties when each team is working on significantly different types of improvement as
there may not be clear or directly comparable examples of best practice, change concepts, or good research evidence [29]. In single topic Safety Campaigns, much of the investigation into the size of the issue and the evidence for the suggested changes is gathered and communicated to the Collaborative teams. In the CMDHB Campaigns, while the size of the hospital demand problem, and the potential areas for improvement were scoped at the start, the work of finalising the detailed evidence of treatments and measures of success relied heavily on work within each Collaborative team.

Work on quality improvement collaboratives in general has suggested that only 30% of organisations involved achieve significant improvements, while another 30% may drop out and the remainder may make relatively little progress [29]. Those sponsoring and running the CMDHB Campaigns knew that the diversity of ideas meant there was an even higher potential that there would be some drop-off of teams and some teams might make little progress. It was therefore not unexpected that 8 of the 13 Collaborative teams that started the 20,000 Days Campaign went on to implement their changes permanently, and 11 of the 16 that started the Beyond 20,000 Days Campaign did the same. Those teams “implementing changes permanently” were making a case to continue permanently any additional delivery resource they received throughout the Campaign. Those teams that returned to business as usual (5 teams in each of two Campaigns, i.e. 10 teams altogether) were not making such a case and were viewed as part of a process of winnowing out less effective change ideas, rather than a failure to implement agreed best practice.

For Campaign sponsors, 62 per cent of Collaborative teams in the 20,000 Days Campaign and 69 per cent of Collaborative teams in the Beyond 20,000 Days Campaign went on to implement changes permanently. These percentages were a respectable outcome. Nevertheless, when to exit teams who were not working effectively within the time period of the Campaigns was problematic. Campaign managers were hesitant to stop teams unless there was a very clear reason why the extra funding and support should not continue, although with hindsight they could see benefit in more frequent project reviews. In these situations, the philosophy that small scale tests results in learning about both effective and ineffective change, comes up against a concern that when a lot of meetings tie up staff time and are going nowhere, there is a risk that significant resource (and goodwill) is wasted.

Learning what works

In this report, the two Campaigns are considered as a package given their shared focus on managing hospital demand and the fact they drew on the same organisational support and branding. In transitioning between the two Campaigns an ongoing attempt was made to adapt and learn what works. Box Seven summarises these lessons as captured from interviews with Campaign sponsors between the Campaigns.
Box 7 Lessons learnt

<table>
<thead>
<tr>
<th>Choosing successful collaborative teams involves:</th>
<th>Running successful Collaborative teams involves:</th>
<th>Running a Campaign requires:</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ Giving priority to change concepts that integrate secondary care, primary care and the community to reach the goal of reducing demand on the hospital.</td>
<td>➢ Requiring an expert team to ensure any change is clinically safe and appropriate, and a working group of people who are able to meet weekly or fortnightly to actually do the testing and the analysis.</td>
<td>➢ An ability to adapt and learn: the Campaign aimed for small incremental change working with those willing. Adjustments were made as more was learnt about how the IHI approach worked in practice.</td>
</tr>
<tr>
<td>➢ Ensuring Collaborative teams are formed around topics of a size and complexity that requires multi-disciplinary teams to come together in regular meetings.</td>
<td>➢ Looking for a Collaborative team mind-set prepared to spend time testing a change idea, rather than moving straight to implementing the change.</td>
<td>➢ Thinking about the exit plan: having good evidence of how much extra workload might be involved in putting an improvement in place, and who needs to spread change when initiatives have been proved successful, requires planning earlier rather than later.</td>
</tr>
<tr>
<td>➢ Requiring budgetary information of the costs associated with downstream change, as well as the potential size of impact (i.e. the number of days saved).</td>
<td>➢ Supporting teams with a small number of realistic and feasible outcome indicators, and a wide variety of process indicators.</td>
<td></td>
</tr>
<tr>
<td>➢ Putting in place a Dragons’ Den to align initial thinking with other organisational priorities.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.4 Summary

Using the logic presented in Boxes Three to Six of how the Campaigns were expected to have an impact on their goals of giving back healthy and well days to the community, this evaluation tests how well the activities used to engage participants and change how they worked (the execution theory), and what can be concluded on whether the expected changes in outcomes occurred (the content theory) [3]. The results are presented in the next section.

The execution theory draws heavily on prior IHI experience of large scale quality improvement initiatives that indicate that adherence to the establishment of a quality improvement plan with clear aims, reliance on multi-disciplinary implementation teams, and the conduct of small tests of change is likely to positively affect implementation of a quality improvement initiative [1 30].
A number of distinctive attributes of the way the Campaigns operated came from extending the IHI approach to the broader topic of reducing demand for hospital care. The Campaigns promoted more intra-organisational learning than inter-organisational learning, there was little benchmarking between teams because of the diversity of change ideas being trialled, and the transitioning of one Campaign into another reflected an interest in applying the learning generated in the first Campaign. In both Campaigns, the teams were united by learning how best to apply the model for improvement, as opposed to learning how best to apply the same agreed best clinical practice.

Overall, the experience that different Collaborative teams demonstrated different levels of success was not unexpected, as there was not the same consensus around the scientific evidence on best practice as seen in single-topic Campaigns.
4. Campaign Evaluation Results

4.0 Introduction

This section firstly explores the high level outcomes from the Campaigns and then moves on to discuss what it is about these Campaigns that has helped or hindered their operations. The multi-dimensionality of success in these Campaigns made it very important to be specific about the outcomes being judged, and the mechanisms by which change was being achieved.

This section explains how and why the Campaigns worked, grouped around five causal mechanisms. Using aspects already known to shape the outcomes of quality improvement initiatives, these causal mechanisms also drew on the Campaign sponsors’ initial ideas about how change would be achieved and covered:

1. Organisational preparedness to change - what type of fit was there between CMDHB’s organisational aspirations and the Campaigns goals?

2. Enlisting the early adopters - as improvement interventions are expected to be more likely to succeed when they are developed with, rather than imposed on, healthcare professionals [31], how was this managed?

3. Strong collaborative team dynamics - quality improvement collaborative teams are expected to learn more and improve faster than individuals. What type of conditions helped or hindered the work within each Collaborative team?

4. Learning from measurement - how strong were the feedback loops created to gauge the impact of changes within each Collaborative?

5. Sustaining improvement – what can be concluded about the way outcomes achieved by teams accumulated into achieving the Campaigns goals?

Figure 4.1 locates each of these mechanisms within the broader context of the Campaign as laid out in the logic model on pages 17-18. In realist evaluation “mechanisms” are more than just a description of the type of process used to cause change; they represent the interaction between the resources the Campaign provides (i.e. the inputs in the first column in Figure 4.1) and the reasoning of Campaign participants [32].

The changes being trialed across the Collaborative teams relied heavily on changes in processes of care and the behaviours of healthcare professionals. Campaign participants’ spear-headed these changes with colleagues. Understanding how these participants were
supported to improve is a focus in the following sections. The sections explore; how participants were inspired by the Campaign goal, motivated to come up with their own ideas for change, engaged in team-based learning, learnt from measurement, and contributed to the planned, and evolving, outcomes of the Campaigns.

During both Campaigns, internal work was undertaken to measure the effects. In the 20,000 Days Campaign, this involved tracking the difference between projected demand and actual bed days. In the Beyond 20,000 Days Campaign, the assumption was that the self-reported results of the Collaborative teams were continuing to influence a reduction in bed days, and accounted for improvements overall. We reviewed this Campaign measurement material and report on our findings in the discussion under mechanism 5 (learning from measurement) and mechanism 6 (sustaining improvement).
Figure 4-1 Mechanisms driving change in the Campaign

**Campaign Logic Model: 20,000 Days Campaign and Beyond 20,000 Days**

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Short term outcomes</th>
<th>Medium term outcomes</th>
<th>Long term outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment of 2.7m (20,000 days) and 2.5m (Beyond 20,000 Days) covered</td>
<td>Resources distributed to those who identify an issue with the potential to reduce demand on the hospital. 13 Collaborative teams (20,000 Days) 16 Collaborative teams (Beyond 20,000 Days) See Box Three for more details</td>
<td>Widespread attendance at 3 learning sessions Collaborative teams produce project charters, and dashboards and undertake PDSA cycles during action periods. Expert coaching provided to Collaborative teams See Box Four for more details</td>
<td>When Campaign concludes, teams make plans to sustain or spread improvements to others within the organisation. 8 teams made a business case to continue to receive funding (20,000 Days). 11 teams moved onto implementing changes permanently (Beyond 20,000 Days). See Box Five for more details</td>
<td>Reduced hospital admissions/Length of Stay: 5 team goals directly seeking to reduce length of stay 5 team goals directly linked to reducing length of stay Increase access to community support: 3 teams providing different types of care in the community 5 teams providing different types of care in the community Reduced harm to patients: 2 teams testing new medical discharge service and delirium identification tool. 4 teams providing safer and timely medicine management in EC, new services for patients in pain, with gout, or requiring podiatry See Box Two for more details</td>
<td>20,000 Days: Give back to our community 20,000 well and healthy days so reducing hospital demand by 20,000 days by 1 July 2013 Beyond 20,000: Continue giving back healthy and well days to our Counties Manukau community by 1 July 2014 See Box Six for more details</td>
</tr>
</tbody>
</table>

1. Organisational preparedness to change
2. Enlisting the early adopters
3. Strong collaborative teams
4. Learning from measurement
5. Sustaining improvement
Campaign outcomes

Internal analysis undertaken by CMDHB, shows they achieved saving 20,000 bed days by tracking the difference between projected demand and actual use. The assumption was that if the actual use was less than predicted, then CMDHB had a bed day gain.

Figure 4.2 below displays the two predicted growth models used to record changes towards the Campaigns goals. The first original growth model (the red dashed line in Figure 4.2), looked at where additional growth had occurred from 2005 to 2010, and added expected demographic growth, to conclude in 1 July 2013 that 23,060 bed days were saved.

Continuing with this predicted growth model, the total number of days saved at 1 April 2015, would stand at 74,677. However, CMDHB did not continue measuring days saved using this original growth model after 1 July 2013.

Instead, CMDHB used a second growth model (the green dotted line in Figure 4.2) based on demographic growth at 1.5%. This growth model took into account the progress they had already made in reducing bed days. Using this growth model, from 2011 the number of days saved stood at 34,800 by 1 April 2015.

CMDHB pointed out that one of the best indications of ongoing system wide improvement is seen in the ongoing decrease in actual bed days over the last nine months.
The CMDHB Campaign approach to measurement is not dissimilar to other international Campaigns to save 100,000 lives, in that a comparison scenario is based on what was experienced as at an earlier point in time. Reviews of these international Campaigns have pointed out these type of comparison measures are a powerful tool, but have limitations with causal linkages [33]. Many improvement programmes struggle to identify causal mechanisms as they take place during periods when a trend is already evident in the direction of change being promulgated. A challenge that has been reported for end of life care, stroke care, coronary balloon angioplasty and multifaceted safety programmes [34]. These Campaigns have been justified as still having an important role raising awareness, increasing the intensity of focus and stimulating managerial support for quality improvement [35].

The CMDHB Campaigns did make a difference in managing demand, but this can be tracked more confidently to the specific gains being worked on by the Collaborative teams in changes to services across the hospital, and in the community. Appendix Three provides examples of these changes. These covered:

- Reducing the length of stay for those acute medical patients over 85, by providing intensive multi-disciplinary team input, and acute and rehabilitative care in the same ward.
- Reducing waiting times to see a podiatrist for those undergoing dialysis by providing a podiatrist on-site.
- Reducing the frequency of admissions and re-admission for patients with heart problems, by providing a targeted community based exercise programme using local gym facilities.
- Increasing real time visibility of all patients with diabetes in the inpatient/emergency department environment, and offering the potential for more proactive care and reduction in length of stay.
- Exceeding national standards for medication safety by changing pharmacists operating hours, and creating a model of care where medical pharmacists join doctors on acute admitting days to review patients.
- Reducing the average length of stay for patients with mild to moderate stroke by providing a supported early discharge service.
- Reducing the length of stay for those patients with chronic pain by offering a multi-disciplinary assessment.

A further discussion on the link between the changes being put in place by the Collaborative teams, and the overall Campaign outcomes is covered in section 4.5.
4.1 Organisational preparedness to change

The importance of having the right organisational context for improvement has been well established as an explanation for why some quality improvement initiatives succeed, while others fail [36]. An organisational climate with a certain degree of openness, commitment, and motivation and risk taking, is regularly associated with faster responses to improvement efforts [37 38]. Advising on what makes a successful Campaign, the IHI emphasises the importance of “creating will” and aligning each Campaign’s goal with the wider direction of travel in an organisation [1].

The Campaigns benefited from a culture receptive to change. While some of those interviewed believed the professional branding and marketing was useful for building motivation for the Campaigns, a more common observation was that the Campaigns tapped into a deeper CMDHB culture of being innovative; i.e. a culture of being prepared to try new things, as explained by one interviewee:

*I think that our population is very diverse, and our staff reflect and embrace this diversity and I think that it was an opportunity to do something different which I think is embedded in the psyche of Counties staff. I have been here for a while and what impresses me is the receptiveness to do something differently, and be as creative as we can to embrace the diversity of our whole population.* (20,000 Days Collaborative team leader)

The Campaigns were nested within a wider strategy by CMDHB to manage demand for hospital admissions, and improve the care of people with long-term conditions. Awareness that CMDHB could not rely on hospital based health-care to the extent that they do currently was mentioned frequently by those interviewed in the 20,000 Days Campaign as the “burning platform”.

In response to questions around organisational support, questionnaire respondents agreed that CMDHB management was interested, and that there was a genuine desire to integrate quality improvement across the organisation, but there was slightly less certainty of executives getting directly involved or turning the Campaign goals into organisational policy. However, the question of ‘little value is placed on quality improvements’ was firmly rejected (Figure 4.3).
The results from the questionnaire showed nearly 80 per cent of questionnaire respondents agreed or strongly agreed that the 20,000 Days Campaign made a contribution to building a culture of quality improvement. Eighty four percent said the Campaign covered the right sort of topics, and 71 per cent said it was a huge success. (Table 4.1).

Compared with the high percentages agreeing the 20,000 Days Campaign was effective, there were more ambivalent responses to the statement that the Campaign had only a weak link with reducing demand; 55 per cent disagreed, 29 percent were neutral, and 16 percent agreed. When choosing Campaign topics, those setting up Campaigns are advised to choose interventions in areas with a reasonable consensus on the scientific evidence of what creates improved performance [13]. One explanation for these ambivalent responses may be that while the need to manage increasing demand at CMDHB was well recognised, it was not straightforward what the scientifically-based response to this need should be.
Table 4-1 Effectiveness of 20,000 Days Campaign

<table>
<thead>
<tr>
<th>Overall, in the broader picture, I think this whole Campaign …</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>actually did contribute to building a culture of quality improvement</td>
<td>36.8% (14)</td>
<td>42.1% (16)</td>
<td>10.5% (4)</td>
<td>10.5% (4)</td>
<td>0</td>
</tr>
<tr>
<td>had a well-recognised brand</td>
<td>28.9% (11)</td>
<td>50.0% (19)</td>
<td>13.1% (5)</td>
<td>5.2% (2)</td>
<td>2.6% (1)</td>
</tr>
<tr>
<td>covered the right sort of topics</td>
<td>13.1% (5)</td>
<td>71.0% (27)</td>
<td>10.5% (4)</td>
<td>2.6% (1)</td>
<td>2.6% (1)</td>
</tr>
<tr>
<td>was the best thing we have done in a long time to make changes</td>
<td>26.3% (10)</td>
<td>39.4% (15)</td>
<td>26.3% (10)</td>
<td>2.6% (1)</td>
<td>5.2% (2)</td>
</tr>
<tr>
<td>was a huge success</td>
<td>23.6% (9)</td>
<td>47.3% (18)</td>
<td>15.7% (6)</td>
<td>7.8% (3)</td>
<td>5.2% (2)</td>
</tr>
<tr>
<td>did not involve enough clinicians</td>
<td>2.6% (1)</td>
<td>23.6% (9)</td>
<td>21.0% (8)</td>
<td>34.2% (13)</td>
<td>18.4% (7)</td>
</tr>
<tr>
<td>had only a weak link with reducing demand on beds</td>
<td>2.6% (1)</td>
<td>13.1% (5)</td>
<td>28.9% (11)</td>
<td>42.1% (16)</td>
<td>13.1% (5)</td>
</tr>
<tr>
<td>was never going to work</td>
<td>5.2% (2)</td>
<td>5.2% (2)</td>
<td>5.2% (2)</td>
<td>60.5% (23)</td>
<td>23.6% (9)</td>
</tr>
<tr>
<td>was just a fashion</td>
<td>0</td>
<td>7.8% (3)</td>
<td>13.1% (5)</td>
<td>52.6% (20)</td>
<td>26.3% (10)</td>
</tr>
<tr>
<td>was not the right fit for my team’s area of interest</td>
<td>0</td>
<td>7.8% (3)</td>
<td>5.2% (2)</td>
<td>60.5% (23)</td>
<td>26.3% (10)</td>
</tr>
<tr>
<td>didn’t achieve much</td>
<td>2.6% (1)</td>
<td>5.2% (2)</td>
<td>2.6% (1)</td>
<td>52.6% (20)</td>
<td>36.8% (14)</td>
</tr>
</tbody>
</table>

Interviews for the Beyond 20,000 Days recognised the importance of senior leaders being seen to give a priority to the Campaign. For a very small number of individuals, this type of attention was viewed less positively as a “political campaign”, akin to satisfying World Bank sponsors by supplying diesel generators but failing to get to the root cause of poverty, or requiring more funding on promotion and branding than was strictly necessary. This was a minority view. The questionnaire found low numbers from the first Campaign agreeing with the statement that the Campaign was just a fashion (Table 4.1). Equally, it was more common for Beyond 20,000 Days Campaign interviewees to see senior management support within a context of building a receptive environment for change, as explained below:

*Change doesn’t happen overnight, you have to build up for a change and for the last two years the idea of how we improve patients care was happening behind the scenes. (Beyond 20,000 Days Collaborative team member)*
Other interviewees explained how they used the opportunities provided by the Campaign to work around entrenched cultures; acknowledging that the Campaigns’ attention to collecting and using data to understand what was happening in a new service, was a powerful lever to convince colleagues.

Figure 4.4 summarises the enabling factors that meant the Campaigns were “pushing on an open door”, in a context where participants were drawing on the same organisational culture and understanding of the “burning platform”. This preparedness to change was constrained only by some uncertainty around the type of change that would have the most impact.

Figure 4-4 Summary of circumstances influencing the "organisational preparedness for change" mechanism

- A CMDHB culture receptive and responsive to change
- Widely communicated local evidence of the need to manage hospital demand
- Senior management support

1. Organisational preparedness to change
   - Campaign participants inspired by Campaign goal

Constraining Factors
   - Uncertainty over the strength of the evidence base on what actions would have the biggest impact on managing demand
4.2 Enlisting the early adopters

Those who seek change are advised to harness the natural creativity of staff and stakeholders, rather than controlling from the top [19]. The Campaigns’ early focus on working with the willing is likely to have helped overcome the type of initiative fatigue seen in recent evaluations of “Better Sooner More Convenient Care” initiatives, where front line staff were found to be bombarded by sets of new initiatives that they struggled to engage with [39]. The questionnaire results show that the energy and motivation of participants in the 20,000 Days campaign were sustained throughout the first 18 months (Table 4.1).

This positivity continued. Those who participated in Beyond 20,000 Days Collaborative teams acknowledged the freedom they were given:

> [the Campaign] provided the room for creativity, with the organisation promoting clinicians to be creative and then creating a pathway to deal with it...that has been really good. (Beyond 20,000 Days Collaborative team member)

The Campaign sponsors reinforced the importance of working with those with an idea and appetite for change:

> I learnt the hard way it is important that people bring the important topic to us, our role is to help them implement it with our expertise in methodology. They need to be owners of the topic. (Campaign sponsor)

Box Three in the previous section (page 23) laid out the process for selecting Collaborative team topics. By the Beyond 20,000 Days Campaign, the importance of backing the early adopters had become mediated by a Dragons’ Den process, which tried to select those topics with the greatest likely impact on days saved.

Those interviewed that had participated in the Dragons’ Den viewed it as a robust process. Unlike a more traditional Dragons’ Den, where entrepreneurs bring ideas and get a straight yes or no answer, an emphasis was put on improving the fit of the work with the overall objective of Beyond 20,000 Days. Senior leader involvement of the selection panel had the added benefit of continuing to demonstrate the value they placed on the work of the Campaign. The majority of Beyond 20,000 Days Collaborative team representatives said they had completed projects as originally presented.

The benefit of giving resources to those health professionals willing to lead change needed to be weighed up against some risks. Risks related to: (1) the potential for an idea for improvement to still have only a tenuous link to saving bed days, (2) a lack of interest in using the model for improvement to drive change, and (3) increased delays as frontline staff in Collaborative teams lacked the institutional knowledge to garner the resources needed to make progress.

A review of the plans and final business cases, as well as interviews with representatives from each team, in 9 of the 16 Beyond 20,000 days Collaborative teams that started the
Campaign, found all could point to a convincing base of evidence on the advantages of their proposed improvement. Many of these improvements involved disruptions to existing processes. The numbers of patients who experienced the proposed improvement during the time-frame of the Campaign varied enormously – from 48 mild to moderate stroke patients to 5,000 Emergency Department patients who received a safer and more streamlined admission process. Despite the Dragons’ Den process, four of the nine teams found it easier during the Campaign to measure gains in areas other than days saved – in, for example, reduced waiting times for patients, reduction in medical errors, and improved quality of life. When dedicated time was given after the Campaign finished to producing business cases, more thought was able to be given to how to quantify cost savings, as well as days saved.

Front-line staff are often more responsive to factors that legitimise their reputation for providing high quality care, rather than conforming to quality benchmarks established by regional or national initiatives [28]. In the 20,000 Days Campaign, while the days saved target provided a focus and end point, streamlining the patient’s journey and building the overall capability for change in the organisation often had equal resonance for participants.

When 20,000 Days Campaign participants were asked about the longer term effects of the Campaign (Figure 4.5), changes to the patient experience, and the increased capacity to undertake quality improvement, exceeded their initial expectations of what was possible, on top of the expectation that greater integration between primary and secondary care would result.

The direction of the Beyond 20,000 Days Campaign was shaped a growing interest in what resonated for participants. The goal of saving 20,000 bed days was replaced by a more general aim to continue to save bed days, supplemented with an emphasis on building a group of people with quality improvement skills, and having a positive impact on patients and families.

Reflecting on what helps teams succeed, the majority of Collaborative team leaders credited the model for improvement’s ability to turn ideas into action as a major advantage. Having an individual keen to make a change was not enough on its own:

...getting lift off requires the right preparatory work which can be more than a passionate individual, it needs the right problem definition and the right people lined up. (Beyond 20,000 Days Collaborative team member)
There was little funding available for any other new projects in CMDHB, so there was an incentive for those who wanted to implement new programmes to retrofit their ideas to the Campaigns’ aims. Occasionally this would result in a lack of interest in using the model for improvement to drive change; i.e. the passion for change was not matched by an interest in learning the model for improvement.

While the Campaigns offered opportunities for frontline staff to take on leadership roles, this could create delays when individuals did not have the organisational capital to make fast progress in securing resources. Two of the five case studies demonstrated the problems that arose:

- **Diabetes Collaborative Team Case Study**: It was disappointing that being part of the Campaign was not enough to unlock broader institutional support quickly, as if we had been put in touch with the right people eighteen months ago, the process would have been finished a lot sooner.

- **Feet for Life Collaborative Team Case Study**: Because we didn’t know the right person, at the right time, the whole thing got delayed, with the IT, the setting up the clinic things.
Figure 4.6 summarises the circumstances influencing how the process of enlisting the early adopters worked in practice. The Campaigns harnessed the creativity of those with an idea for improvement, but also needed to marshal the resulting diversity of ideas into a collective effort that would have a recognisable impact on the Campaigns’ goals. As one Campaign fed into the other, there was an opportunity to be more selective in the topics chosen for the collaborative teams, and balance the process of backing ideas coming from the grassroots with top down understandings.

Figure 4-6 Summary of circumstances influencing "enlisting the early adopters" mechanism

- **Enabling Factors**
  - Being open to working with the willing to overcome initiative fatigue
  - Backing frontline staff to take responsibility built positive momentum
  - Wide opportunities to anticipate and track what patients value

- **2. Enlisting the early adopters**
  - Campaign participants motivated to come up with ideas for improvement

- **Constraining Factors**
  - Passion for change not always matched by interest in PDSAs
  - Frontline staff unable to unlock institutional resources
4.3 Strong collaborative team dynamics

One of the fundamentals of the IHI approach is that collaboration makes it possible to learn more and improve faster than working alone. A multi-disciplinary team using a collaborative collegial approach, is expected to problem solve faster than individuals. Accordingly, effective team processes are regularly singled out as a determinant of success for quality improvement collaboratives [16 40].

Findings from the questionnaire to 20,000 Days Campaign participants showed good levels of support for the collaborative learning occurring within teams. Questionnaire respondents acknowledged that they were participating fully in team processes (Figure 4.7).

As informed by interviews with representatives from the Beyond 20,000 Days Collaborative teams, the following features came together to characterise effective Collaborative teams. Firstly, leaders who motivate and not just manage. The ability to build and trust a team was prized more than a style of leadership that concentrates on driving an idea forward. This matches other studies which have pointed out that teams cannot be managed to improve; leaders need to motivate team members to use their knowledge and abilities [41].

Secondly, a preparedness to try small scale tests of change rather than wholesale implementation. Collaborative team representatives in both Campaigns were able to vividly
describe how their initial assumptions of what they were seeking to do were overturned as they undertook PDSA cycles; for example, initially assuming that a new service for patients would be wanted by patients, or expecting that because a model of care had already been piloted it could then be spread.

In the current accelerated climate of healthcare, all the incentives are to leap to the solution to a problem, but the model for improvement made Collaborative team leaders take stock as illustrated below:

_What the method has done is that it has slowed us down with, let’s just test it with one or two and then build on that (Beyond 20,000 Days Collaborative team member)._  

_The learning that we needed to do on how to implement in real life was utterly dependent on being coached on the improvement science method, testing assumptions and not applying assumptions and making sure we implement on that basis (Beyond 20,000 Days Collaborative team member)._  

It was clear from responses to the questionnaire that 20,000 Days team members responded well to the new improvement tools and processes, but were also realistic about how hard it could be at times to make these work. The Beyond 20,000 Days case studies illuminated the situations where it got difficult, juggling for example, the need to engage with the requirements of the process (i.e. the paperwork involved in the PDSAs, the story-boards, presentations and posters), with the need to still deliver patient care. While the Campaigns funded some extra resource, within teams the collaborative process still required additional work.

Difficulties also emerged as teams realised that what they were working on had “knock-on effects” for other staff, often because they challenged existing organisational or service cultures. For example, in the Stroke Collaborative, team members initially assumed their effort would be absorbed in developing the components of their new Early Supportive Discharge service, but raising awareness and communicating with colleagues took more time and energy than anticipated. The following quote sums up the lesson:

_. . . we were all in our infancy in understanding what this should look like. What we did is design the model of care, we go ‘here you go, that’s what we want to do’. If we had had rehab staff on board earlier... if we had thought about who would be our greatest opponent and had them on board a bit earlier ...that would have made things a bit easier. (Stroke Collaborative Team Case Study)_

Other studies have found that the technical know-how that is the primary focus in healthcare improvement, is often less valued than building relationships, learning to manage up in the organisation, and the personal experiences of influencing others to make change [42]. In the CMDHB Campaigns, particularly for those teams whose improvement idea required co-ordination across a number of different services, the technical know-how
on how to apply the model for improvement was valued, *alongside* the collective experience of learning to manage change.

The third feature that characterised successful teams was a culture open to learning from patient perspectives as well as tracking clinical benefits. While the work of the Collaborative teams were often targeting system efficiency gains (for example reduced ‘did not attends’ or DNAs, better co-ordination of care, reduced turn-around time from referral), those interviewed often described how they were judging success by what patients valued, as much as how well the work of the team reduced demand on the hospital. Explaining, for example, that patients do not want to give the same information twice, or would prefer receiving care at more accessible sites, this echoes the earlier finding of the importance of working on patient centred care to participants.

Quality improvement theorists have proposed that a failure to link an improvement initiative to the fundamental interest of health professionals to do what is right for patients runs the risk that the initiative gets lost in a sea of methods [43]. From the beginning the Campaigns’ communications – with the tagline “wouldn’t you rather be at home” – sought to address this risk and pull participants in. This positioning was acknowledged as influential:

*Marketing around [giving back 20,000 days] nudged people’s thinking. It moved them away from the bed and the money. People embraced it a lot more...because it was about keeping people well and about streamlining their care, keeping them out of hospital and keeping them home, rather than what was perceived as black and white cost saving Campaign. (20,000 days Collaborative team leader)*

Having sufficient structure (i.e. staff in roles, IT alert systems) to allow small-scale implementation PDSAs to start was the fourth feature that characterised successful teams. In the Beyond 20,000 Days Campaign, more than one team had administrative problems in either getting new staff on board, or IT systems installed, which delayed testing the change idea, and led to concerns that the broader organisational processes were not flexible enough to allow teams to move quickly. In time-limited Campaigns, these set-up delays put added pressure on the team to make something happen for the benefit of the learning session which could mean “PDSAs become a task rather than work of change”.

Finally, those teams that were able to release several team members to attend the learning sessions found these learning sessions helped to motivate and drive a faster collaborative team process.

Figure 4.9 on page 49 presents the results from four case studies linked to each of these features.

The Campaigns intervened at many different levels, from the individual to the team, and from the organisation to system. The features above, were those that characterised what
was viewed as an effective team. Those sponsoring the Campaigns stressed that an effective team was not necessarily only working on the right idea (i.e. an idea for improvement that would have the most impact on saving bed days), but was putting time and energy into testing their idea for improvement in order to justify whether the idea had enough merit to spread further throughout the organisation. As Campaign sponsors acknowledged, it was legitimate to learn from failure:

*What we thought teams were going to achieve initially was often very different from the reality. What they thought was a solution to save bed days, turned out not to be the case. And that was alright. But [the model for improvement] steered them to where they needed to focus.* (Campaign sponsor)

The first Campaign included projects that had already been in existence for some time reborn as Collaborative teams. Of these teams, those came in with a strong project management philosophy were more likely not to continue with the Campaign. Rather than using the model for improvement and investing time in testing the idea at a small scale, these teams wanted to move quickly to implement change at a large scale. The teams used the resource from the Campaign to implement their improvement, but were less interested in producing the outputs required by the Campaign (i.e. the project charters, team dashboards and evidence of PDSA cycles).

Campaign sponsors referred to teams as “never moving into the hard work and effort that they needed to” when describing the type of teams that did not go on to receive permanent funding. This covered some of the inherited teams above, but also the lack of progress was linked to a poor problem definition, or a lack of support from their particular service environment, resulting in fewer regular meetings discussing and testing small scale changes. The following describes what was happening in a Beyond 20,000 Days collaborative team that was not making headway:

*... You did not have progression. They needed help to identify the area of the improvement, they needed then to understand how you broke that down into the objective and what you need to do it. And then the timeline, to come back in a week and discuss what their findings were, and it was disruptive, it was a chaos in the [service], they had difficulty planning time to do that work.* (Beyond 20,000 Days Collaborative team member)

The features that enabled or constrained each Collaborative team are summarised in Figure 4.8. These occurred in a context where learning to apply the model for improvement, rather than trying to implement the same best practice, was at the heart of the interactive learning sessions.
Figure 4-8 Summary of circumstances influencing "strong team dynamics" mechanism

Enabling Factors

- Leaders who motivate rather than manage
- Regular application of the model for improvement
- Incorporating what patients value
- Sufficient infrastructure to start PDSAs early

3. Strong collaborative team dynamics

- Campaign participants engaged in team based learning.

Constraining Factors

- Limited knowledge of model for improvement if few members attended learning sessions
- Juggling the requirements of the process with the need to deliver care
- Interest in spreading rather than testing ideas
Figure 4.9 Conditions that helped teams to achieve. Distilled from interviews across 9 Collaborative teams and assessed in 4 Case Studies.

<table>
<thead>
<tr>
<th>Supporting Life After Stroke: An early supported discharge service to provide specialist rehabilitation at home.</th>
<th>Feet for Life Podiatry Services in a Renal Dialysis Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leaders who motivate</strong></td>
<td><strong>Leaders who motivate</strong></td>
</tr>
<tr>
<td>The Stroke Collaborative had 4 different leaders over the life of the Campaign, yet had a strong thread of support that was able to keep the momentum around the work of change as well as a team culture that took responsibility for driving a new service forward.</td>
<td>The Collaborative team demonstrated strong multi-disciplinary team working and clearly developed leadership and change management skills for those involved. Tenacious work was undertaken to overturn suggestions that the project be stopped because of administrative difficulties.</td>
</tr>
<tr>
<td><strong>A preparedness to try small scale tests of change rather than wholesale implementation</strong></td>
<td><strong>A preparedness to try small scale tests of change rather than wholesale implementation</strong></td>
</tr>
<tr>
<td>Initial work building understanding of the process of care being used across Stroke services tested assumptions on what business as usual look liked. So did the process of testing key elements of the new service design, to ensure those patients able to benefit most from the new service were identified.</td>
<td>Small scale tests of change were used to improve the roll out of the service. The PDSA’s on the referral form, raised awareness for both staff and patients of what needed podiatry treatment.</td>
</tr>
<tr>
<td><strong>An interest in learning from patient perspectives as well as tracking clinical benefits</strong></td>
<td><strong>An interest in learning from patient perspectives as well as tracking clinical benefits</strong></td>
</tr>
<tr>
<td>An emphasis was put on receiving patient feedback through a survey and in depth patient journeys. Functional outcomes from the patients’ perspective were also collected.</td>
<td>Feet for Life Collaborative team members spoke enthusiastically of; the benefits of taking a service to patients who already had to visit the hospital up to 3 times a week, the broader opportunities to promote self-management to patients and whānau, and the overall strengthening relationship with patients who “feel we are playing our part in working in partnership with them”</td>
</tr>
<tr>
<td><strong>Sufficient structure</strong></td>
<td><strong>Sufficient structure</strong></td>
</tr>
<tr>
<td>Features related to the speed of set-up, training and professional make-up of the team helped build a structure ready to start. The team included members able to connect with stroke care in the community and the hospital. Unlike other teams, which had delays appointing new FTEs, Stroke team members were seconded early and had their roles backfilled.</td>
<td>Team members were relatively new to project management and credited the structure provided by the Campaign, in particular the Collaborative working group and the PDSA cycles as a powerful support in how to take an idea and turn it into action. As a relatively inexperienced group of front-line staff they did hit institutional hurdles which delayed the gathering of resources.</td>
</tr>
<tr>
<td><strong>As many team members as possible able to attend Learning sessions</strong></td>
<td><strong>As many team members as possible able to attend Learning sessions</strong></td>
</tr>
<tr>
<td>A priority was given to releasing Stroke team members to attend</td>
<td>The renal service was of a size that made it easier to allow front line staff to attend learning sessions, as cover was available from other staff.</td>
</tr>
</tbody>
</table>

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7 i.e. staff in roles, IT alert systems to allow small-scale implementation PDSAs to start
<table>
<thead>
<tr>
<th>Leaders who motivate</th>
<th>Kia Kaha: Manage better, feel stronger</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In-patient care for Diabetes</strong></td>
<td><strong>Kia Kaha: Manage better, feel stronger</strong></td>
</tr>
<tr>
<td><strong>Leaders who motivate</strong></td>
<td><strong>Leaders who motivate</strong></td>
</tr>
<tr>
<td>The Diabetes Collaborative drew on the general leadership and commitment from those who ran the specialist Whitiora Diabetes service. Those leading were already encouraging staff to work smarter in order to respond to increased demand. Given that the Beyond 20,000 Days campaign looked “like the only game given in town if you wanted more resource”, the motivation for those involved in it was to secure more resource to undertake improvements already underway.</td>
<td>A strong vision united the team that the improvement they were trialling would one day be the standard of care. Collaborative team leaders insisted on putting evidence into practice by making it relevant to those that needed it and benefited from peer support people who took the service into people’s homes and managed to engage and “activate” people who were not accessing standard services.</td>
</tr>
<tr>
<td><strong>A preparedness to try small scale tests of change rather than wholesale implementation</strong></td>
<td><strong>A preparedness to try small scale tests of change rather than wholesale implementation</strong></td>
</tr>
<tr>
<td>Delays in getting the supporting infrastructure in place to test the major change idea resulted in a flurry of sub-project activity in order to demonstrate results within the Campaign time frame. Whilst there was a preparedness to trial a number of small tests of change, together these failed to cohere into a definable change package different from the ongoing work of the Whitiora Service. This exacerbated what was perceived as a need to “fit in” with Campaign requirements to report information in a particular way.</td>
<td>For the two psychologists, it was challenging at first because the methodology was not perceived as being as rigorous as the traditional methodologies (“it did not feel scientific”), but then it did help them to be more “flexible” and realise that you can be rigorous “without having to do randomised control trials all the time”. PDSA cycles were a useful methodology, and they spilled-over to other projects within the PHO with support from Ko Awatea seen as one of the key success factors.</td>
</tr>
<tr>
<td><strong>An interest in learning from patient perspectives as well as tracking clinical benefits</strong></td>
<td><strong>An interest in learning from patient perspectives as well as tracking clinical benefits</strong></td>
</tr>
<tr>
<td>Collaborative guidance to involve patients on expert and working groups provided an opportunity to keep patient needs to the forefront. In a project that relied on changing hospital information systems, it is easy to forget the ultimate purpose of these systems. Patient representatives helped the team to test what matters and why.</td>
<td>Patient “activation” is seen as a key component for Kia Kaha success; this was achieved by allowing the patient to choose their care plan from a range of options presented to them. Patient participation in focus groups empowered them to become in control of their care plans and for some to become peer supporters leading their own patient groups.</td>
</tr>
<tr>
<td><strong>Sufficient structure</strong></td>
<td><strong>Sufficient structure</strong></td>
</tr>
<tr>
<td>It was only after 18 months into the Collaborative project, well after the Campaign finished, that the team could implement the IT alert system identified at the start. The Collaborative approach offered more opportunity for frontline staff, but this was challenging for those who did not have the institutional capital or back-up that would have allowed them to unlock IT resources quickly.</td>
<td>The opportunity given by Ko Awatea and the freedom allowed by the PHO were key for success: “having the freedom to activate the service and activate clients is like Christmas for us, we can try what we think it will work following the evidence without the constraints of traditionally designed services”. “Learning the spirit of the methodology that gives us more security and freedom to try new things”.</td>
</tr>
<tr>
<td><strong>As many team members as possible able to attend Learning sessions.</strong></td>
<td><strong>As many team members as possible able to attend Learning sessions.</strong></td>
</tr>
<tr>
<td>It was difficult to find time for team members to attend learning sessions; partly because of the difficulties of arranging cover generally given the size of the team, and also when there were scheduling conflicts.</td>
<td>It took a while for the team to get familiar and comfortable with the methodology; in hindsight they acknowledge that they could have benefitted from attending more of the training/support activities organised by Ko Awatea.</td>
</tr>
</tbody>
</table>
4.4 Learning from measurement

In single-topic Safety Campaigns, much of the investigation into the size of the issue and the evidence for the suggested changes is gathered and communicated to the Collaborative teams. In the CMDHB Campaigns, while the size of the hospital demand problem, and the potential areas for improvement were scoped at the start, the work of finalising the various aims and measures of success lay with within each Collaborative team.

Each Collaborative team developed an initial list of indicators to track progress towards their goals. These indicators were assembled into team dashboards to demonstrate the gains made at key points in both Campaigns.

A secondary analysis of eight dashboards from the 20,000 Days Campaign found teams varied substantially in the extent to which they established robust data collection systems, and how they interpreted this data. While a common theme when evaluating integrated care initiatives often concerns a lack of data, data collection inconsistencies and incompatible systems [39], here the issue was less about a lack of data (much was often collected) and more about how it was interpreted.

By the Beyond 20,000 Days Campaign, interviewees outlined the sound work within the team of getting the smaller implementation measures “polished”, but were continually challenged to quantitatively link their improvement to the bigger Beyond Campaign goal of giving back healthy and well days. The quotes below illustrate the struggle between what they could see, and what they could prove:

*Trying to get the number that it proves that it works is immensely difficult. [The model for improvement] gave us some framework to think about some of the ways of working with the data and showing where to look….we had people saying, ‘Try doing this with data, try pulling this out.’ A lot of it was not successful but some of it has been good.* (Beyond 20,000 Days Collaborative team member)

*It is challenging to have a systems measure, which is what managers and people want... the big green dollar, and it is very challenging to measure prevention.* (Beyond 20,000 Days Collaborative team member)

Each of the case studies probed team members on the way measurement was used within the team. Team members pointed out that they ended up knowing more about their processes, even if they could not always demonstrate the size of change that happened over the life of the Campaign. The Diabetes Collaborative, for example, did not achieve its intended outcomes within the time period of the Campaign, but for those involved, the data gathered was still useful as it provided insights into the impact of earlier changes the Whitiora Specialist Diabetes Service had made to manage demand.
The Feet for Life and Kia Kaha Collaborative teams struggled with interpreting the numbers provided in the Collaborative team dashboard, so regularly relied on their own data and observations of whether the change was working.

The Stroke Collaborative team had well defined measures from the beginning. Early thought went into ensuring the small numbers involved were analysed in ways that allowed for meaningful conclusions about the impact of change. However, moving the concept of Early Supportive Discharge from a pilot improvement initiative to an ongoing service specification required a different set of information from that produced throughout the Campaign. Those involved at this business case stage reported needing job descriptions, options for different service combinations, and good cost information: a shift from measuring change for improvement to “what is going to give me traction with the hospital”.

The emphasis in the Beyond Campaign away from just a number of days saved did open up the possibility for a wider range of measures of success. Nevertheless, when teams wanted to make the case for permanent funding they risked losing their persuasiveness if they could not back up their claims for improvement with sound data, and long range predictions around saving bed days.

Box Five in the previous section (page 25), describes the business case process in more detail. This period was one of the most challenging from the Campaign participants’ points of view. While one interviewee was prepared to challenge the mind-set that if you want something different you have to resource it, the majority saw losing Campaign resource, often for more staff implementing a new type of service, would result in improvement being curtailed. Interviewees described the need for answers to “why invest” question as fairly pressurised. As one summed up: “a lot of our thinking was on getting those smaller measures polished, but it is the bigger measures that make more impact in the business cases”.

Appendix Three displays the strengthening in measurement that occurred between what was collected and reflected on during the Campaign, compared with the final evidence displayed in the business case for permanent funding for the Beyond 20,000 Days team. Campaign sponsors pointed to the reality of needing a two year turnaround to move from collecting enough measurement to show the impact of the change, to then working to embed that change in organisational processes. The latter needed the financial understanding that would ensure the new or improved models of care made organisational business sense.

As the work of distilling the relevant measures of success lay with within each Collaborative team, it is probably not surprising to see variable practice. A common finding was the difficulties most teams had in systematically collecting patient experiences and opinions about services. Many tried to capture the benefits to patients of their improvements through a variety of feed-back techniques - focus groups, questionnaires, verbal feedback, case summaries - but few were confident they had done this well.
Internationally and nationally, increased attention is being given to designing patient experience surveys which ask neutral, objective questions that enable patients to report what was good and bad in their care. Some of these established patient experience indicators may be a useful base to support the work of Collaborative teams. Furthermore, stronger before and after measures are needed to understand if the patients involved were experiencing an improvement, or just responding to a new service.

Box Eight offers a list of suggested areas for future collective measurement support. Standardised strategies and tools (that could later be adapted to specific scenarios) and training for teams on how to capture the patient experience, could be offered in future Campaigns.

The ability of quality improvement collaboratives to generate team success stories appears to have an influence on the intensity of spread [44], linked to arguments that research and evidence are not enough on their own to move people to action [45]. Alongside the effort being made to collect quantifiable information on patient experiences, we saw an increased interest in using emotionally resonant individual patient stories as proof of success.

Figure 4.10 summarises the measurement experiences in these Campaigns. In the model for improvement, teams learn by critically reflecting on what their measures are telling them about the impact they are having. Campaign team members were able to describe how referrals to new care processes, for example, were greatly improved after trialling the type of form that garnered the most useful information. Whether these streamlined processes then made a difference to the larger Campaign goal needed time and effort, particularly for those teams hoping make the case for permanent funding from the organisation. In a Campaign context where the majority of design work around measurement fell within teams, rather than being supported with a collective base of the same measures, pressure on teams to continually strengthen their measures continued, even after the Campaign had formally finished.
4. Learning from measurement

- Campaign participants actively learn from measurement

Enabling Factors

- Teams ended up knowing more about their processes of care
- Implementation of improvement ideas improved as a result of PDSAs testing
- Business case requirements drove more effort to demonstrate potential costs and savings

Constraining Factors

- Finalising the detailed measures of success lay within each Collaborative team so variable and experimental practice was not unexpected.
4.5 Sustaining improvement

Outcomes achieved by the collaborative teams were expected to accumulate into achieving the Campaigns goals. These goals started with a specific target of days saved (20,000 days Campaign), but moved to focus more on what the individual teams were achieving (Beyond 20,000 Days).

Finding the causual link between what each 20,000 Days Campaign Collaborative team reported, and the final collective target was complicated by: (1) other initiatives happening concurrently in CMDHB to also manage hospital demand; (2) some Collaborative teams failing to finalise their data, as they found their initial idea did not work as expected; (3) where data was produced it was of variable quality, and finally; (4) while some teams could predict the lesser amount of days a patient would end up in hospital, other teams looking to increase access to care in the community struggled to quantify their achievements as bed days saved.

Those sponsoring the Campaign explained they saw the days saved target as driving practical change, rather than being a research based measure that needed to control for all the variables. Others have pointed out that this distinction between measurement for research and measurement for improvement is one of the hallmarks of improvement science– measurement for improvement requiring simple measures to evaluate changes, rather than more elaborate and precise measures to produce new generalisable knowledge [4].

Nevertheless, the change of the wording of the final goal for the Beyond 20,000 Days Campaign, recognised the ongoing uncertainty around attribution, and the need to find a goal that was more “realistic”, as explained below:

What we learnt was it was very hard to have attribution for the 20,000 days from just the Campaign. While we always said that it was a high level number that we saved, and how we achieved that was by the predicted against the actual, I think it was more realistic for each of the teams to have a goal of how many days they would save and that was more measurable, and then we would know whether each team was achieving their goal, rather than them not quite linking to that big high level whole of system goal of 20,000. (Campaign sponsor)

In evaluating the Campaign, our focus from the start was less on whether the specific numbers were achieved or not, but on how the Campaign achieved its results.

Despite the difficulties in being able to directly attribute the work of the Collaborative teams to overall system changes, we were aware that as Collaborative teams made the case to continue with permanent funding, the potential to scale up and spread successful ideas to manage demand increased. Appendix Three outlines the cases made to continue funding in after the Beyond 20,000 Days concluded. Some of the claims were based on small numbers (e.g. 66 patients with heart problems, 48 patients with mild to moderate stroke), but if the
ideas were spread to other wards and into other services, then they had the potential to achieve wider gains.

The ability of quality improvement collaboratives to generate team success stories has been found to influence the intensity of spread [44], linked to arguments that research and evidence are not enough on their own to move people to action; stories often provide the insight and the empathy needed [45]. By the end of the Beyond 20,000 Days campaign we found an increased interest in using emotionally resonant individual patient stories as proof of success. For example, the Beyond 20,000 Days summary booklet described how:

... it’s the difference the campaign has made in the lives of the patients and families it has touched that truly shows the value of what the Beyond 20,000 days Campaign has achieved. Patients with heart failure in the Healthy Hearts: Fit to Exercise programme successfully completed the 8.4km Round the Bays fun run....

From the beginning, the Campaigns’ communications - with the tagline “wouldn’t you rather be at home” - sought to make the Campaigns relevant to what patients valued. By the Beyond 20,000 Days Campaign, rather than place a strong emphasis on the hospital bed days management system, a “well day” concept was increasingly used to focus on what patients and families valued.

Our overall conclusion is that the Campaigns would be moving the system towards managing demand, though the scale at which this was happening would be constantly shifting, as successful teams started to spread their improvements more widely. Changes can be more confidently tracked to the specific gains being worked on by the Collaborative teams in changes to services across the hospital, and in the community, than it can to any bigger system changes. These bigger system changes, such as an ongoing decrease in actual bed days over the last nine months, could have also been caused by non-Campaign linked activity.
5. Conclusion

Emphasising what works, for whom, and in what circumstances, the realist design of this evaluation uncovered how the Campaigns’ distinctive attributes influenced the reasoning of the Campaign participants.

During both Campaigns concurrent initiatives were occurring to reduce hospital demand, so attributing the broader system changes in bed days directly to the work of the Collaborative teams was complicated. CMDHB’s internal analysis showed the Campaigns did make a difference, though attributing causal linkages is not straightforward.

CMDHB’s own ongoing analysis, as reported earlier, used two growth models to record changes towards the Campaigns goals. The first concluded 23,060 days were saved by 1 July 2013 using a growth model based on past activity combined by demographic growth. This model predicted that without saving 20,000 days the hospital system would not be able to cope with the demand for beds without further capital outlay to build new wards.

The second growth model was developed once the initial fears of unsustainable demand had abated, and the Beyond 20,000 Days Campaign was focused on the more organic notion of continuing change going in a positive direction. This second model concluded that 34,800 days were saved by 1 April 2015, based on a growth model using only demographic growth from 2011.

Overall the evaluation found the Campaigns succeeded in capturing the energy and motivation of participants. With the diversity of change concepts being trialled, each team had their own unique experience, but those Collaborative teams who went on to make the case to continue with permanent funding, collectively pointed to the model for improvement as an important support in turning ideas into action. A common observation from those interviewed, was the way doing a PDSA become part of the culture and language:

*The tools that we learned, and it is hard to reflect on now as they have started to be part of the culture, this is how we test using the PDSA cycles; this is how we measure, these are now part of the air that we breathe. (20,000 Days Collaborative team leader).*

The distinctive features of the CMDHB Campaigns – (1) aiming to manage demand rather than implement the same clinical practice, (2) focusing mainly within an organisation rather than across many organisations, and (3) preparedness to adapt and change as one Campaign transitioned into another - created faster progress in some contexts, and presented challenges in others.
5.1 What type of fit was there between CMDHB’s organisational aspirations and the Campaigns’ goals?

There was a strong fit between CMDHB’s organisational aspirations and the Campaigns’ goals. Earlier work by CMDHB highlighting to staff the problem of increasing demand for secondary services within a constrained budget, along with a culture open to doing things differently, meant the CMDHB Campaigns were “pushing on an open door”.

This preparedness to change was constrained only by some uncertainty around the type of change that would have the most impact. While the need for the Campaigns was well understood, the strength of the evidence base on what actions would have the biggest impact was more uncertain. This may explain why participants were inspired equally by the potential to improve patient care and build a culture of quality improvement. The evolution of one Campaign to another presented an opportunity to give greater emphasis to these patient centred aspects.

5.2 How was the need to develop ideas with staff managed?

The Campaigns harnessed the creativity of those with an idea for improvement, but also needed to marshal the resulting diversity of ideas into a collective effort that would have a recognisable impact on the Campaigns goals. As one Campaign fed into the other, there was an opportunity to be more selective in the topics chosen for the collaborative teams. In practice this meant backing ideas coming from the grassroots with top down understandings.

Campaign participants were motivated to come up with their own ideas for change, which built positive momentum and lessened initiative fatigue. In a context where there was little funding available for any other new projects in CMDHB, there was a small risk that this motivation for change would not always be matched by interest in testing ideas using an approach based on the model for improvement.

5.3 What type of conditions helped or hindered the work within each Collaborative team?

Collaborative teams were united through learning how best to apply the model for improvement, with many positive about the benefits of undertaking PDSAs. Teams with high levels of engagement in the model found the process enhanced by; leaders who motivated rather than managed, a willingness to incorporate what patients valued and sufficient infrastructure (i.e. staff in new roles, IT alert systems) to start early on regular cycles of PDSAs. Teams could become bogged down and delayed when front-line staff needed to negotiate for resources and attention.

Those sponsoring the Campaigns stressed that an effective team was not necessarily only working on the right idea (i.e. an idea for improvement that would have the most impact on saving bed days), but was putting time and energy into testing their idea for improvement.
As one Campaign sponsor explained the importance of learning though applying the model for improvement was key:

*The accuracy of defining a problem, this [Collaborative team] was an amazing example. It took a while for them to realise what they want to do and how. And they didn’t realise how the PDSA might help them until they actually started doing it. The difficulties that they have initially and how being involved can help them. They became the greatest advocates for that approach.* (Campaign sponsor)

In a few situations, some teams used the resource from the Campaign to implement their improvement, but were less interested in producing the outputs required by the Campaign (i.e. the project charters, team dashboards and evidence of PDSA cycles). Engagement in the model for improvement was also constrained by the number of team members able to attend learning sessions, and the need to juggle health care delivery responsibilities.

5.4 How strong were the feedback loops created to gauge the impact of changes within each Collaborative?

In a Campaign context where the majority of design work around measurement fell within teams, rather than being designed collectively from the centre, this increased the likelihood of variable measurement practice. The diversity of improvement ideas being trialled also increased the complexity of what needed to be measured.

The robustness of the indicators used by teams improved between the Campaigns. By the Beyond 20,000 Days Campaign, the secondary review of team measures saw stronger reporting of process measures. The emphasis in the Beyond Campaign, away from a goal focused solely on the number of days saved, opened up the possibility for a wider range of outcome indicators. During the Campaigns teams often experimented with a wide range of outcome measures - e.g. reduced waiting times, improved patient functioning scores. However, after the Beyond 20,000 Campaign finished, those teams who wanted to make the case for permanent funding, paid increased attention backing up their claims for improvement with long range predictions around saving bed days.

5.5 What has been learnt overall

The evaluation has uncovered valuable lessons for others seeking to implement quality improvement programmes generally. Some lessons confirm what has already been written regarding the importance of alignment with organisational goals, senior management sponsorship, voluntary participation, and ability to work as a team [46]. Other lessons highlight the implications of implementing a Campaign around such a broad topic as managing hospital demand.

1. In situations where the majority of Campaign participants come from the same organisation, the shared background and culture can help prime the environment for
the Campaign. In this case, earlier work highlighting to staff the problem of increasing demand for secondary services within a constrained budget, along with a culture open to doing things differently, meant the CMDHB Campaigns were “pushing on an open door”.

2. As there is greater uncertainty around what actions would have the biggest impact on managing demand, so the complexity of what needs to be measured is increased. Despite the Campaigns only expecting to last for either a year or eighteen months, the reality is that teams required a two year turnaround to move from collecting enough measurement to show the impact of the change, to then working to embed that change within the organisation.

3. In an environment with little funds to do anything different, there is a potential to sweep up many improvement ideas into such a broad topic. Strong levels of engagement were reported in the first Campaign, and teams actively came forward to participate in the second Beyond 20,000 Days Campaign. A Dragons’ Den process helped to mediate between harnessing the energy of those with ideas for change, with wanting to back the ideas most likely to achieve the overall goal of the subsequent Beyond 20,000 Days Campaign.

4. Given the diversity of change ideas being trialled there was little benchmarking between teams. What did unite teams was the opportunity to share the experience of applying the model for improvement. This resulted in a heightened awareness that each Collaborative team needed conditions that supported the application of the model for improvement. In these Campaigns, this required an ability to release a high number of team members to attend learning sessions and learn about PDSAs, and sufficient infrastructure to start early on regular cycles of PDSAs. For those teams whose improvement idea required co-ordination across a number of different services, the technical know-how on how to apply the model for improvement was valued alongside the collective experience of learning to manage change.
<table>
<thead>
<tr>
<th><strong>Appendix One: Abbreviations and Terms</strong></th>
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<tr>
<td><strong>Action periods</strong></td>
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<td><strong>BTS</strong></td>
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<td><strong>CMDHB</strong></td>
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<td><strong>Collaborative team</strong></td>
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<td><strong>IHI</strong></td>
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<td><strong>Learning Sessions</strong></td>
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<td><strong>Model for Improvement</strong></td>
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<td><strong>PDSA</strong></td>
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Appendix Two: Driver Diagrams

20,000 Days Campaign Driver Diagram

Beyond 20,000 Days Driver Diagram

AIM
To continue giving back healthy and well days to our Counties Manukau community by 1 July 2014

Measures:
- 20,000 Days
- Length of Stay
- Re-admission
- Admissions
- Occupancy
- Out Days

Primary Drivers

Equitable

Patient/Whanau Centred

Safe

Timely

Effective

Efficient

Collaborative

Feet for Life

Healthy hearts → Hit for Exercise

Mental Health Short Stay

Supporting Life After Stroke

Well Managed Pain

Environmental Cleaning

SMART [Safer Medical Admission Review Team]

Inpatient care for People with Diabetes

Kia Kaha, Manage Better, Red Wronging

Geriatics Team

Good Builders

Helping at Risk People

Healthy Skin

Franklin Health Co-ordination Service

Medical Assessment

ACE [Acute Care for the Elderly]
## Appendix Three: How Beyond 20,000 Collaborative Teams Tracked Changes

<table>
<thead>
<tr>
<th>Collaborative Aim</th>
<th>Change as quantified at the end of the Campaign (July 2014)</th>
<th>Change as quantified by the Business Case (February 2015)</th>
</tr>
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<tbody>
<tr>
<td><strong>ACE – Acute Care for the Elderly</strong></td>
<td>Improve the care of acute medical patients over 85 years by developing and implementing a model of acute care for the elderly. <em>Involves: complex elderly patients aged 85 and over managed under the care of a geriatrician, with early intensive multi-disciplinary team input, and acute care and rehabilitative care within the same ward.</em></td>
<td>Once a multi-disciplinary team was established to discuss all patients (December 2013) and review the goal discharge date, after two months the length of stay reduced from the initial 8.6 days baseline to 7.6 days and has remained stable. ACE unit admits 50 patients per month – 600 patients per year.</td>
</tr>
<tr>
<td><strong>Feet for Life</strong></td>
<td>Reduce the number of lower limb amputations by at least 10% (from 42 to 37 per year) by 1 July 2014. <em>Involves: change to ward processes including a podiatrist on-site in a dialysis ward. Reducing costs for patients (and DNAs) and increasing nursing staff awareness.</em></td>
<td>Changes focused most on turnaround time for patients. Used to be 6 weeks, now it is only days before being seen by podiatrist and decreased DNA rate. Recognised they would need a couple of years to know if the amputations were dropping consistently. 70 patients seen during Campaign.</td>
</tr>
<tr>
<td><strong>Healthy Hearts – Fit to Exercise</strong></td>
<td>Aim for a mean improvement of 20% in the exercise tolerance test and health index questionnaires for those enrolled in a fit to exercise programme. <em>Involves: a targeted community based exercise programme using local gym facilities for those with heart failure.</em></td>
<td>By the end of the Campaign still searching for a surrogate measure to demonstrate that admissions that would have happened otherwise have been avoided. Reported gains in exercise tolerance and improved quality of life scores. 66 patients covered by the Campaign.</td>
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</tbody>
</table>
| **Healthy Skin** | Aim to achieve a 20% reduction in recurrent presentation for skin infections among patients <18 enrolled at Health Centre by 1 July 2014.  
*Involves: greater communication with patients with skin conditions in general practice.* | Never succeeded in creating a robust database to track those involved so a strong reliance was placed on individual patient examples as evidence of change.  
Numbers not known. | No business case produced. |
| **In-patient care for Diabetes** | To reduce the length of stay and readmission for people with diabetes through changing the model of in-patient diabetes care from reactive review to triage virtual review and clinical input.  
*Involves: extra resource (1.5 FTE) to develop a tool to identify those patients across the hospital more efficiently.* | The main prediction that the service would improve as a result of better electronic identification was not able to be tested during the time period of the Campaign.  
Downward trend in overall length of day for diabetes patients was linked to the impact of changes the Whitiora Specialist Diabetes Service had made earlier to manage increasing demand before the Campaign started. | IT support now in place to enable real time visibility of all patients with diabetes in the inpatient/ED environment.  
Proactive care for those identified is expected to result in decreased length of stay of 2.9 days with cost savings of $4,035,796 return for an investment in 1.5 FTE nurse and 0.5 FTE podiatrist. |
| **Kia Kaha** | Achieve a 25% reduction in overall hospital and GP utilisation for 125-150 individuals with long term medical conditions and co-existing severe mental health/addiction issues engaged in the programme by 1 July 2014.  
*Involves: identifying “high users” of health services providing an “extended package of mental health intervention”; “extended” because it expands the already existing package of six consultations with a counsellor/psychologist in primary care.* | At the beginning of Kia Kaha approximately 50% of the patients that were referred or that were contacted did engage in the programme.  
After the implementation of the home visits and the peer support this percentage increased to almost 100%.  
The program achieved a 45% reduction to A&E presentations for the 44 patients that completed the programme.  
44 patients seen during Campaign and still working to enrol to get the 120-150 individuals expected. | The team is working to capitalise in their success by upgrading Kia Kaha from a pilot to a “regular” service integrated in primary care. |
### SMART
By 1 July 2014 the SMART (doctor and pharmacists working together early) model will be applied to 90% of triage category 2-5 patients in EC between 8am -10pm.

**Involves:** Medical pharmacists join team doctors on acute admitting days to review patients – the biggest change involved changing pharmacists operating hours to cover between 4pm to 10pm.

In terms of length of stay the initial data did not show a significant statistical change between patients who received the service compared to those who did not.

Patient and safety benefits include a 9 fold reduction in medical errors on admission and 20% reduction in average patient waiting time.

5,000 received the service during the Campaign.

The model is cost neutral and has enabled organisational targets for patients to be seen once referred to general Medicine to be met, resulting in a 20% reduction in average patient waiting time.

National standards for medication safety have been exceeded with 3.3 hours for patients seen by SMART compared to an average of 42.4 hours for patients in the non-SMARTed group.

Those patients seen by SMART had 3 times less errors than patients provided standard care.

### Supporting Life after Stroke
By 1 July 2014 aim for a reduction of 4 days in average length of stage, functional improvements comparable to in-patients and a patient satisfaction score of 95% or greater.

**Involves:** a new stroke early supported discharge service (ESD) for those with mild to moderate stroke, sitting alongside an in-patient rehabilitation ward, an existing community stroke rehabilitation service (CBRT), and an in-patient acute stroke ward.

The average length of stay for patients with mild to moderate stroke receiving care in the ESD service was reduced by 16 days compared to the baseline group

Functional improvements were equivalent to those in in-patient rehabilitation Functional Independent Measure (FIM) scores did not reveal any change between the previous model of care and the care given by ESD.

A 99.5% positive response rate was received to a patient feedback survey.

48 mild to moderate stroke patients seen by the service over the first year of the Campaign.

For the total of 48 patients seen in the first year a total of 820 in patient days were saved the equivalent to 2.25 beds per year.

With the success of the pilot it is proposed to combine the ESD service with the existing Community Rehabilitation Service (CBRT) to deliver a seamless community service.

It is proposed that approximately 100 patients per annum will be seen by the service saving an estimated 1620 in patient bed days per annum (4.25 beds per year) – delivering cost savings of $1,132,000 per year.

### Well managed Pain
Complete a multi-disciplinary assessment for 100% of patients referred to the WMP team within 4 days from referral – where relevant document a multidisciplinary pain care plan.

**Involves** – funded time of multi-disciplinary team (nurse, medical officer, pharmacist and psychologist).

Capturing the figures to know if the service was working was difficult and it the team could not initially identify those admitted with pain.

150 patients received a multi-disciplinary assessment during the Campaign.

A preliminary analysis of 6 months of Well Managed Pain (WMP) data suggested the WMP patient hospital stay are reduced by one third when compared to length of stay before WMP – calculated by cross-referencing 18 patients. A further benefit identified was a reduction in average costs per patient of 32% per month.
References


