Primary care improvement case study

South City Health: Managing child eczema

Number 8 in a series of 18

Overview

At South City Health, one of our practice nurses was struggling with her own child's severe facial eczema. Realising that if as a nurse she was struggling, others would be struggling too, she gathered support from the wider practice team and management to test a free nurse-led clinic. The nurse worked with the families to learn more about their lifestyle and routines and teach them how to use their creams and medication better. Together, they developed an individualised management-plan to help them manage their children's eczema. This resulted in improved management of eczema for these children and improved quality of life not only for children, who experienced fewer flares and less pain and discomfort, but for the whole family as well.

Background and context

South City Health, based in west Hamilton, is a family-based primary health care facility with Pinnacle Primary Health Organisation (PHO). It provides comprehensive care services to its registered community. Health screening and promotion are priorities as a major aim is to work in partnership with our patients to prevent disease, reduce disability and maintain their health. Acute medical care is also provided.

South City Health has about 7,500 patients enrolled. Approximately 18 percent of enrolled patients are Māori, Pacific and Asian peoples.

Diagnosing the problem

1 What is the problem?

Young Māori and Pacific New Zealanders have poorer access to effective management of their eczema, resulting in more hospitalisations for this condition. Symptoms and complications associated with eczema can create significant challenges that affect a person's quality of life both physically and psychologically. Examples of the most common symptoms and their impacts are:

- discomfort in the form of itching and possibly pain if scratching causes skin integrity to break down
- flares that increase the risk of infection and systemic complications
- lack of sleep and resulting fatigue, which potentially can escalate and affect mood or mental health
- time off day care or school for the child, which can result in significant gaps in education
- time off work for parents, which can place financial pressure on a young family
- more general practitioner (GP) visits
- hospitalisations due to complications
- psychosocial impact potentially affecting the child's self-esteem and leading to mental anguish, frustration, isolation, anxiety, depression and bullying.

2 How you know that this is a problem? What data did you have to describe this problem?

In 2013, Clayton et al reported that New Zealand is ranked ninth among 60 countries where the prevalence of eczema symptoms remains high. Their study showed that eczema is a significant problem particularly for young Māori and Pacific New Zealanders, which may be partly because they are less likely to have their eczema recognised and access to effective management.[1]

At South City Health, we have 275 patients under 18 years old who are coded as having atopic dermatitis. Of this total:

European	58%	159
Māori	26%	71
Pacific peoples	2.5%	7
Indian	2.5%	7
Other ethnicities	11%	31

The incidence of childhood eczema is higher among South City's population than that reported by Auckland's Starship Hospital.

1 Clayton T, Asher MI, Crane H, et al. 2013. Time trends, ethnicity and risk factors for eczema in New Zealand children: ISAAC Phase three. *Asia Pacific Allergy* 3: 161–78.

The aim

This project aimed to reduce the average patient-oriented eczema measure (POEM) score from > 15 to ≤ 10 for children aged 0–18 years with eczema by March 2020.

The measures

Outcome measure

- Average patient-oriented eczema measure score (POEM)
  - The clinic registered nurse (RN) assessed the POEM score (see Appendix 1 for the questionnaire) with the patient and their whānau at the first visit. This assessment was repeated one week, one month and three months following the initial visit, either by telephone or during a clinic appointment.
  - If a patient had a flare during the project, the RN assessed the POEM score each week until the flare settled. Then they would continue with the assessment timeframes outlined above.
  - The POEM questionnaire was designed by the University of Nottingham, is an internationally recognised tool for assessing the severity of eczema. It consists of seven questions related to eczema morbidities that are scored in terms of the number of days in which they occurred in the previous week – with the choices of no days, 1–2 days, 3–4 days, 5–6 days and every day. The maximum possible score is 28, which indicates very severe eczema.
  - The POEM score gives a direct illustration of how well controlled or managed a patient's eczema is. The lower the POEM score, the better the patient's quality of life is relative to the potentially severe effects that they could be suffering from eczema.

Process measures

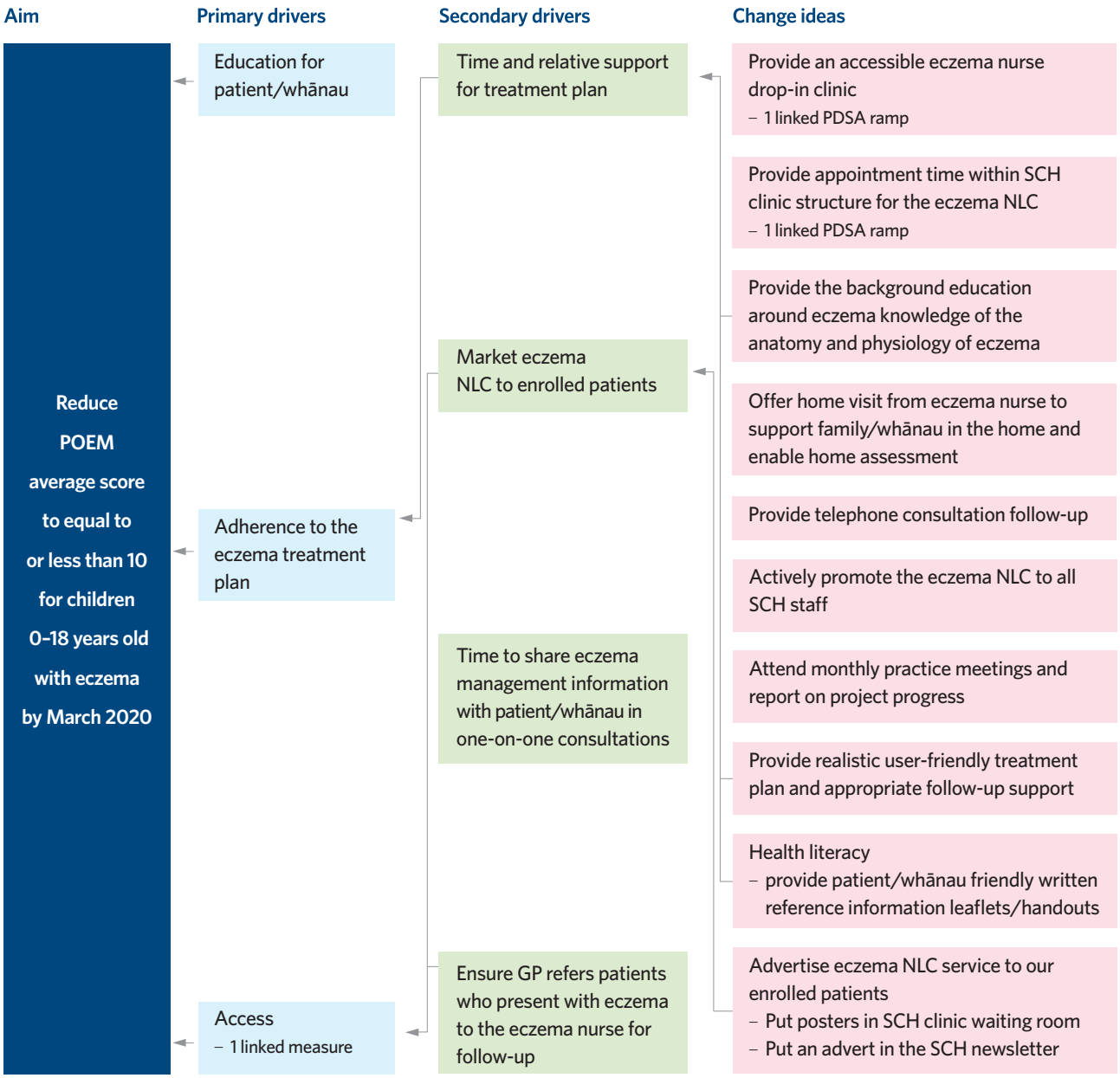
- Access to eczema nurse-led clinic
  - Numerator: The number of eligible patients who were referred to the clinic
  - Denominator: The number of eligible patients who saw a GP about their eczema
- Adherence to the eczema treatment plan
  - Qualitative feedback from the patients at the follow-up appointment. As the patient cohort was very small (10 patients in total), this was reviewed individually for each patient.
- Review of patient experience and education gained – answers to individual questions in the consumer survey
  - A member of the patient's family completed a paper-based consumer survey after the initial appointment and then again three months later (see Appendix 2).
  - Question 2 asked the respondent to rate how strongly they agreed or disagreed, on scale of 1 to 5, with the statement that the nurse follow-up and ongoing support helped them manage their child's eczema better.
  - Question 5 asked the respondent to rate their knowledge about eczema and its management. As the patient cohort was very small, this was reviewed individually for each patient.

Balancing measure

- Total score in the consumer survey
  - This balancing measure compared the total score from the patient survey before and after the project. We reviewed this individually and as a group average to check that nothing unexpected had occurred as a result of the new way of working. We also monitored our quarterly national patient experience survey data for any effects on other parts of the practice system and patients' experience in general outside of this small group.

Drivers of change

Driver diagram



Note:
GP = general practitioner NLC = nurse-led clinic PDSA = plan–do–study–act SCH = South City Health

Our theory of change was that by increasing access to the nurse-led clinic, where patients receive education about their eczema and discuss concerns with a nurse, they would be able to better manage their eczema and their POEM score would improve.

A reduced POEM score demonstrates a decrease in itchiness, cracked, dry or flaky skin and disturbed nights of sleep.

What did we do?

Were there any ethical considerations to be aware of?

This project involved no ethical concerns.

What aspects of the project were co-designed with consumers? How did you involve consumers in co-design? What processes did you use?

The nurse lead initiated this project as a mother of a child with eczema and was able to bring an educated consumer perspective to it.

Part of the project involved developing a consumer survey to gain feedback on the family's satisfaction and experience with the nurse-led eczema clinic (see Appendix 2).

A member of each patient's family completed this survey twice: once at the beginning of the engagement with the eczema nurse and once at the end of the project. This valuable information from the perspectives of patients and their whānau has helped us to better understand our consumers' experience and needs.

One story from a patient's parent:

> ***My child used to scratch every day until her skin bled. I was changing her bed linen every day which caused a lot of additional stress and workload into the family dynamics. Within a week as a result of following our new treatment her eczema improved so much that this was no longer needed.***

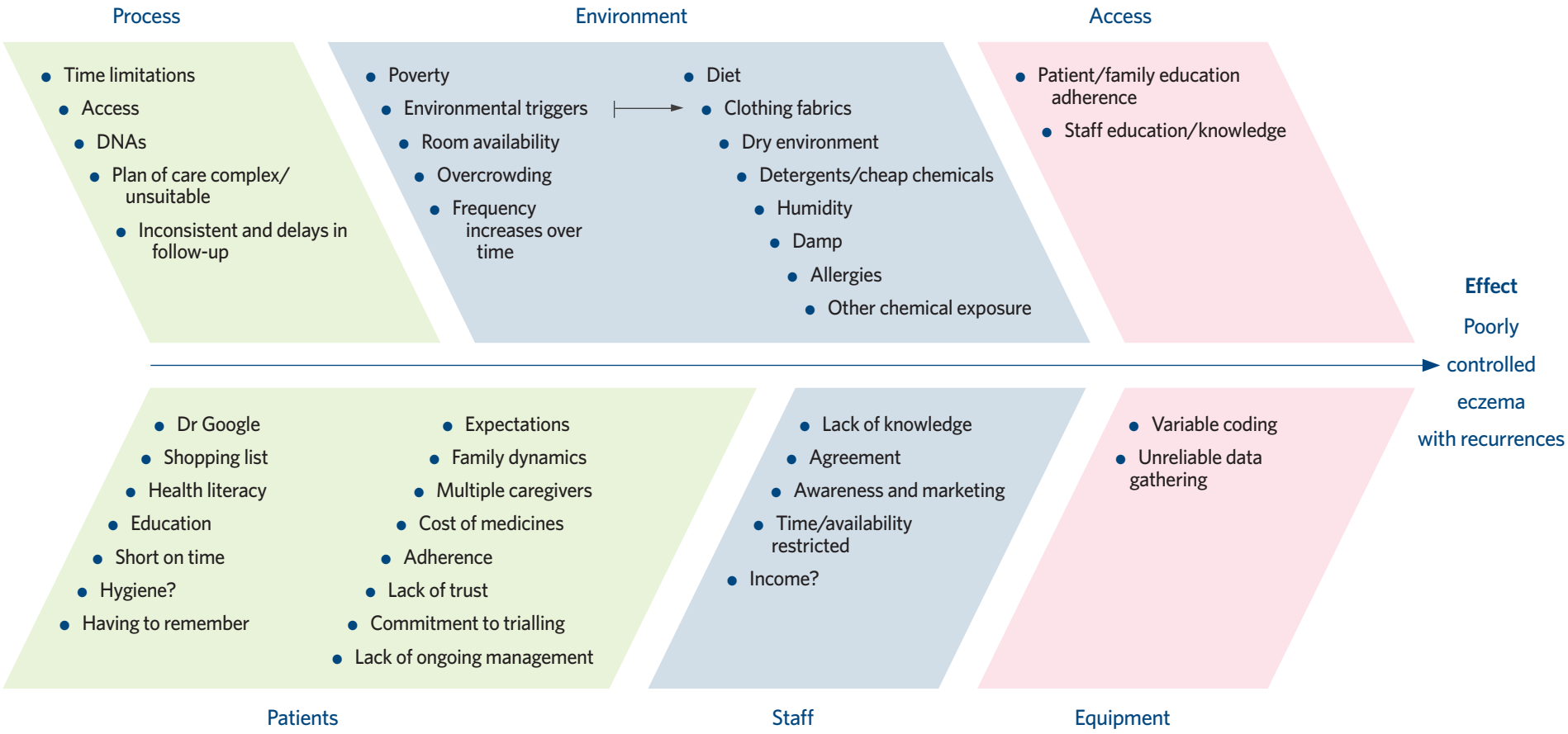
Other comments made on the consumer survey at the end of the project

- 'Still learning, very happy with education gained from this, still wanting to learn more about triggers and how to reduce stress.'
- 'The advice and reassurance has been great, I would like this to be a permanent service.'
- 'Education is valuable, I have appreciated the follow up phone calls and knowing that there is support out there.'
- 'Really good, good follow-up, always checking in. A big help for us in managing our child's eczema.'
- 'Good explanation about eczema as this hasn't been explained to me like that before, a good experience.'
- 'Improved sleeping, clinic nurse has helped a lot, more personal touch with patients.'
- 'Easy point of contact.'

What QI tools did you use, that you would recommend?

Cause and effect fishbone diagram

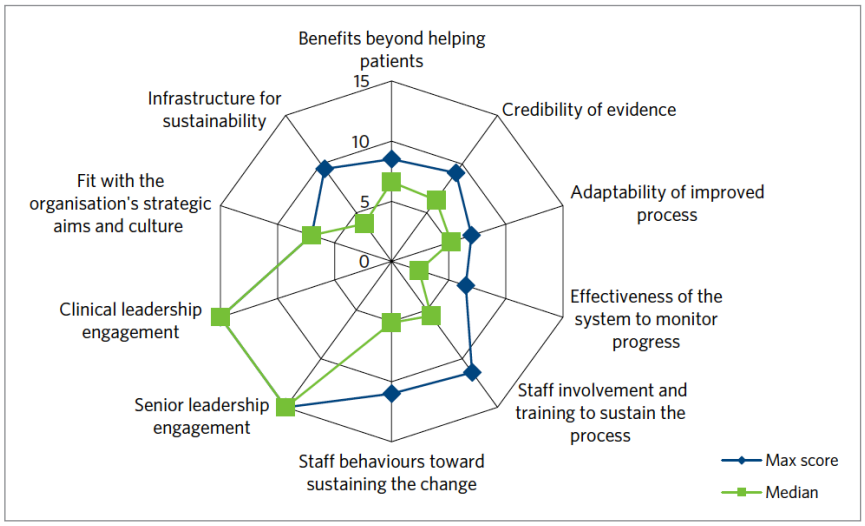
We created this fishbone diagram as a team. It helped us to understand how the system contributed to poorly controlled eczema. It gave us a visual overview and helped us to identify where we could contribute to making an improvement.



National Health Service (NHS) (UK) Sustainability Model[2] Radar Charts

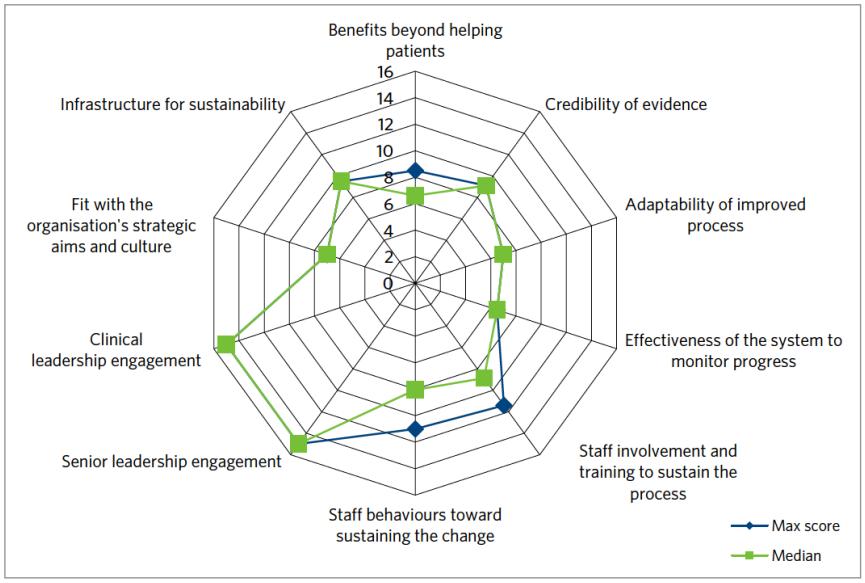
The sustainability model was developed by the NHS to enable diagnosis of the sustainability of specific quality improvement initiatives. It consists of ten factors relating to process, staff and organisational issues that play a very important role in sustaining change in healthcare. The scores displayed in the Radar Chart are the combined scores provided by answers to questions asked in the sustainability model. The project team completed the two radar charts below: the first at the start of the project in April 2019 (Figure 1) and the second at the end of the project in August 2019 (Figure 2). As the radar charts show, the strong engagement of senior and clinical leadership at the beginning continued throughout the project. Growth occurred in all other areas, which was particularly noticeable in relation to the infrastructure for sustainability and the practice's growing ability to monitor progress effectively.

Figure 1: Scores at the start of the project



2 https://improvement.nhs.uk/resources/Sustainability-model-and-guide/

Figure 2: Scores at the end of the project



What changes did you test that worked?

- The nurse-led clinic was an effective system of care. When a patient with eczema came to see the GP, we took the opportunity to offer them time with the nurse for advice, education and support. We worked through a number of plan–do–study–act (PDSA) cycles to develop this approach to delivering advice, education and support.
- The nurse developed an individualised eczema care plan in conjunction with the patient and gave the patient a copy to take home.
- To make all our staff aware of the clinic, we expanded our ways of communication by displaying posters in the staffroom as well as communicating through our usual practice meetings.

The results

1 What outcome measures improved?

Our patients' POEM scores generally fell, indicating an improvement in their management of eczema. However, because the number of patients involved was small (10 in total), a flare in one patient pulled the average score up (see Figure 3). In this context, it makes more sense to view the scores individually (see Figure 4). The latter approach also allowed us to observe for differing outcomes by ethnicity.

Figure 3: Average POEM score at the first and subsequent clinic visits

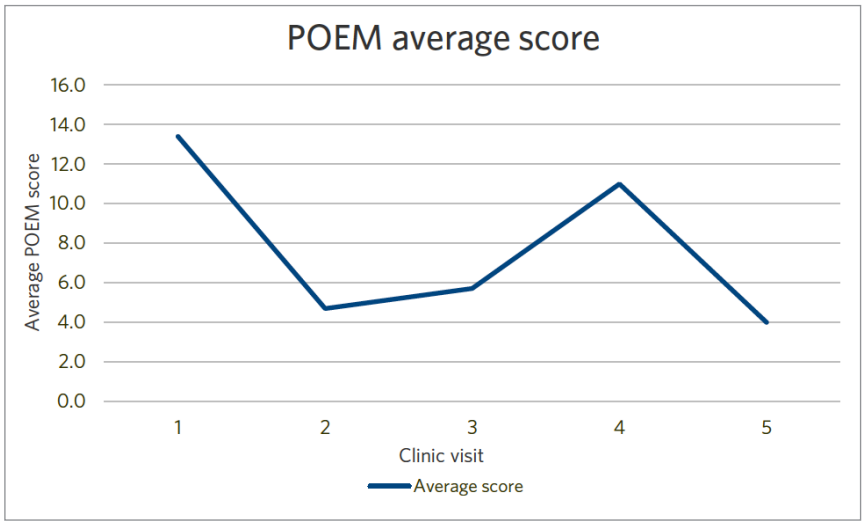
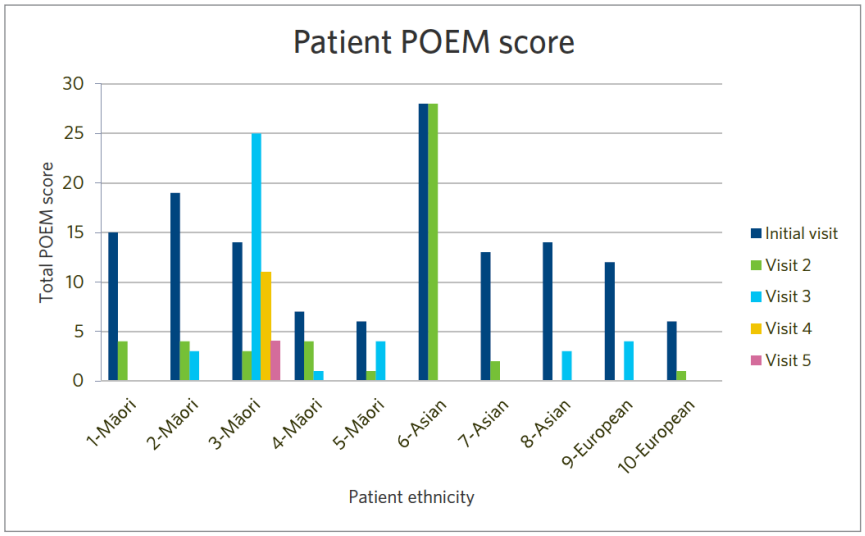


Figure 4: POEM scores of individual patients on each clinic visit



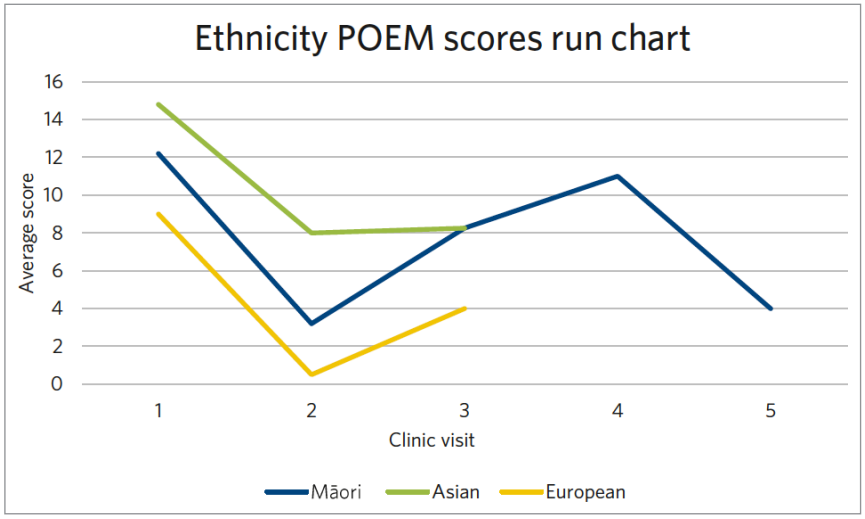
As Figure 4 shows, overall, the skin condition of individual patients improved after they began engaging with the nurse-led eczema clinic. For patient 3, we discovered that a change in caregivers led them to stop adhering to the treatment plan, resulting in a flare. Patient 6 made no progress because they did not understand English well, which staff were not aware of at the time, and therefore did not understand or adhere to the treatment plan. This kind of language barrier is an ongoing issue with opportunistic appointments. However, in future we would request an interpreter, especially at the first consultation.

2 What equity measures improved?

Of the 10 patients attending the clinic, five (50 percent) were Māori, three (30 percent) were Asian and two (20 percent) were New Zealand European. The individual POEM scores in Figure 4 above indicate that scores improved for four of the five Māori children (while the fifth had a flare but it was managed in subsequent visits), two of the three Asian children and both New Zealand European children.

With such low numbers it is hard to make comparisons, but the run graph of average score by ethnicity (Figure 5) does not show any decrease in the equity gap. This is an issue that we will need to monitor over time and, to address it, we will need to test a range of changes to find those that make a difference specifically for Māori. We are developing a proactive approach to offer education to kohanga reo and Māori providers and to invite them to the clinic.

Figure 5: Average POEM scores at the first and subsequent clinic visits, by ethnicity



3 What process measures improved?

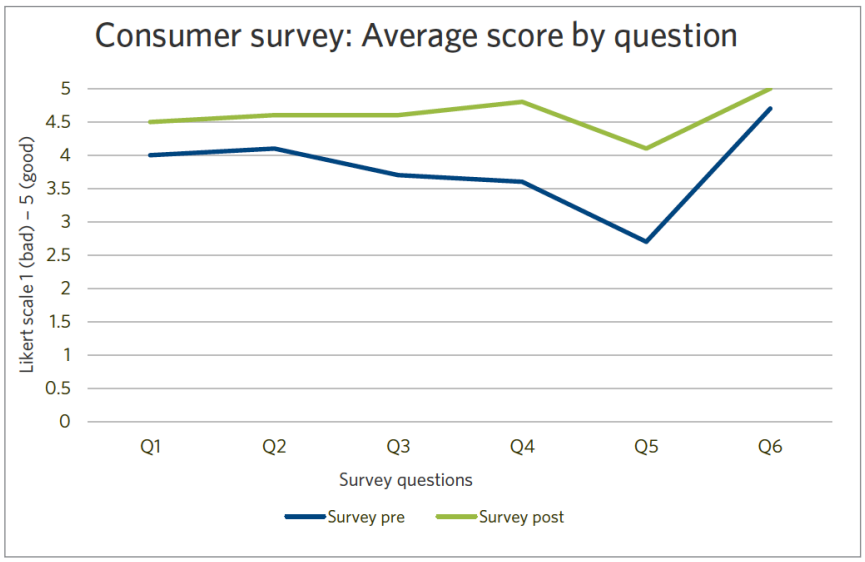
Access to eczema nurse-led clinic

Due to some changes we made after beginning the project, we did not collect enough data on access to display in a run chart. However, we know that at the start of the project only 25 percent of children seen for eczema were being referred to the nurse-led clinic. The referral rate increased to 75 percent after we improved our internal communication and displayed posters about the clinic in the staffroom. Access is an issue that we continue to monitor.

Adherence to the eczema treatment plan

Figure 6 presents the average score for responses to each of the six questions of the consumer survey (see Appendix 2). Scores for responses to all the questions improved. The greatest improvement occurred in answer to question 5, in which respondents rated their knowledge of eczema and its management. Question 4 shows the next biggest improvement, indicating that it had become easier to request and get a repeat script when patients ran out of eczema creams.

Figure 6: Average score for each question in the consumer survey, before and after the project



4 Were there any unintended consequences such as unexpected benefits, problems or costs associated with this project?

For the project to be most effective, we needed to be able to take the opportunity to refer patients to the clinic while they were in the practice visiting the GP. On some occasions, it was difficult for the nurse to stop what she was already doing to see the patient at that time.

We had not realised the amount of time that is required to undertake a quality improvement project on top of our usual work. The funding available covered our time, but with more funding we might have been able to provide more patient support.

An unexpected benefit has been that the publicity attached to the project has generated more patient interest in attending the clinic.

5 Is there evidence that the knowledge of quality improvement science in the team or in the wider organisation improved?

All members of the project team gained knowledge related to their involvement in the project and roles within the practice. For example, they increased their understanding of equity and bias and the use of data for improvement.

Post-project implementation and sustainability

1 Have the successful changes been embedded into day-to-day practice? How have you managed this?

The eczema clinic is now business as usual. The nursing team takes advantage of opportunities during other appointments such as vaccinations to check the patient's skin and refer as required.

2 How did you communicate your progress and results to others?

The PHO and the hospital dermatology department have been interested in the project and we maintained contact with them throughout.

At practice meetings, we kept everyone in the practice informed about the project. We also displayed posters about it in the staffroom.

Summary and discussion

What were the lessons learnt?

- It is difficult to obtain health statistics that substantiate anecdotal knowledge. The need to develop manual data collection systems adds to the workload.
- Getting protected time to dedicate to the project is difficult when working in a busy primary health care setting.
- The size of our practice and the time constraints of this type of QI project make it difficult to gain enough data for a run chart review.
- Time pressure limits the amount of information that families take in and act on. At the start of the project, the clinic RN provided a lot of important information, but she soon became aware that the families weren't listening, and time was always the most significant reason for this. Over the project the RN developed better systems to give only the most relevant, basic information at the first consultation and then build on this each time so families could build this into their routines accordingly.
- Phone consultations are a helpful option for follow-up. Although on a phone consultation the RN couldn't view the skin, she could use the POEM questionnaire to gauge the severity of the patient's eczema, which made this tool even more valuable.
- It important to collaborate with the entire spectrum of people involved in the project, including the patient, nurse, whānau and wider multidisciplinary team.
- This QI project has helped us to develop a system of care and approach to monitoring it. It has encouraged us to look for opportunities or ways to improve our service for the benefit of patients and their families as well as our own professional development.

What would you recommend to a team somewhere else that wants to take on a similar project?

- If you are starting a similar project, consider using more than one nurse or the whole nursing team so that the whole team can take advantage of those opportunistic encounters.

Are there any future steps or ongoing work that you are intending to continue with on this project topic?

- To make this sustainable in the long term, we intend to roll out this system of care across our nursing team for all eczema patients to receive. Then we would like to take it to our PHO – and eventually nationwide – so that all practice nurses can deliver the same quality of care, education and patient and whānau support to meet the consumers' needs and to improve eczema care and management eventually going nationwide.

The team

What skillsets did you include on your team?

Skill sets on our team include:

- project lead – Michelle Madgwick (practice nurse)
- sponsor – Teresa Waitere (practice manager)
- GP lead – Dr Kate Sinclair
- registered nurse lead – Melissa Castillo (practice nurse)

Do you have any teamwork lessons or tips that you wish to share?

Regular communication is important, and you need to have an allocated time for the team to meet to discuss the project.

Appendix 1: POEM assessment form

Available to download here.

Appendix 2: Consumer survey

Available to download here.