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Diabetics on Maximum Oral Doses hesitant to Insulin Initiation need to commence Insulin uptake

Primary Care Improvement Facilitators Programme 2019

Deepika Sonia
Mele Vaka

Health Quality & Safety Commission New Zealand
Kupu Taurangi Hauora o Aotearoa

Ko Awatea
Health System Innovation and Improvement

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Improvement Facilitators:

- Deepika Sonia – Special Projects Analyst
- Mele Vaka – Clinical Services Manager

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Project Background:

- Established in 1997, the Tongan Health Society (THS) is the only privately developed Tongan Integrated Family Health Centre operating outside the Kingdom of Tonga in New Zealand.
- We have 3 medical centres in Auckland (Onehunga, Panmure and Kelston), serving a population of over 6000 registered patients.
- Prevalence of Pacific People with Diabetes in the Auckland region is 21% (5,790). Langimalie Clinic are dealing with 15% of this total cohort. Around 95% of the patients at the clinic are Tongans (3805).
- At present we have a total of 254 patients who are on maximum orals 'needing' to go on Insulin.
- There is little information available about Pacific family barriers to Insulin initiation and intensification particularly for those on maximum oral hypoglycaemics where Insulin is now needed in their management.
- We intend to document these barriers and design a tool to overcome them, which will ultimately lead to reduced HbA1c values.

Improvement Team:

- Dr Glenn Doherty (CEO Medical Director & Project Sponsor)
- Deepika Sonia (Special Projects Analyst)
- Mele Vaka (Clinical Services Manager)
- Rachel Steed (Diabetes Nurse Specialist / Nurse Prescriber)
- Fifita McCready (Diabetes Nurse Specialist)
- Laumanu Moala'eua (Recall Nurse)

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Problem Statement:

254 of our people with Diabetes on the maximum oral dose need to start Insulin but are hesitant. We need to identify the barriers to uptake Insulin and help bring down HbA1c values of these patients for better quality of life.

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Aim Statement:

To reduce the average HbA1c (74.2) of the 254 enrolled Diabetic patients on maximum oral doses of hypoglycaemic medications by 15% (63.1) by April 2020.

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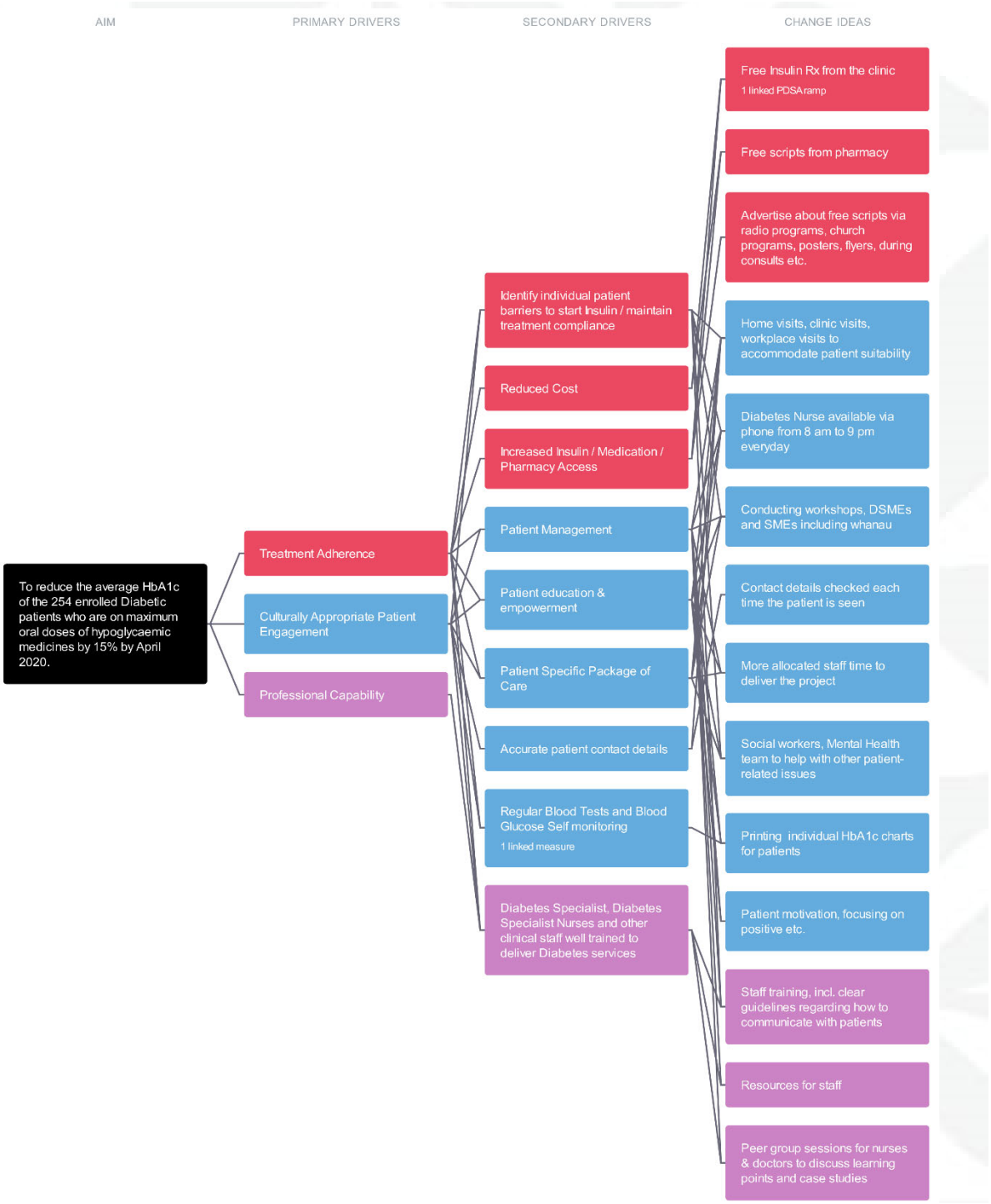
Driver Diagram:



Diagnose the problem – data:

We have a total of 254 patients who are on maximum orals needing to go on Insulin, who are spread across both the Auckland District Health Board (ADHB) and the Counties Manukau District Health Board (CMDHB) catchment areas. Most participants are Q5 and live in the most deprived areas of Auckland. ADHB and CMDHB recorded over 75% of the Pacific populations living in deprived areas of Auckland.

Prevalence of Pacific People with Diabetes in the Auckland region is 21% (5,790). Langimalie Clinic are dealing with 15% of this total cohort. Around 95% of patients at the clinic are Tongans (3805).

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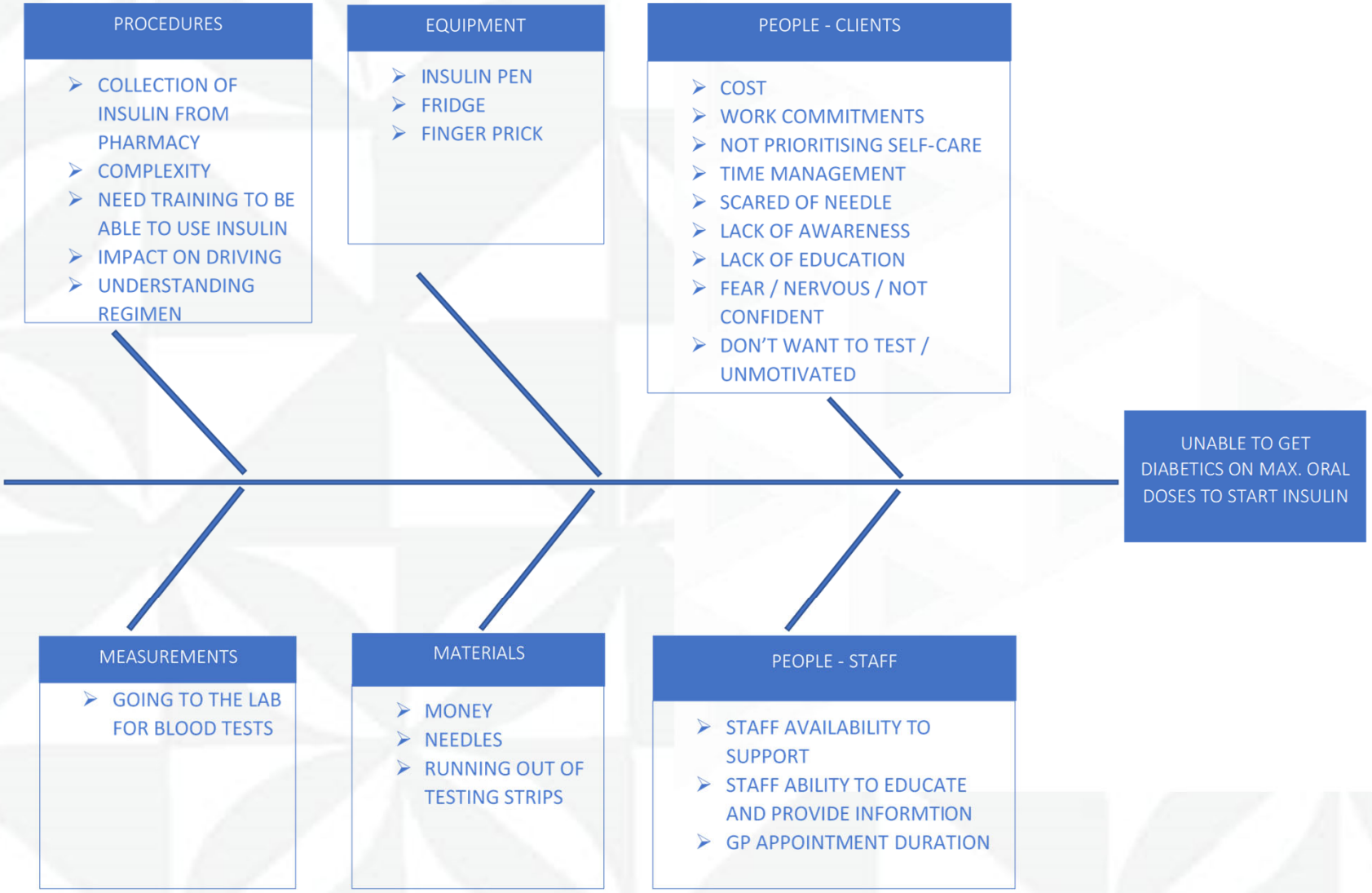
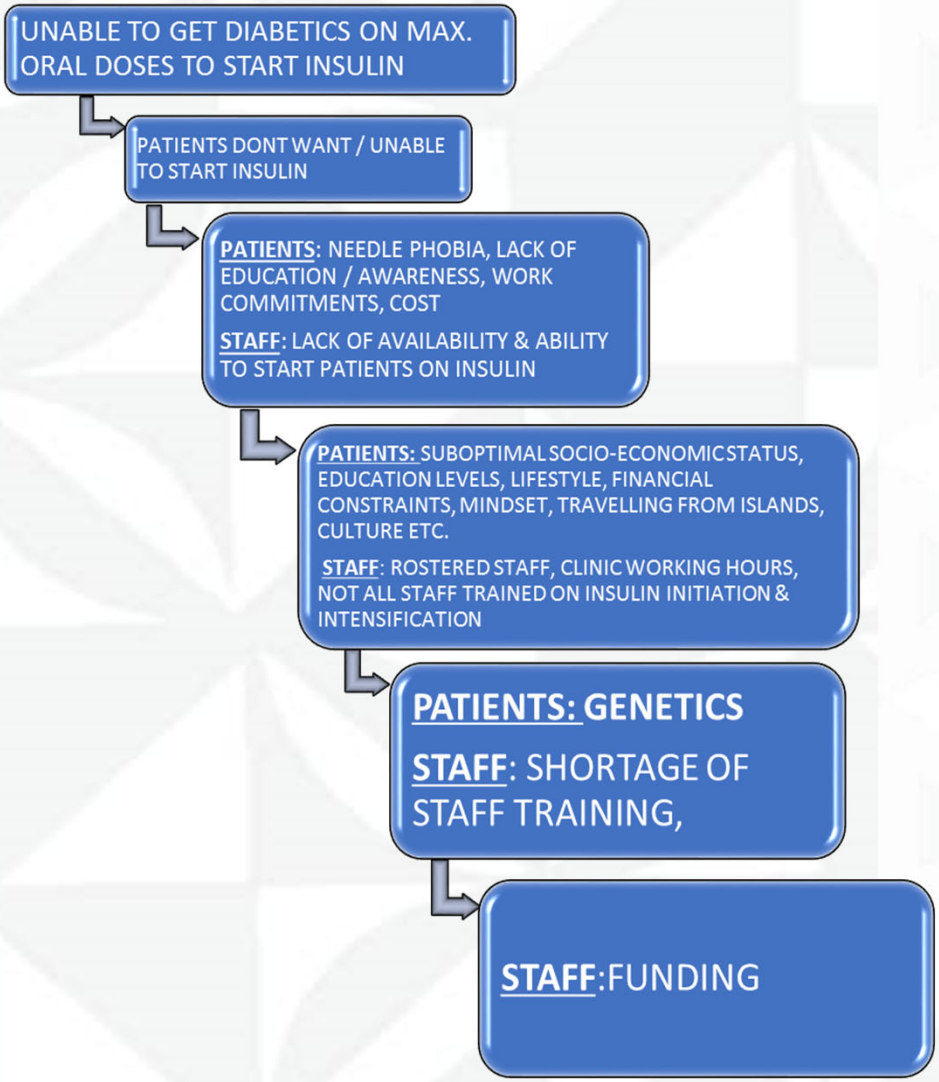
Tools used to Diagnose the problem: Ishikawa Diagram:



Tools used to Diagnose the problem: 5 Whys:



FINDINGS

- **PATIENTS:** NEED TO BUILD A WORKING MODEL AROUND THE PATIENT FACTORS IDENTIFIED, TEST IDEAS & IDENTIFY MORE REASONS FOR PATIENTS' HESITANCY TO START INSULIN
- **STAFF:** DESIGNATE MORE STAFF TRAINING TIME

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What surprised you about what you discovered?

- Don't know clearly why patients are hesitant to start Insulin
- Need to build a working model according to patient factors identified, test ideas and identify more reasons for patients' hesitancy to start Insulin
- Need to allocate additional hours for staff
- More staff members need to be trained on Insulin Initiation and Intensification

Capturing the Patient Experience:

- Surveys
- Questionnaires

Some examples of our patient status:

- 43 year old male patient is a truck driver working 6 days per week from 4 am to 6 pm. His ability to access healthcare is diminished due to his busy schedule and he cannot take time off work. No practical knowledge of Insulin regimen apart from what he's seen other people doing. He is not happy with his current health status but doesn't know how to fix the situation, so continued with his routine.
- 51 year old female is Type 2 Diabetic. Been ignoring her diabetes due to previous unsatisfactory experience with Insulin. She has been on different Insulin regimen/s in NZ & Tonga in the past. She was hurting herself previously when injecting Insulin due to different needle lengths and techniques. She is scared of injecting herself again. She was initially very reluctant to discuss her Diabetes status due to misconception of ill treatment by clinicians of Diabetic patients i.e. getting blamed for poor health status. Has 12 children with gestational Diabetes for many of these.

Data Usage:

- These surveys help us identify the barriers to Insulin Initiation and modify our approach accordingly.

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Voice of the Customer:

4 DSME Sessions – Total Invited: 16; Total Attended: 8 (50% Attendance Rate)

Patients left with better knowledge of Diabetes and importance of starting Insulin. Left happy and motivated to start Insulin and look after their health.

PRE: "I was really worried about being on Insulini as my dad was dead when it was stopped, he died. My whole Family was affected"

"Didn't wanna do it"

POST: "Had some aches and pains to my legs when first started Insulini but this has now subsided. Feeling a lot happier now as knows the benefits of the Insulin helping my body."

"It unbelievable I didn't know I got this result after using Insulin"

- What is critical to quality for the patients? – Good understanding of patients' situations; providing education about Diabetes and Insulin; hearing from the patient enabler; speaking the patients' language, expression of genuine care about patient health and well-being

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Stakeholders Analysis – 26/04/2019:

Stakeholder	No commitment	Let it happen	Help it happen	Make it happen
VSHFLDO#SURMHFWV#DQDO\VW				X X
	Action/s planned to move stakeholder			
FOLQLFDO#VHUYLFHV#PDQDJHU				X X
	Action/s planned to move stakeholder			
GLDEHWHV#QXUVH#VSHFLDOLVW#QXUVH#SUHVFULEHU			X	X
GLDEHWHV#QXUVH#VSHFLDOLVW#	X			X
FHR#PHGLFDO#GLUHFWRU				X X
SKDUPDFLVW			X	X
SURMHFW#SDUWLFLSDQWV	X			X
GLDEHWHV#VSHFLDOLVW	X			X

Mark the current state for your Stakeholders the desired state and how you plan to keep or move them to the desired state

X = Current State

X = Desired State

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Stakeholder communication plan:

Stakeholder	Motivation/values	Action/message	Strategy	Responsibility	Reflection
Diabetes Nurse Specialist / Nurse Prescriber	Passionate about Diabetes and well driven	NA (Already motivated)	More hours to deliver the project	CEO Medical Director & Clinical Services Manager	Starting the project, more participant recruitments, completing the project
Diabetes Nurse Specialist	Helping people	People need your help and expertise	Working together with the other Diabetes Nurse and conducting workshops	Clinical Services Manager	Starting the project, more participant recruitments, completing the project
Project Participants	Variable	Variable	Customized for individual patient	Diabetes Nurses, Clinical Services Manager, Diabetes Specialist, Pharmacist	Lowered HbA1c levels
Diabetes Specialist	Motivated to help people	People need your help and expertise	Involvements in decision making for treatment of Diabetic patients	Clinical Services Manager	Lowered HbA1c levels

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Dashboard of Measurements

Measurement Type	Measurement Name	Measurement definition	Data Collection How and Who	Comments
Outcome 1	Average HbA1c	HbA1c refers to glycated haemoglobin (A1c), which identifies average plasma glucose concentration	• Quarterly Blood tests for HbA1c values • Nurses • Monthly average HbA1c reports for patients captured in the month	Average Pre HbA1c: 106.8 Average Post HbA1c: 88
Outcome 2	Patients on Insulin out of the Cohort	Total number of Diabetics on max. oral doses on Insulin	• Monthly total numbers of Diabetics on max. oral doses on Insulin • Nurses	9 patients started on Insulin
Process 1	Number of Group Sessions Conducted	Count of the number of DSMEs conducted during the project and number of attendees	• Monthly reports • Count of numbers invited • Count of numbers attended • Nurses	4 DSMEs conducted Total Invited: 16 Total Attended: 8
Process 2	Patient Learnings	Evaluation of the level of understanding gained by the patients during DSMEs	• Patients to fill-in surveys about their level of knowledge on topics such as Diabetes, Insulin and Blood Sugar levels before and after the DSME • Nurses	Definite improvement in patient knowledge pre & post DSME
Balance	Hypoglycemia	Blood sugars fall below the normal levels i.e. below 4mmol/L	• Interviews • Monthly reporting • Nurses	

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Generate Change Ideas to Test

- Change ideas currently being tested

Advertise free scripts from Pharmacy

Free Insulin Rx from clinic

Advertise about the project and free scripts via Radio programmes

Conducting workshops DSMEs for patients

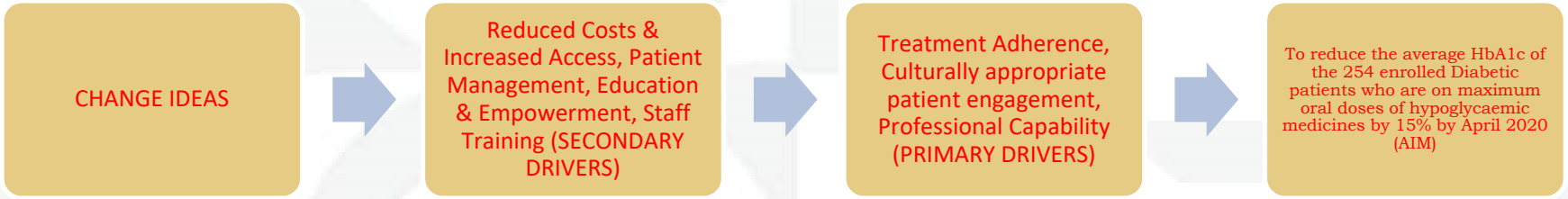
Printing individual HbA1c charts for patients

Staff training

- What is the rationale for testing these changes?

Frontline experience, Consumer experience, Innovation

- How/where do these ideas link to your driver diagram?



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What are you currently testing?

Theory of change (Secondary Drivers)	Ideas Tested (Provide details of your PDSA's, include your measures questions, predictions)	Evidence of Improvement (Include your data, charts and learning)
Reduced Cost Increased Insulin / Medication / Pharmacy Access	Advertise free scripts from Pharmacy	People interested in starting Insulin if they get it for free
Reduced Cost Increased Insulin / Medication / Pharmacy Access	Free Insulin Rx from clinic	People interested in starting Insulin if they get it for free
Reduced Cost Increased Insulin / Medication / Pharmacy Access	Advertise about the project and free scripts via Radio programmes	Not much response from the patients
Patient Management Patient Education & Empowerment Patient Specific Package of Care	Conducting workshops DSMEs for patients	50% invited patients showed up. Very pleased to attend and gave good feedback. People interested in starting Insulin.
Patient Management Patient Education & Empowerment Patient Specific Package of Care Regular Blood Tests & Glucose Self-Monitoring	Printing individual HbA1c charts for patients	Patients found the visuals very helpful. They were able to recall the times when their blood sugars went up and where they need to be at regarding blood sugar levels.
Diabetes Specialist, Diabetes Specialist Nurses and other clinical staff well trained to deliver Diabetes services Patient Management Identify individual patient barriers to start Insulin / maintain treatment compliance	Staff training on Insulin titration	Session conducted for all nurses by Diabetes nurse specialist.

PDSA Sample

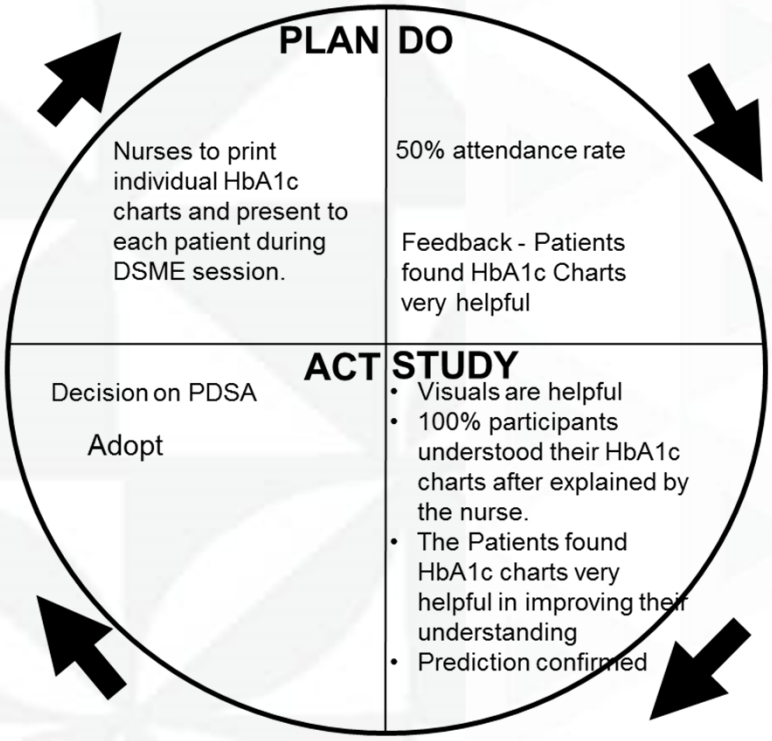
PDSA# 1 **PDSA Title: Printing Individual HbA1c Charts** **PDSA Date: July-19** **Owner : Mele Vaka**

Objective of this PDSA: To raise awareness of HbA1c values amongst individual patients

Change Idea: Print individual HbA1c Charts per patient

Questions:

1. **How many people will understand these HbA1c charts?**
2. **Will HbA1c charts have positive impact on patients' understanding of blood sugar levels?**

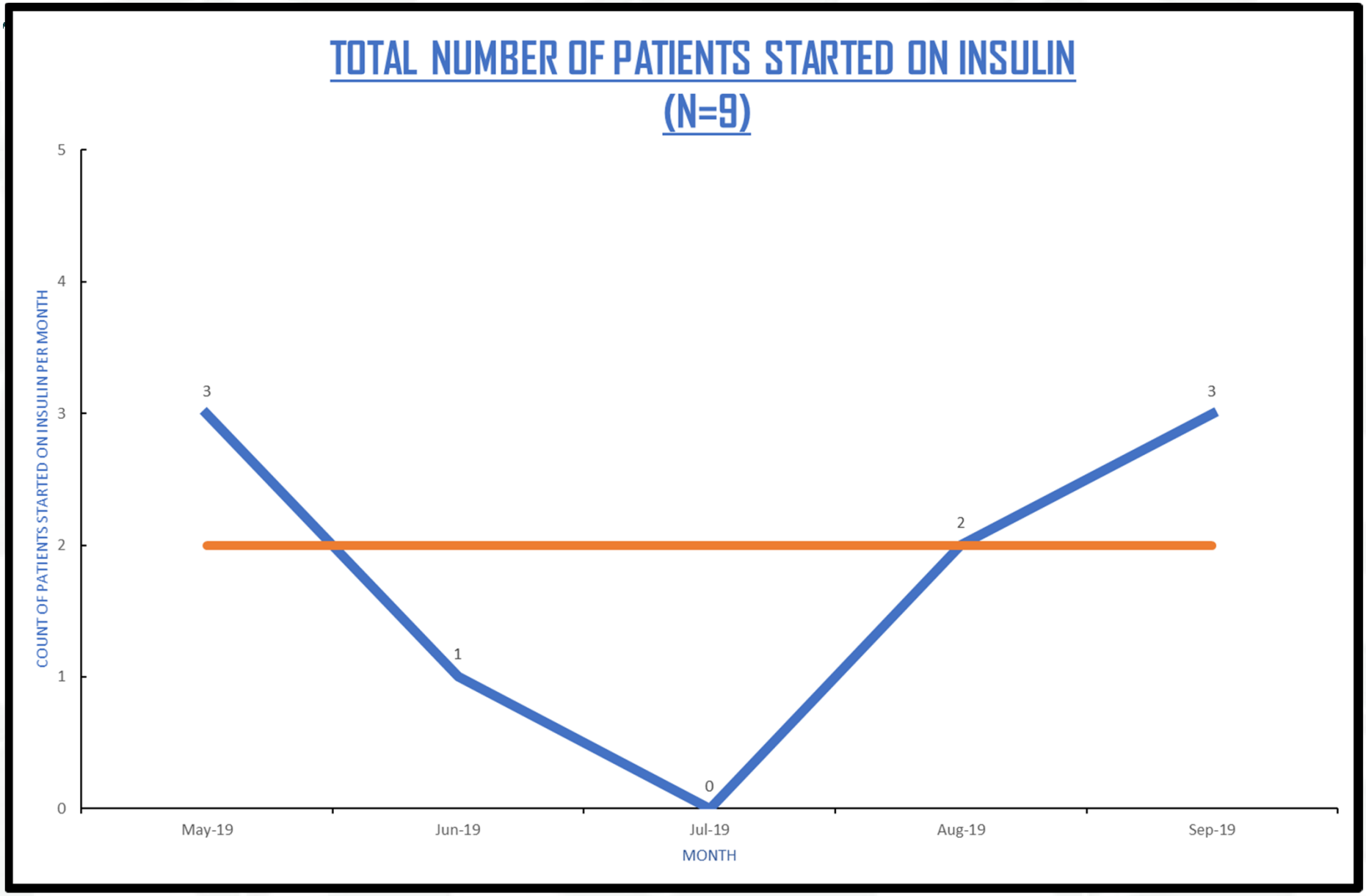


Predictions:

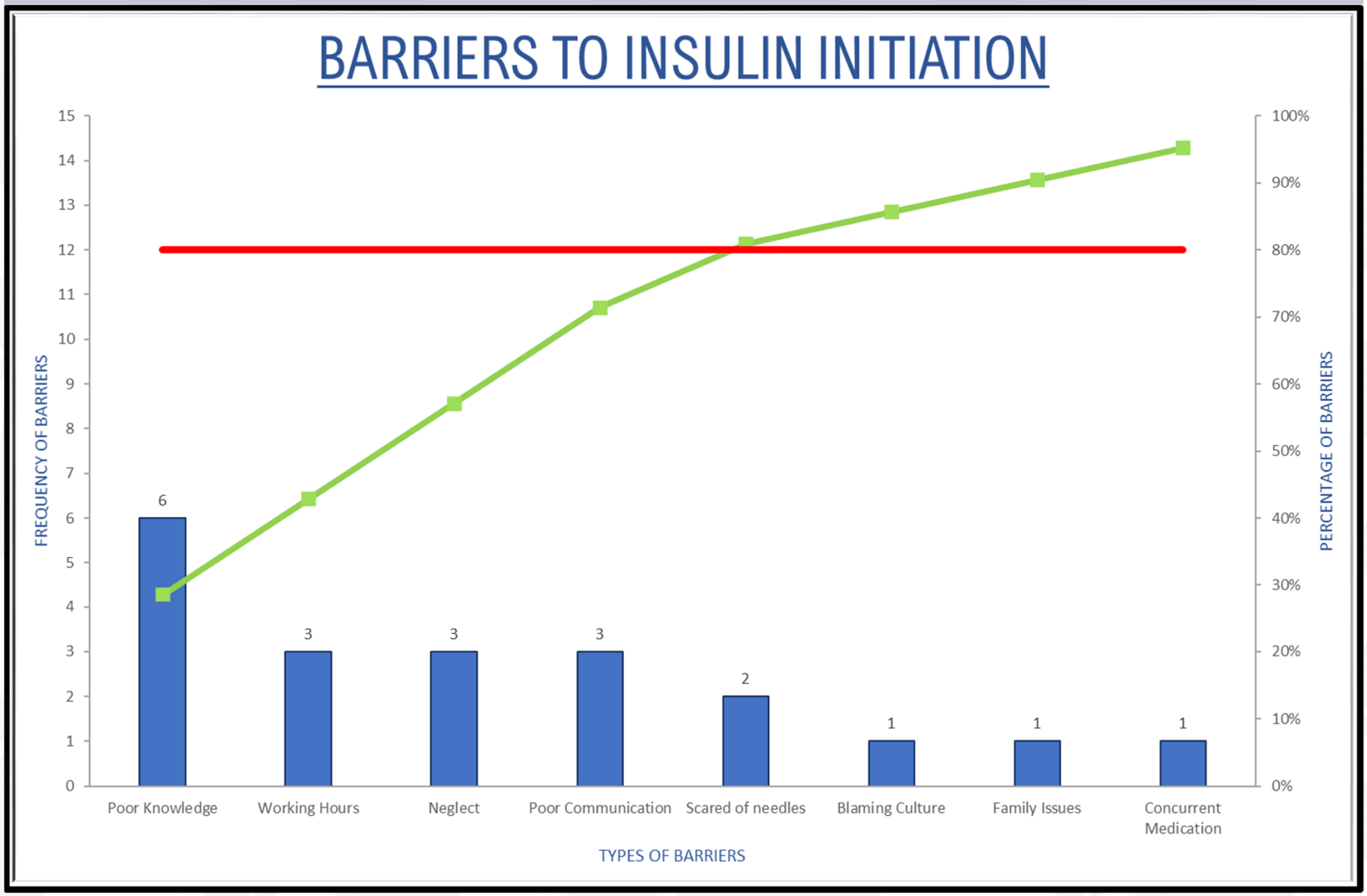
1. 50% of people will understand HbA1c charts
2. Yes, HbA1c charts will have positive impact on patients' understanding of blood sugar levels

Measurements: Nurses to ask the patients after explaining the individual HbA1c charts

Data - Run Chart



Data - Pareto Chart



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Change Management – Actions and Plans

- Regular project team meetings on updates
- All Clinical staff training (particularly Nurses) on starting patients on Insulin
- Informing staff in monthly meeting

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Highlights/lowlights

HIGHLIGHTS:

I. 4 DSME sessions – 50% attendance rate. Total Invited: 16; Total Attended: 8. Attended by Renal Specialist from DHB, Dietician, Diabetes Specialist Nurse

II. 6 PDSAs

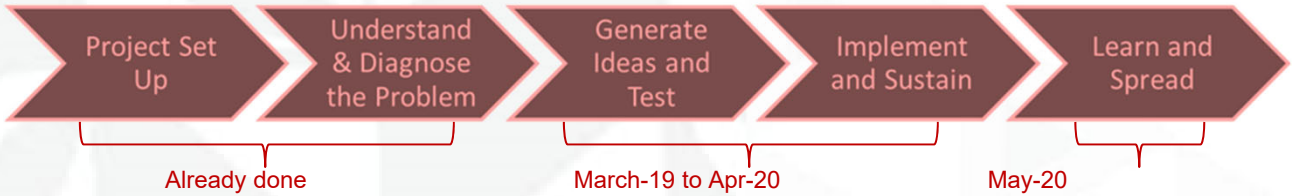
III. 9 Patients started on Insulin

- AVERAGE PRE HbA1c: 106.8
- AVERAGE POST HbA1c: 88

LOWLIGHTS:

I. Both Diabetes nurses injured and away from work for months

Key Success/barriers:



Keys to Success:

- Team work – organisation, flexibility and cooperation
- Effective Communication (clinician-patient)
- Efficient & Dynamic work plan
- Data Collection, Analysis and Reporting
- Skilled Staff

Barriers:

- Hard-to-get-hold-of-patients
- Lack of communication (clinician-patient)
- Lack of allocated staff hours
- Language Barriers
- Cultural Divide

Lessons Learned:

- Quality Improvement Tools
- People can be encouraged to start Insulin if the cost barrier is removed
- Visuals of blood sugar levels are easily understood by patients
- People more likely to consider starting Insulin if spoken to by someone like them (patient enabler)
- Good idea to have all clinical staff trained on Insulin Initiation so that work doesn't stop in absence of Diabetes nurses