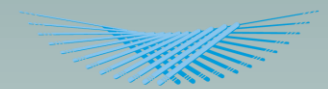


Lungs 4 Life



KO AWATEA
HEALTH SYSTEM INNOVATION AND IMPROVEMENT



COUNTIES
MANUKAU
HEALTH

 **Healthy Together**



Introduction (the team so far)

Dr Adrian Trenholme
(Clinical Head Kidz First)



Nick Price & Adele Cluett
(Improvement Advisor) (Speciality Clinical Nurse)



Alison Howitt
(Project Manager)



Annie Nicholas
(Staff Nurse Kidz First)



Our Sponsors

**Dr Adrian Trenholme and
Michelle Nicholson-Burr.**

Storytelling: Case Study. Baby H



- Case Example and application of screening tool
- Baby H is an 8 Months boy. H has no underlying medical history and was a term healthy baby. His weight is 10.5kg and is developing normally for his age. H lives in a smoking environment, where mum has been given education and resource to quit with no response. H lives in a New Zealand housing home, with mum and a 2 year old sibling and an area classified as deprivation 10. Mum is a Kohanga Reo teacher and usually brings him to school with her but not when he's unwell when he stays with his grandmother. The family have access to car and phone.

Case Study: Baby H



- **Presentation 1:** EC. Bronchiolitis, CXR Referred to the GP
- **Presentation 2:** EC. Bronchiolitis High Flow O2 Referred to GP
- **Presentation 3:** ward 1 day. Represented with Bronchiolitis Referral to HCN
- **Presentation 4:** Ward 2 days. Represented with Bronchiolitis. CXR showing consolidation and diagnosed with Pneumonia 7 days Amoxicillin and HCN referral
- **Presentation 5:** Ward 2 days Bronchiolitis referral to HCN
- **Presentation 6:** Ward 3 days Adenovirus Bronchiolitis HCN and GP referral
- **Presentation 7:** Ward 1 day Bronchiolitis
- **Presentation 8:** Ward 4 days Represented with Bronchiolitis, CXR. CXR showed Moderate airways disease. HCN Referral
- Before the age of 1 year H has had **8 Presentations** to hospital all of them being for Bronchiolitis or pneumonia. 2 x CXR showed consolidation and moderate airway disease.
- Follow up has consisted of Acute HCN referral and Referrals back to the GP. It is not indicated if a follow up CXR was ordered after presentation 8.



Lungs for Life Screening Tool

Baby H 8 Months

Inclusion criteria
Bronchiolitis, Bronchopneumonia,
pneumonia and pertussis

- Under the age of 2 year and has had 3 or more presentations to ward/EC with a LRTI **Y** Number of presentations 8
- Admitted to the ward > 3days – (*Inclusion of current admission*). **Y**
- Focal abnormality on Chest X-Ray (*from either current admission or previous admission*) and or past medical history of Pneumonia . **Y**
- Current or Previous ICU/PICU admission. **N**

Please circle the colour category for the patient:

1 out of 4 = Bronze 2 out of 4 = Sliver **3 out of 4 = Gold** 4 = Platinum

Baby H was screened both as an inpatient on the ward and an outpatient by the community nursing team. From the Information we have on H he has 3 / 4 of the screening criteria; identifying him as a 'Gold' High risk child.

Storytelling



Bronze
(Green)

Patient should have green flag
Home Care Nursing
GP Follow up at 4 weeks
Repeat CXR at 6 weeks (if clinically indicated)

*if flagged 3 or more times should be moved to orange

Silver
(Orange)

Patient should have orange flag
Home care follow up as acute referral
GP active follow up at 4 & 12 weeks
(persistent cough, crackles)
Chest X-Ray at 6 weeks (if clinically indicated)

*if flagged 3 or more times should be in red

Gold
(Red)

Patient should have red flag
Home care follow up as acute referral and on-going as chronic patient
GP follow up 2-4 weeks
Outpatient clinic in 4-6 weeks with a chest X-Ray

Platinum
(Black)

Patient should have black flag
Home Care Nurse follow up as acute referral
Planned proactive care
Respiratory service in 4-6 weeks with CXR

This coding will be in a
“Traffic light system”.

However the Service
provided will be Bronze,
Silver, Gold or Platinum.

The problem: the equity gap



- Maaori and Pacific are more prone to respiratory conditions with higher rates of admission and diagnosis of Bronchiectasis
- From Our Current Database of 78 Children with LRTI based in the area of Mangere 2015-2016.
 - 52% Pacific Island
 - 9.3% Maaori
 - 1% of other.

We discovered:

- Multiple admissions > 4 with delayed intervention.

What the data is telling us?



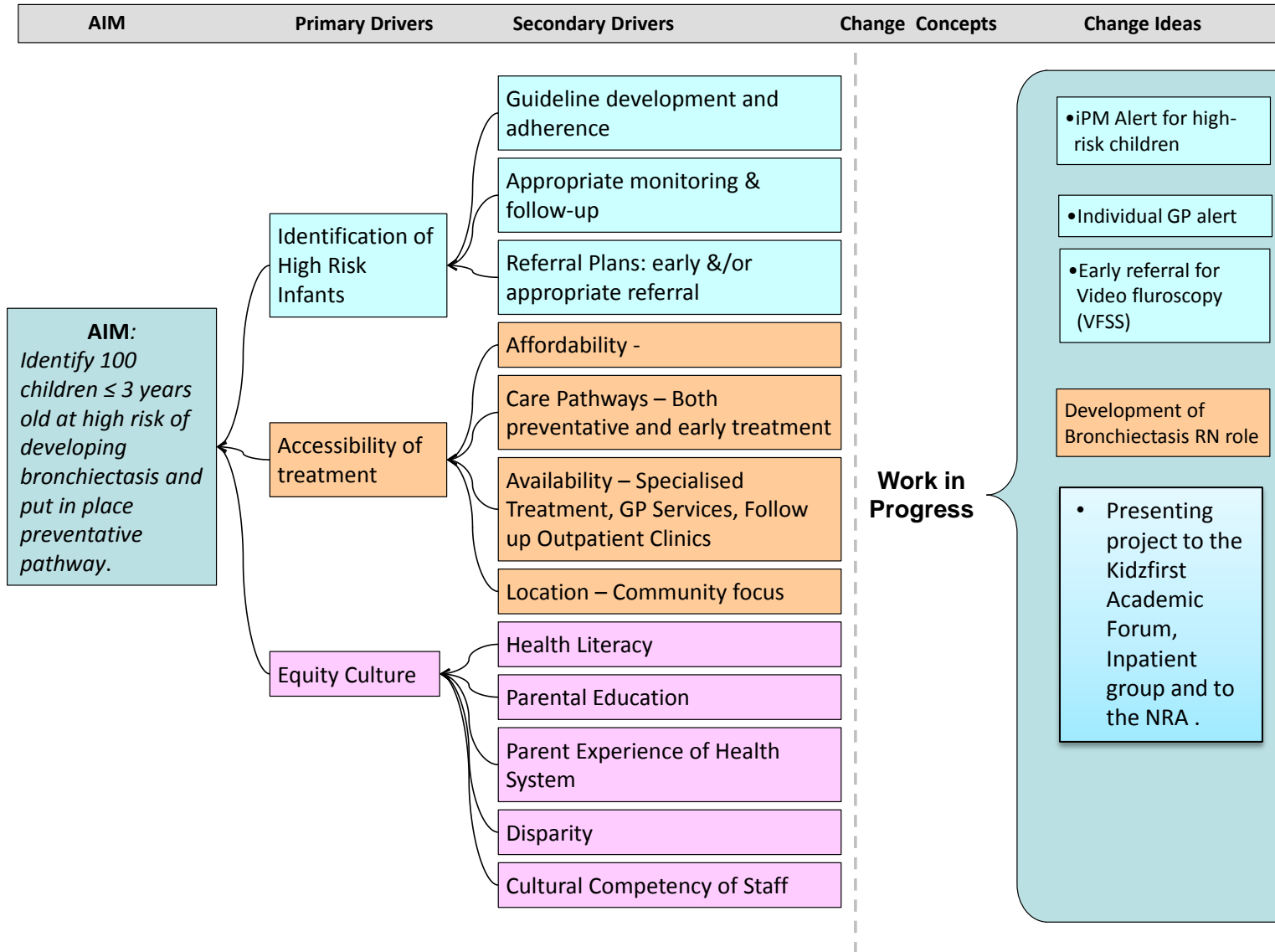
- Describe the equity gap using your baseline data
- Outcomes are difficult to measure except to measure whether high risk individuals receive a good consistent standard of care wherever they meet the system and to look at long term health diagnoses. Hospital admissions could go up.
- Our Collected data so far shows a total of 52 high risk children screened since march.
 - Black: 12
 - Red: 10
 - Orange:13
 - Green: 17

Measurement Summary



- How will you know you are addressing the equity gap
 - Our Mangere data base that we are currently analysing gives us the ability to look at the different cultural groups. From this we are able to Identify the different gaps. All our resources and evidence from articles shows that there is a large cultural gap with higher groups or Maaori and Pacific island at risk.
- The databases we have used
 - -Adenovirus 7 2015-6
 - -2015-6 Mangere <2y
 - -Health Lungs Study 1012-2014 with full 2 year f/u
 - -Prospective surveillance Kidz First and Kidz First community

Driver Diagram



Change Ideas



- Creating a Screening Tool to use in Inpatient and Community to help identify high risk patients.
- What is the rationale for testing these changes?
 - Reviewing the Healthy lungs study has validated our claim that there is a high risk population in CMDHB
 - Increased number of presentations to counties Manukau
 - As Nurses working at Kidzfirst we are seeing a recurrent number of patients with multiple LRTI admissions
 - From our screening tool data we have found no consistent follow ups or pathways identified for these high risk children.
- How/where do these ideas link to your driver diagram
 - The screening tool and use of the pathways fit in with the accessibility and identification as noted in the driver diagram.

What are you currently testing?



- We are screening our population for high risk children of bronchiectasis. Hoping to develop standards of care that meet available evidence and expert opinion and ensure consistency of approach. While Health Lungs didn't prevent development of Bronchiectasis early diagnosis and early vigorous treatment is likely to provide long term benefit and possibly reversal of condition.
- EVIDENCE FROM LATEST PDSA CYCLE #9:
- **Change Idea:** To utilize a screening tool to identify the numbers of high risk children in the inpatient and community setting.
- **Change Prediction:** Nursing staff should be able to use the screening tool without difficulty and we should see a higher number of patients being screened as we head into winter.
- **What does the data show?**
- We continue to see a range of Bronze, silver, gold and Platinum. We have the ability to email Dr. Trenholme for "Platinum" screened children, and follow up as needed. It shows that there is a high majority of children that are recurrently visiting hospital for LRTI.
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- **Were your predications confirmed? If not, what did you learn?**
- Nursing staff are still needed to be reminded about the screening tool. We will have to keep promoting the screening tool and finding way to make it easier to complete.
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- **Compare the data to your predictions and summarize the learning:**
- We will reevaluate the tool from our feedback and try to accommodate the concerns of the nurses on the ward and in the community. It is interesting to note that as we come into winter it is proving difficult for Staff to screen on paper due to work load.

Highlights: biggest learning's



- Having the opportunity to speak at the academic forum, Inpatient group and NRA. With the possibility of this project moving regionally
- Having the opportunity to speak with Dr Lance O’Sullivan around community ideas for this project.
- Working within a good supportive team

Lowlights: biggest challenges



- Rosters
- Not having our own 'Office' to work in.
- Not enough days to have things completed.
- Only having one person with access to the working group and only having one work laptop between two!

Next Steps Continued



- Estimate numbers generated from prospective screening and analysis of Mangere cohort from last year- calculate health service burden if possible
- Present current ideas to opinion leaders in secondary care to get buy in for options
- Prospective review of all hospitalised cases <2y from Mangere area- to assess how they are meeting our suggested standards
- Present to Manger primary care through proactive care model