

# Mana Kidz – School Communities as a Locus for a new Nurse-Led model of Care.

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what we'll cover today

#### outline

national and local overview of the rheumatic fever prevention programme

04 "

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workforce development

work undertaken so far

02

acute rheumatic fever in New Zealand

03

mana kidz programme

06 outcomes for

outcomes for the programme

# 01 acute rheumatic fever in NZ



# acute rheumatic fever (ARF)

#### The basics;

- ARF is an autoimmune disease
- Its caused by an untreated Group A Streptococci (GAS)
   pharyngitis
- It can be prevented by correct treatment of GAS pharyngitis
- It can lead to Rheumatic Heart Disease (RHD)
- RHD causes heart failure and can lead to open heart surgery and premature death
- Large costs to whānau and healthcare system (annual cost of \$12 million in NZ (2000-2009)





#### how does ARF affect the body

Acute rheumatic fever (ARF) affects a range of tissues in the body including;

- Brain: chorea
- Joints: arthritis
- Heart: inflamed/damaged valves
- Skin: erythema marginatum (rash) and subcutaneous nodules (lumps under the skin)

It may also cause a fever



National Hauora Coalition

Stenotic aortic valve in RHD



## preventing ARF





## global distribution of ARF







## ARF in Aotearoa

#### Although ARF is now rare in industrialised countries, it is a significant cause of disease among Māori and Pacific children in New Zealand.

Rates of ARF for 5-14 year old children are 20 or 40 fold higher respectively for those self-identified as Māori or Pacific than non-Māori/non-Pacific

Rheumatic fever is unevenly distributed in New Zealand, with most cases recorded in the North Island.





### different rates across age range



section 01

Adapted from NZCYES, 2012 data for NZ 2006-2010



## **ARF distribution by Ethnicity**



First episode rheumatic fever hospitalisation rate (per 100,000 total population) 2002-2014.



### government response

rheumatic fever as a part of the better public service initiative

more than \$65 million over 6 years

Stop it: prevent transmission of Strep A sore throats

Treat it: treat Strep A throats quickly and effectively





## goals of national RFPP

- to achieve equity of incidence and outcomes of rheumatic fever between Maori and Pacific children and other NZ children
- "by 2017, to reduce new episodes of rheumatic fever by two thirds (from 4.2 per 100,000 to 1.4 cases per 100,000 population per year")





#### new zealand trends







#### counties manukau

#### Rheumatic fever prevention in CMH







#### rheumatic fever prevention and more...

"the launch of the rheumatic fever prevention programme has provided a wonderful opportunity for the reorientation of school based health services"







## child health alliance forum







## mana kidz

61 decile 1-3 schools; 25,000 children that have daily access to sore throat services

•Comprehensive school-based health service

•Health teams at school everyday

•Free assessment and treatment – GAS and Skin infections

•Child health assessments include hearing and vision, child protection, new entrant immunisations, housing referrals, health education and promotion







#### mana kidz





## aims of the programme

- To increase the number of health assessments and treatment of targeted conditions (Group A beta-haemolytic streptococcal sore throats and skin infections) in primary and intermediate school aged children. To also address child health conditions traditionally managed by Public Health nurses
- To increase the health knowledge of all members of the school community
- To increase health literacy of all members of the school community



### school-based programmes

A key component of the national Rheumatic Fever Prevention Programme is the provision of sore throat assessment and treatment services in primary and intermediate schools.

The Health teams are made up of Registered Nurses and Community (Whanau) Support Workers

#### Snapshot

In Counties Manukau alone, 25,000 children have daily access to sore throat services. In 2014, over 150,000 throat swabs were taken and more than 12,000 children received free treatment for GAS+.

# 04 workforce development



workforce development

### **Professional Development**





#### heart foundation guidelines





#### standing orders

Antibiotics for Routine Group A Streptococcal (GAS) Pharyngitis Standard treatment for a patient's first or second case of confirmed group A streptococcal (GAS) pharyngitis.



The Cardioc Saciety of Australia 1 - and New Zeeland

Antibiotic	Route	Dose		Duration	IDSA GRADE 2012',*
Ponicilin V*	PO	Childron <20kg: Adolescents & Adults >20kg:	250mg two-or three times daily 500mg two or three times daily	10 days	Strong_high
Armontellin*	PO	Once-daily: OR Twice-daily:	S0mg/kg doon once daily <b>#kar doly door 2000ng</b> Weight-S0kg: 750mg once daily Weight-S0kg: 160mg once daily 25mg/kg door twice daily <b>#kar daily daw 100kg</b>	10 days	Strong, high
Bonzathino penicilin <sup>1</sup>	ы	Childron <30kg: Adults & Children >30kg:	450mg (600,000 U) 900mg (L200,000 U)	Single-dose	Strong.high
If concern about allerg	/c (IgE modiate	of or anaphylactic) response to	beta inclama, una:		
Routhromycin <sup>®</sup> Pending Phannoc doctson	PO	Children: Adults: CR:	2.5mg/kg dose twice daily 300mg once daily 150mg twice daily	10 days	Unavailable in the USA
Erythromycin ethyl succhate <sup>A,1</sup>	PO	Children & Adults:	40mg/kg/day in 2–3 divided doses (Max oduk daly dase 1000mg	10 days	

#### da who are GAS p

Treat with a 90-day course of eral penicillin or annadcillin.

Check adherence to prophylaxis programme. Serum penicilin levels will be failing by week three and four post IM long acting benzethino penicilin injection.<sup>b</sup>

as: Modified Iran Table Two to the 405A Gameline 2007: Otty premiusion of Calant University Press, 2014.

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- Balancement

   Statusses
   Statuss



## throat swabbing

Most sore throats are caused by viruses

Only a throat swab can tell if the group A streptococcal bacteria is present

If a Maori or Pacific child or young person complains of a sore throat make sure they have a throat swab taken







### **Skin Conditions**

Skin infection is the commonest medical cause of hospitalisation in young children

- •Evidence based practical protocols for nurses to use to assess and treat skin infections in schools
- •Nurse led clinics in schools provide a means for early treatment that is easy to access
- Provision of antibiotics under delegated standing orders





#### child health

Hearing and Vision

**Immunisations** 

Health and Social referrals

Multidisciplinary team meetings

**Child Protection** 



### challenges

- Antibiotic adherence
- Transience





## **Antibiotic Adherence Trials**





Directly observed therapy

RN giving the patient antibiotics each day within the school setting Blister packs

A pre-made pack with capsules/tabs in 10 compartments

**Text reminders** 

A daily text reminder for the duration of the course (10 days). Ī

IM Bicillin

A once-off IM bicillin injection.



Health literacy

Tools, knowledge and resources for health professionals

NHC. Rheumatic Fever Prevention Programme: Antibiotic Adherence Trial (2015)



### aim of the trial

To evaluate the feasibility of directly observed therapy (DOT) in a school based health clinic and its impact on medication adherence within the school community. Specifically;

the impact on the health team's workload
the acceptability of the process for stakeholders
any other unknown factors that may influence a wider implementation







#### how it works





#### was it acceptable?





### adherence result with dot





# Intramuscular Injection Benzathine Penicillan aim of the trial:

We wanted to test two key aspects;

1.Acceptability to stakeholders of IM Bicillin as a treatment option

2.Monitor for unintended consequences (especially reduction in self-identification) following the introduction of IM Bicillin

The trial would inform discussion as to whether IM Penicillin should be used more widely as treatment for GAS sore throats with a view to reducing strep load and rheumatic fever risk in vulnerable communities





#### was it acceptable?





## health literacy

Partnership between Mana Kidz and Workbase
 NZ

 To enhance the way in which health professionals communicate with families





#### consent







#### principals feedback

93%	96%	88%
Very well engaged	Noticeable impact	Yes
Has the MK team	Do you think the MK team	Do you feel that this service
engaged well with your	have made an impact in	is making an impact upon
school population?	improving the health of	the school community?
	students?	

"a service of immense value to addressing issues of poor health in our school and community"

"a fantastic team, willing to go over and above, to ensure the well being of students and their families"

"[WSW] is awesome. She has formed great relationships with our students and staff. This makes a big difference"

"Mana Kidz health professional are considered part of our [school] whanau. They engage well with staff and students, are highly professional and pleasant to work with. The Mana Kidz programme is going really well at our school and this success is due to the way they have built positive relationships with staff, students and our whanau. Go [RN] and [WSW]! The system is very smooth."

"Yes [this service is making an impact upon the school community]. If children are well this leads to improved attendance and therefore improved educational outcomes!"





#### Mana Kidz: September 2014

#### **Chapel Downs School**

Contributing to all children having the best start in life

Proudly supported by Kidz First Public Health

#### What we do

Mana Kidz is a nurse-led, school-based health programme providing free throat and skin assessment, treatment and follow-up, plus other child health services and referrals, at Chapel Downs School, in South Auckland. Mana Kidz offers an inter-disciplinary school team approach to health and wellbeing for children and their whänau.

ManaKidz

#### Who we serve

The 623 children attending Chapel Downs School.

#### Progress for Term 3 2014 at Chapel Downs School.



Nevs to success	Partners to help us improve	How we will improve	
Health teams are in the school every day	Kidz First Public Health	Improve communication with schools, by	
other child health services and referrals	The Chapel Downs School community (BOT teachers, staff)	keeping teaching staff more informed.	
Children receive free services, treatment and follow-up, alongside engagement with their	Local primary care providers	Maintain a consistency of staff to build better relationships and understanding of school culture over time.	
families and home visits. Health teams provide clinical care and referrals to key services	Social service providers		
Engagement with families is essential in	Pharmackes	Strengthen health promotion activities	
medication education and acherence, community awareness of RFP, and opport-	Counties Manukau Health	within the school in conjunction with school staff and the Chapel Downs	
tunities to work alongside whanau,	Philanthropic organisations	School community	

endon Park S	chool	Manakida
tributing to all children having th	e best start in life	1ª Idhaniuz
udly supported by ProCare		
Int the double of the school-based health pro- arking is a nume-left, school-based health pro- fillow-up, place other child health services and glinary school team approach to health and r ho we serve	gramme providing their threat and allin assessment, treatm or informals, at Canodon Park School, in South Auckland. Ma wellbeing for children and their whileve.	कर्म 
rogressfor Term 3 20 Number of swabstaken at	14 at Clendon Park School. Number of treatments	Number of treatments administered for skin infections
your school. 887	92	191
hildren treated in Term 3		
90	79	
60 50 53	59	Strep throat
40 30 20 10	23	
Jul	Aug Sep	
Versite surrass	Partners to help us improve	How we will improve
Health teams are in the school offering free throat and skin d	every day   ProCare ects, and rate   The Clendon Park School community	Improve communication with schools, by attending more school events and teeping teaching staff more informed.

Counties Manukau Health

Philanthropic organisations

A C LA C

Pharmackes

cinical care and referrals to keyservices

Engagement with families is essential in medication education and adherence, community awareness of HPP, and oppor-

to work alongside whanau.

Strengthen health promotion activities within the school in conjunction with school staff and the Clendon Park School

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munity



#### evaluation summary

- o August-November 2014
- Covered service delivery, outcomes, value for money and learnings about effectiveness
- Methods:
  - DATA: programme, DHB, epidemiological
  - Narrative feedback from parents/whanau, children, nurses, WSW, school staff, provider management and programme funders
- Robust external evaluation



- o "Mana Kidz makes a significant difference to children's health"
- "Early indications are consistent with the programme having its intended effect"





### things we can improve on

"Mana Kidz is an **important and effective programme** that is making a **substantial contribution** to healthcare for vulnerable children" Health
 Promotion
 Data



#### conclusion

## **Disease Targeting**

#### **Child Centred-ness**

## Family/Whanau centred-ness



# thank you

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