INFECTION CONTROL IN THE TROPICS
“Notes from a Dinghy”
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OBJECTIVES
• Discuss barriers affecting IC programs in remote settings
• Review available data on HAIs in remote area settings
• Discuss the impact of cultural differences on staff education and implementation of an effective IC program
• Describe how to survive the challenges of living and working in a remote location
• Review available data on key public health issues in the Torres Strait such as MDR TB, MRGNs
• Understand the impact of bridging the Gap - National Indigenous Health Equality Summit Targets

HEALTH SERVICE PROFILE
POPULATION
• Northern Peninsula Area
  – 2,000 spread over 5 communities
  – 750 in Bamaga
  – 5 indigenous communities on Cape York Peninsula
    • Injinoo PHC
    • Urimjoo PHC
    • New Mapoon PHC
    • Tessa PHC
    • Bamaga PHC
    • Bamaga Hospital
      – 10 beds & 2 ED beds
      – Closed referral hospital (Cairns) ~ 850 km

HEALTH SERVICE PROFILE
POPULATION
• Thursday Island
  – Administrative hub for over 20 islands of which there is 25,000 inhabitants
  – 3500 on TI
  • TI PHC
  • TI Hospital
    – 26 beds, 2 wards
    – Operating Suite, Emergency Service, General Medicine, Maternity, High Dependency Unit, Paediatrics
    • Closest referral hospital (Cairns) ~ 850 km

HEALTH SERVICE PROFILE
TORRES STRAIT TREATY ZONE
Main language is Creole but with island variations

WORKFORCE
• 650 Health Service employees
• SMOs (anaesthetists, surgeons, O&G, GPs) *
• Midwives *
• Nurses *
• Health workers
• Allied Health
• Support staff
• Administration

* High turnover

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RISK FACTORS

MEASURING PERFORMANCE
A healthy start to life
- Perinatal and infant mortality rates
- Birth weights
- Smoking rates in pregnancy
- 5 or more ante-natal visits
- Rates of anemia in pregnancy
- Rates of gestational diabetes
- Breast feeding rates
- Levels of childhood obesity
- Injury rates in children
- Hearing loss in children
- Educational attainment
- Rates of out of home care
- Rates of risky alcohol consumption
- Rates of teenage births
- Numbers of child health checks

ADDRESSING RISK FACTORS
- Smoking rates
- Rates of risky alcohol consumption
- Rates of decreased tooth decay
- Levels of activity and nutrition
- Rates of sexually transmissible infections
- Numbers of people living in overcrowded and/or substandard housing

MANAGING ILLNESS BETTER
- Life expectancy and HALE
- Better detection (adult health checks)
- Less hospitalisation for cardio-vascular & respiratory diseases, diabetes, cancers and mental illness.
- Better Health Services
- Number of care plans
- Discharge against advice
- Indigenous identification
- Access to health services.

COMMUNICABLE DISEASES SURVEILLANCE REPORT
- Blood borne diseases
  - HBV, HIV, HCV*
- Gastrointestinal infections
  - Typhoid *
  - Salmonellosis *
  - Shigellosis *
  - Norovirus *
  - Cholera *
  - Hepatitis A *
  - Food and water borne illnesses
- Vector borne
  - Japanese encephalitis
  - Dengue (6 in last 6 weeks)
  - Malaria
  - Melioidosis
- Mycobacterium
  - MTB *
  - Hansen’s (leprosy)
- Vaccine Preventable
  - Varicella *
  - Measles *
  - Pertussis *
  - Influenza (Swine flu) *
  - Meningococcal *
- STIs
  - Syphilis *
  - Chlamydia
  - Gonorrhoea

COMMON DISEASES
- Rheumatic heart disease (RHD)
- Acute Post Streptococcal Glomerulonephritis Syndrome (APGNS)
- TB (MDRTB)
- Group A strep infections
- CA-MRSA
- Scabies (Norwegian)
- Intestinal worms

SKIN HEALTH
Community Awareness Partnership Approach Queensland Health

KEEPING SKIN HEALTHY
To prevent harmful bacteria form entering your body keep the skin healthy by:
- Cleaning your body (wash/bathe daily with soap & water)
- Cover any sores with a bandaid
- Use insect repellent when required
- Moisturise dry skin to keep soft
- Eat lots of fruit & vegies
- Drink water daily

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SCABIES

Scabies on the belly of a 10 months old child
Scabies on a 5 year old's hand

STAPH INFECTION

School sores

CELLULITIS / BOILS

PERSONAL PREVENTION OF SORES
- HEALTHY SKIN

- Wash all over your body with soap & warm water daily
- Look for sores daily on all members of the family, if any sores are found:
  - clean All sores with antiseptic and cover with a bandaid
  (never leave old or wet bandaids on sores)
- If sores have pus in or around them go to the clinic and have a Health Worker or Nurse look at it as you may need medication

HEALTHY FAMILY
PERSONAL PREVENTION

- Sleep in a clean bed (everyone)
  - Wash sheets & blankets (regularly)
  - Air mattress in the sun (like every Saturday)
- Wash clothes regularly
  - Wear clean clothes every day
- Wash towels (at least once a week when sickness is in the home wash more often)
HEALTHY FAMILY
ENVIRONMENTAL PREVENTION
• Animals to live outside the home (not inside)
• Children should not play where dogs live or sleep
• Keep the dogs off beds and chairs
• If your dog seems sick get some advice
• Wash your dogs in dog wash (monthly)

APSGN History
• The last large outbreak of acute post-streptococcal glomerulonephritis (APSGN) in Far North Queensland (FNQ) occurred in 1993-94. The full extent of that outbreak remains unknown but 100 cases (mostly Indigenous children) were hospitalised, mainly for the management of hypertension but some because of encephalopathy and/or acute renal failure.
• There were two APSGN-related deaths (both Indigenous children) in that outbreak, which lasted for many months and affected all five Health Service Districts in the Far North.

OUTCOME AIM
Healthy Skin
Healthy Children
Healthy Family
Healthy Home
Healthy Community
Thank you

SIGNS AND SYMPTOMS
Haematuria
BP is higher than normal.
Swelling and puffiness, particularly of the face, and maybe of both feet
Other symptoms may include fatigue, irritability and pain over the kidneys.

LONG TERM EFFECTS
• Nephritis can be severe, leading to rapid kidney failure, but this is rare. More often it would contribute to kidney failure later in life.

What is kidney failure?
• Signs and Symptoms often absent
• May be lack of appetite, nausea and vomiting, fatigue, difficulty sleeping, dry and itchy skin, and passing a smaller amount of urine than normal.
  – Once the kidney fails completely clients have to be put on dialysis (Renal Dialysis) or have to get a transplant.
  – Chronic Kidney failure leads to early death
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**OUTBREAK**
- An outbreak is declared when there are 3 or more confirmed cases in 4 weeks or as recommended by TPHU.
  - Confirmation from TPHU
  - Organise consent and information to be sent out to parents of kids age 2 - 12 yrs old.
  - Mass IM Penicillin of kids age 2 – 12 years in the community to get rid of the bad strep germs going around
  - Stakeholders to clearly understand their roles.
  - Hard to reach kids.

**EPIDEMIOLOGY**
- Melioidosis (Burkholderia pseudomallei)
  - 5 year period, 23 cases diagnosed, 42.7/100,000
  - Highest documented to date in this region
  - Occurs due to:
    - Prevalence of diabetes (independent risk factor ¾)
    - High seasonal rainfall
    - Lifestyle of TSI
  - Presented with CA pneumonia or deep seated abscess
  - 22% of cases died

**THE JOB**
- Working closely with Public Health
- Community education & forums - radio
- Health promotion
- Staff Health
- 22 sites in TSNPA
- Recruitment of HW and CN
- Attendance dictates outcomes
- Remote area - Telehealth
- Weather dictates work
- Advising medical staff

**INFECTION CONTROL & HOSPITAL EPIDEMIOLOGY UNIT**
- Education
- Risk Mx
- Public Health
- Staff Health
- CN
- HW
- Expert advice
- Surveillance
- P&L
- Outreach
- HW

**SOME HAI FIGURES**
- 39% compliance with HHA (WHO initiative)
- CSEC SSI rate: 24% (n=29) 1 deep, 6 superficial
  - 18 month period, not risk adjusted
- ABPx: appropriate, given right drug, dose and duration (<24 hrs)
- 59% (n=29) of all S. aureus isolates, are CA-MRSA
- TB in 5 year at TIH
  - 3072 OBDs
  - 105 patients period 35% MDRTB (n=37)
- NSI rates between 0.65 – 1.76/1000 OBDs

**CHALLENGES**
- Rotating staff
- Geographical isolation
- Weather
- Confidentiality
- Deaths in community
- Family structures
- Regional TPHU
- Supply (time/distance/integrity)
- Lack of quality cycle/structure
- Treaty zone (PNG/Aust agreement)
- Communication & line reporting
- PH model of care
- Black magic/folklore
- The built environment
  - Maintenance
  - Cleaning
  - Weather

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CHALLENGES - BUILT ENVIRONMENT
• CSSD/THEATRE
• Air handling system failure
• Water supply
• Weather
  - Rain
  - Humidity
  - Heat
  - Wind

ROLE of HEALTHWORKERS in IC
Expected to:
• work at advanced level with moderate supervision.
• have sound knowledge of standards, practices and procedures, & apply IC skills obtained through significant (on the job) training
• perform a range of tasks for immunisation of Staff
• exercise good communication and interpersonal skills
• understand and employ principles of confidential record management relating to staff and patient information

PHCs
• Access
• Health worker education and attendance
• Built environment poses a problem (cleaning/supplies/engineering)

UNIQUE ENVIRONMENT

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