

IMSANZ Annual Scientific Meeting, Alice Springs, September 2005

Rheumatic heart disease- Public health perspectives in Central Australia

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- 1. Central Australia, our indigenous people and their health**
2. Rheumatic heart disease in Central Australia
3. Central Australian Rheumatic heart disease program

Central Australia

- Arid zone of around 1000 000 km²
- Includes Anangu -Pitjanjatjara lands of South Australia and Ngaantatjarra lands in Western Australia... does not correspond to state borders
- 50 000 people, 40% indigenous
- Two public hospitals, Tennant Creek 25 beds, Alice Springs 140 beds

Central Australian indigenous people

- 80% live outside urban areas “remote”
- Primary health care network of 55 clinics
- High level of mobility - 60% move each year
- High health care staff turnover compounds difficulties of providing primary health care

Central Australia indigenous health

- Substantial reductions in infant mortality since 1970's... IMR has fallen from 60 to 20 per 1000
- Similar improvements in adult mortality and life expectancy have not occurred
- Living conditions and health behaviours have not improved along with those of non-indigenous Australians

Disadvantage of indigenous Australians

- Disadvantage across socio-economic factors:
 - poorer educational outcomes
 - lower incomes
 - higher unemployment
 - higher rates of incarceration
 - higher levels of self-harm, drug misuse and violence
- Socio-economic differentials increasing

Disadvantage of indigenous Australians

- For an indigenous male:
 - Life expectancy 58 years 20 less than non-indigenous males
 - Mortality higher from every cause:
 - congenital
 - trauma
 - malignancy
 - cardiovascular disease
 - infectious disease and its complications

Health determinants for indigenous people in Central Aus

- Poverty- multiple mechanisms
 - overcrowding
 - hygiene
 - nutrition
- Behaviour and practices
- Climate
- Susceptibility

Health determinants for indigenous people in Central Aus

Disease transmission dynamics

- carriage, interpersonal contact, transmission cycles, vectors, reservoirs, mobility

Health system failures

accessibility, acceptability, appropriateness, consistency, effectiveness

1. Central Australia, our indigenous people and their health
2. **Rheumatic heart disease in Central Australia**
3. Central Australian Rheumatic heart disease program

Rheumatic fever incidence

- No clear trend since 1995
- 21 to 40 cases per year
- 22% to 57% of episodes are recurrences - potentially preventable through long established antibiotic prophylaxis
- 19 cases so far in 2005, 6 recurrences

Rheumatic fever incidence

- Age range 3 to 55 years
- Peak age range 5 to 14 years
- Stable incidence in 0-5 and 25+ age groups
- Trend to increasing incidence in 15 to 24 year age group

Rheumatic heart disease prevalence

- Aboriginal men: $97/7974 = 12.2\%$
- Aboriginal women: $164/7977 = 20.2\%$
- Peak age group = 15 to 24 years
 - men 16.6%
 - women 25.8%

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Central Australian Rheumatic Heart Disease Program

- WHO memorandum 1995:
 - urgent and direct approach needed to the control of rheumatic fever and its crippling consequences
 - need for research, policy development and cost-effective guidelines
- Failure of primary prophylaxis and control through socio-economic development
 - no vaccine against poverty

Central Australian Rheumatic Heart Disease Program

- Rheumatic fever notifiable in NT from 1995
- RHD Program commenced in 1999
 - collaboration between physicians, paediatricians and public health staff
 - Register-based control program
 - Focus on education of primary health care staff and clients
 - Emphasis on secondary prevention
 - Data collection

RHD program goals

- Improve diagnosis of ARF
- Ensure notification of each episode
- Improve clinical care
- Standardise and implement evidence-based management
- Monitor and increase uptake of secondary prophylaxis

RHD program goals

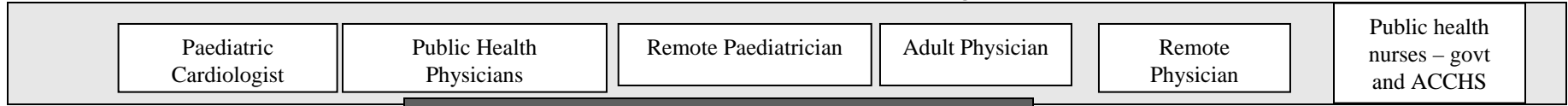
- Overcome health service difficulties with client mobility
- Improve support and education of clients and their families
- Improve education of health care staff and communities
- On-going communication with all stakeholders

RHD program guiding principles

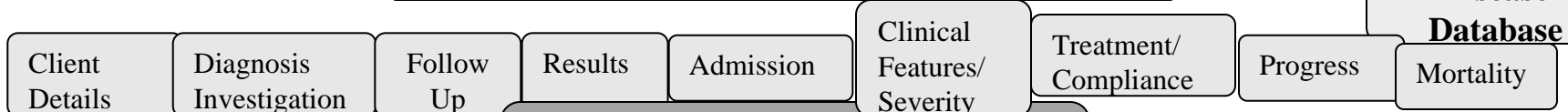
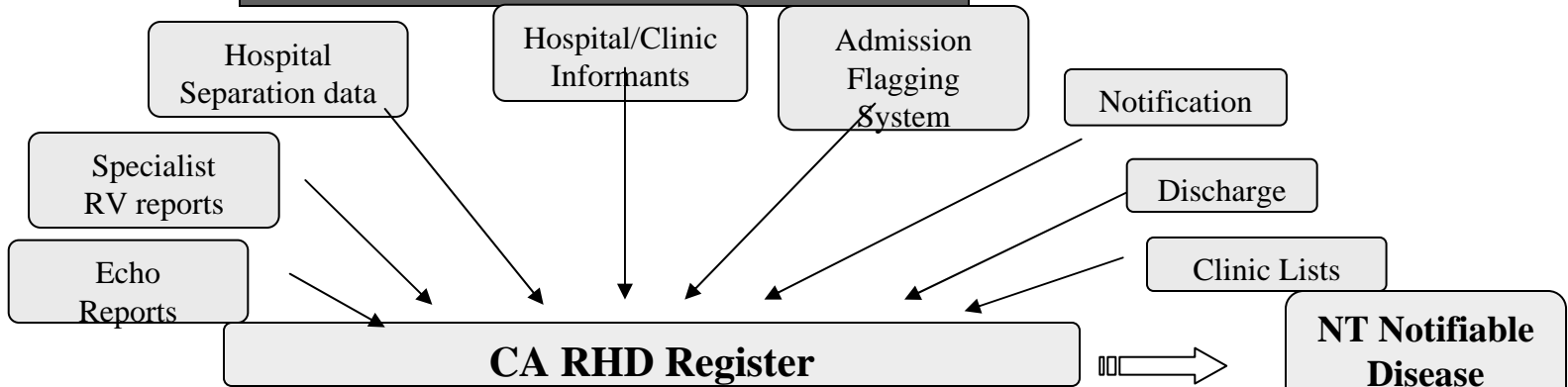
- System development and performance
- Improve care at all points of contact
- Secondary prophylaxis remains the most cost-effective approach to RHD control
- Broader definition of secondary prophylaxis than antibiotics
- Use of local and individual experience, where evidence is lacking

Central Australian RHD Program Structure

Central Australian RHD Steering Committee



Public Health Nurse Coordinator



Patient

Education Liaison Advocacy
Recurrence Recognition Prevention

Primary Health Care

Education Guidelines Recall
Specialist RV
Information exchange

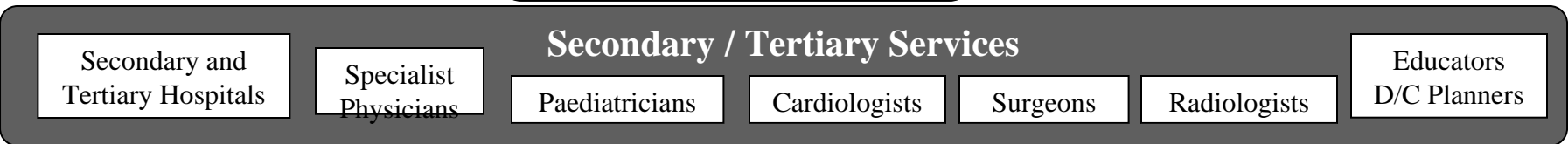
Community

Education Awareness

Family

Education Awareness Recognition
Treatment Prevention Compliance

Secondary / Tertiary Services



RHD register

Established 1999, funded Nov 2000; re-funded 2002;
re-funded June 2005 until June 2006

- Data entered and maintained on:
 - demographics
 - including multiple residences
 - diagnosis
 - care plan
 - Monthly prophylaxis given
 - hospitalisations
 - clinical progress
 - surgery
 - mortality

Achievements

- Establishment and maintenance of register
 - 456 active clients (ie on prophylaxis) 1/9/2005
- On-going one-on-one and group education with clients and primary health care staff
- Standardised management guidelines
- Contribution to national guidelines

Achievements

- Monitoring of prophylaxis - increase from 55% to 68% in 4 sentinel communities
- Liaison between primary secondary and tertiary health care
 - including dental and surgical in- and out-patient

Achievements

- Client lists created for clinics
 - co-ordinate opportunistic care
 - prioritise regular reviews
 - direct specialist reviews
 - investigations and treatment plans
- Prioritisation of clients, with capacity to focus on highest risk clients
- Identification and care-planning for surgery

Barriers - systemic

- Philosophical difficulties
 - One disease focus
 - Medical dependency
 - Individual rather than community care
- Lack of commitment
 - CDNA voted against RF as a nationally notifiable condition
 - Funding after June 2006 uncertain

Barriers - clinical - diagnosis and notification

- High staff turnover at all levels
- Difficulty in diagnosis of RF, particularly monoarthritis and low-grade fever
- Clients may not present - symptoms may not be recognised - investigations may not be arranged
- Incomplete notification

Barriers - clinical - compliance

- Need for constant updating of clinic recall lists
- High staff turnover
- Client mobility
- Remote outstations
- Ambivalence about active follow-up
- Difficulties with communication between clinics
- Difficulties with communication to the register

Benzathine Compliance

- Often measured as proportion of resident clients who receive their prophylaxis
 - up to 80% of doses in this group
 - true compliance may be around 25%
- Local improvements have occurred

Strategies to improve delivery of benzathine prophylaxis

- Active recall, region-wide from a central register
- Communication networks between clinics
- **Dedicated, local staff members responsible for routine care and administration of prophylaxis**
- Minimise staff turnover
- Client and family education and communication

Strategies to improve delivery of benzathine prophylaxis

- Measures to reduce pain of injections are **not** associated with improvements in uptake
 - eg warming syringe, applying pressure, allowing alcohol to dry, injecting slowly

National guidelines awaited

- Vigorous discussion on
 - Antibiotic regimens and duration
 - Management plans
 - Elements of control programs
 - Screening protocols
 - Minimum datasets
 - Evaluation indicators

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