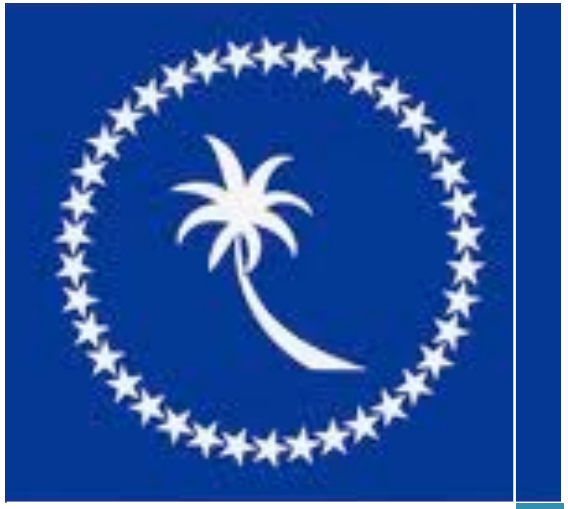

Important 'knowns'

Two risk groups can be identified from existing data – **youth** and **overseas travellers**

ALL modes of transmission need to be addressed

Youth have low levels of **knowledge** about HIV transmission and prevention, and many practice **unsafe behaviors**

Innovative community based approaches have been employed to encourage testing and maintain confidentiality – for example in Chuuk in June 2001

What do we know about HIV epidemiology?

Derived from existing sources of data from MOH, SPC

There have been a small number of infections reported to date and most have already died – all known living cases are under medical management with 5/6 on ART

Cases have usually been diagnosed late in the course of illness – it is not clear if this is due to lack of access to testing, lack of utilization or lack of knowledge, and whether this has now changed

Most cases have been among those aged 25-44 years

Heterosexual transmission appears to be the predominant mode but small numbers of cases are attributed to male-male sex, intravenous drug use and vertical transmission

Cases have been acquired both overseas and locally – small clusters of cases have occurred after return of overseas travellers

While FSM is isolated, its population is highly mobile –FSM nationals in Guam have STI rates more than 2.5 times higher than local people

According to SPC, pregnant women in FSM had the 2nd highest rate of chlamydia in the Pacific

What do we know about risk behaviors?

Derived from data from youth surveys, national surveys

Youth sexual behaviors are arguably the 'riskiest' in the Pacific – FSM youth have the youngest age of sexual debut, the highest proportion of youth who have ever had sex and have 2+ partners, and some of the lowest reported rates of condom use

Some data suggest that the proportion of FSM youth injecting drugs is only surpassed by youth in the Marshall Islands

Young men and women have poor knowledge of how HIV is transmitted & how transmission can be prevented

Extramarital sex appears to be common particularly among men

Male-male sex appears to be common and has been linked to a number of confirmed and suspected cases that were locally acquired

Societal factors and changes – poverty, unemployment, violence, low status of women, weak health system - may create conditions for accelerated transmission & has been linked to very high rates of youth suicide

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Ideas about action...

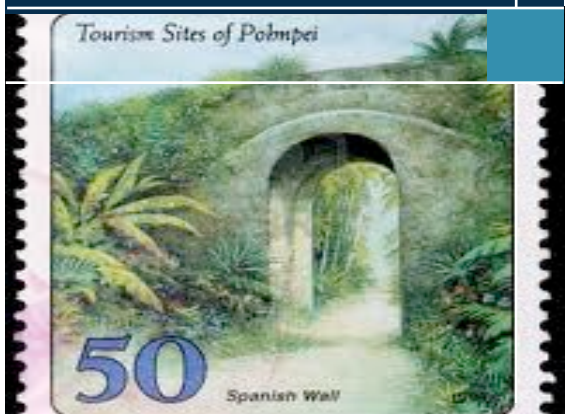
Develop a surveillance strategy to ensure consistent, comparable data are collected from groups with different risk profiles to tell us about the evolution of the epidemic and about contemporary risk behaviors

Preventive programs aimed at youth and international travellers are needed based on existing information - implementation of the US-CDC YRBS would provide serial data to track trends in youth risk behaviors and could be adapted to also include out of school youth (mandatory testing of high school students enables bio-behavioral surveillance)

Offshore acquisition of HIV / STIs points to a need for regionally coordinated preventive health programs (encouraging testing on return rather than pre-departure would be better for disease control purposes)

The Regional Strategic Plan for the Prevention and Control of STIs provides benchmarks for data management and programs – full implementation will be beneficial for HIV control

Recent reviews of STI programs, particularly from isolated yet mobile indigenous Australian communities, provide ideas worth considering for FSM



What don't we know?

AND WHAT CAN BE IMPROVED

Longitudinal data disaggregated by site are not available to track trends in HIV and STI over time (E.g. ANC clinics, STI clinics, VCT services, TB programs) – *fixed sites offer a ready means of instituting routine surveillance that can simultaneously improve service delivery and data collection*

Mandatory screening of some groups (e.g. food handlers) does not help characterize the HIV epidemic and is of questionable public health benefit – *collation of these passive data may be distracting from instituting surveillance among groups that provide more useful information*

Other than 'all youth' and 'all overseas travellers' risk groups have not been well defined by sex, age, occupation or geography – *this includes risk groups identified in other Pacific states such as male/female sex workers, MSM, and mobile men with money (seafarers have been singled out in some smaller states). All are likely to be important for transmission dynamics in FSM.*

A UNCEF report stated that transactional sex was a "major source of HIV vulnerability in Palau, the Marshall Islands, the Federated States of Micronesia, the Solomon Islands, Vanuatu, Fiji and Kiribati" though there have been no studies

While a number of second-generation surveillance studies and youth surveys have been conducted, data are not directly comparable so do not provide time trends – *the youth risk behavior studies among high school students done in other US affiliated states could also be done in FSM*

Biological and behavioral data have been collected on an ad-hoc basis – *populations, sites, periodicity, and the mix of information gathering methods need to be agreed upon*

STI rates are not well described among different groups and not routinely presented with HIV data – *STIs are an existing problem that can be partly addressed with strengthened responses to HIV*

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Some numbers.....

NB: not an exhaustive review of available data

Epidemiology

Total: 38 cases notified during 1989-2011 with 33/38 (87%) notified in the decade 1998-2007

Sex: 24 cases among males (63%), 13 females (34%), 1 not reported (3%)

Age: 0-14yrs (5 cases), 15-24yrs (7), 25-44yrs (23), 45+ (1), Unknown (2)

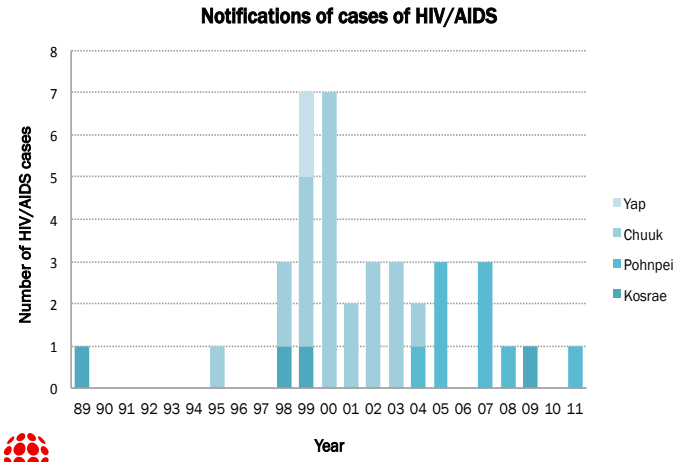
Transmission: 24 heterosexual (63%), 6 MSM (16%), 5 mother-to-child (13%), 2 IDU (5%), 1 bisexual (3%)

Site: All states have reported cases: Chuuk: 23 (61%), Pohnpei: 9 (24%), Kosrae: 4 (11%), Yap: 2 (5%)

Mortality: 29 people with HIV have died, 3 emigrated

Treatment: 5 on ART, 1 not yet eligible for ART

The epidemiological curve might suggest that there have been two 'outbreaks' in Chuuk and Pohnpei - it is know that at least some of these cases were epidemiologically linked. There have been 9 suspected cases in Chuuk and 6-9 in Pohnpei who were never tested for HIV. 9 cases in Chuuk had never been overseas, while 10 were diagnosed offshore



STIs: SPC data (2010) ANC STI prevalence figures were: chlamydia (25%), gonorrhea (~2%).

The prevalence of chlamydia among pregnant women was the 2nd highest in the Pacific

National surveillance data from ANC clinics in 2006 found 6.4% gonorrhea, 13.1% chlamydia and 6.1% hepatitis B

FSM nationals in Guam have higher rates of STI than the local population (116 cf 43/100,000)

Other data: High proportion of all births among young women (aged <20 years): Kosrae (8%), Chuuk (9%), Yap (13%), Pohnpei (18%)

General surveys

General Health survey, Chuuk, US-CDC (2001)

Community survey, Chuuk, US-CDC (June 2001)

SGS surveys

15-49yrs, Pattiw Is., Chuuk (2006)

Police & Youth, Pohnpei (2007)

Youth, Yap (2007)

IBBS, Kosrae (2009)

Youth surveys

Pohnpei (2001)

High school students, National (2003)

High school students, Kosrae (2006)

??? US-CDC YRBS

Youth behaviors

Compared to other Pacific states:

- Youngest age of sexual debut (median of 14.5 years in 2007)
- Highest proportion of youth who have ever had sex (85% male, 56% female, 2007)
- Highest proportion of youth who have had 2 or more partners in the last year (53%, 2005)
- Second lowest proportion of female youth using condoms at last sex with a non-commercial partner (17%, 2007) with just 1% of women reported to always wear a condom (2007)
- Low proportion of male youth using condoms at last sex with a non-commercial partner (38%, 2007)
- Numbers of partners for youth has remain unchanged since 1990s
- 11.2% of male youth and 6% of female youth had ever injected drugs (2007)

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UNGASS indicators

Indicators #7, 10, 12 not particularly relevant for low prevalence settings

Indicator #6 Percentage of estimated HIV positive incident TB cases that received treatment for TB and HIV – *more useful to know coverage of HIV testing for newly*

Surveillance system components

Routine or periodic surveillance needs to be established in key facilities – ANC clinics, STI clinics, TB clinics, VCT clinics

Previous cases of parent-to-child transmission might suggest that routine screening of all pregnant women would be useful

100% screening of blood products needs to be maintained

Behavioral surveillance needs to be conducted regularly among key risk populations to track trends

Special studies such as incidence studies among specific cohorts might be useful – existing mandatory testing might facilitate this such as among military or high school youth

Molecular epidemiology may assist in determining the historical spread of HIV in FSM if stored sera are available for testing

Prevalence studies may not be particularly useful at this stage unless there are suspicions of many hidden infections or unless combined with STI prevalence studies deemed to be necessary in their own right

AIDS case reporting relies on health seeking behaviors and trained health staff – raising awareness may improve earlier diagnoses

Treatment and care data appear to be well reported

Tracking HIV mortality is more difficult and usually

Relevant non-HIV data are not yet routinely compiled with HIV surveillance data

Comments on *possible* risk factors

FROM EXISTING DATA

Sexual debut – *youngest in the Pacific with an important minority (~10%) having first sex before 13 years of age*

Multiple sexual partners– *highest for youth in the Pacific, not reported for other groups*

Male-male sex – *some data suggest a relatively high proportion of men having male-male sex with confirmed domestic transmission among MSM*

Transactional sex– *very little data*

Condom use – *consistent condom use very low for youth; reports of difficulty accessing condoms*

Tattooing – relevant?

Sexually transmitted infections – *Limited data but rates appear high*

Male circumcision – *no local data; international source claims it is very uncommon (0.1%)*

Knowledge – *poor for youth compared with some Pacific states (e.g. Tuvalu)*

Drugs and alcohol – *high IDU among youth compared to other Pacific states; x2 cases acquired from injecting; marijuana and alcohol reportedly widely used*

Commercial industries – *not well defined*

Internal and international migration – *Both high and some cases reported as being acquired offshore*

Gender inequalities and violence – *no data on forced sex; domestic violence said to be endemic across all of Micronesia*

Young population – *high proportion (~60%) under 25 years*

Other socio-cultural factors – *poverty, unemployment, stigma*

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