

The use of surveillance systems to improve diagnosis and testing for hepatitis B and C

Margaret Hellard



Conflicts of interest

- Gilead Sciences
- Abbvie
- BMS
- NHMRC funded researcher
- Alfred ID Physician
- Burnet gets funding from DHHS Vic and DOH Australia



Overview

- WHO elimination targets
- Australian targets and Victorian targets
- Cascade of care
- Importance of surveillance
- ACCESS
- Summary

WHO elimination targets

Vision:

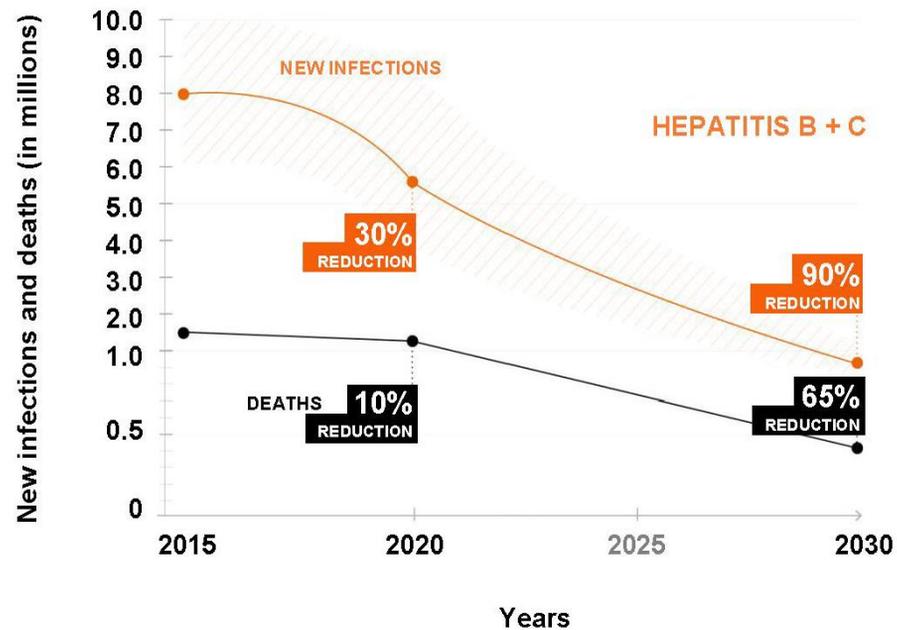
A world where viral hepatitis transmission is stopped and everyone living with hepatitis has access to safe, affordable and effective care and treatment.

Goal:

Eliminate viral hepatitis as a major public health threat by 2030.



WHO targets for reducing new infections and stopping deaths



National targets for HBV

- Second National Hepatitis B Strategy 2014-2017 includes:
 - 80% target for diagnosis of those infected with HBV
 - 15% target for treatment of those infected with HBV
- Barriers to achieving appropriate care for those living with chronic hepatitis B include:
 - broader inequities in access to healthcare among communities predominately affected by HBV
 - poor community knowledge of disease and broader health literacy
 - lack of knowledge among primary care practitioners on appropriate testing and management of HBV
 - lack of resources to complete contact tracing of diagnosed individuals (including follow up of women and children after antenatal care screening)

National targets for hepatitis C

- Fourth National Hepatitis B Strategy 2014-2017 - two overall targets:
 - to reduce the incidence of new hepatitis C infections by 50% each year
 - increase the number of people receiving antiviral treatment by 50% each year.

This was pre the availability of DAAs

Victorian elimination targets: Hepatitis B

Our vision

By 2030 Victoria will eliminate hepatitis B as a public health concern and eliminate stigma and discrimination associated with the disease.

Priority outcomes for 2030

The proportion of people experiencing and reporting hepatitis-B-related stigma and discrimination will be:

0%

Between 2016–2030 the number of new domestic transmissions of hepatitis B will be reduced by:

90%

The proportion of all people living with chronic hepatitis B who are diagnosed will be:

90%

The proportion of people living with chronic hepatitis B who are accessing appropriate treatment and care will be:

90%

Victorian elimination targets: Hepatitis C

Our vision

By 2030 Victoria will eliminate hepatitis C as a public health concern and eliminate stigma and discrimination associated with the disease.

Priority outcomes for 2030

The proportion of people experiencing and reporting hepatitis-C-related stigma and discrimination will be:

0%

Between 2016 and 2030, the number of new transmissions of hepatitis C will be reduced by:

90%

The proportion of all people living with chronic hepatitis C who are diagnosed will be:

90%

The proportion of people living with chronic hepatitis C who are cured of the disease will be:

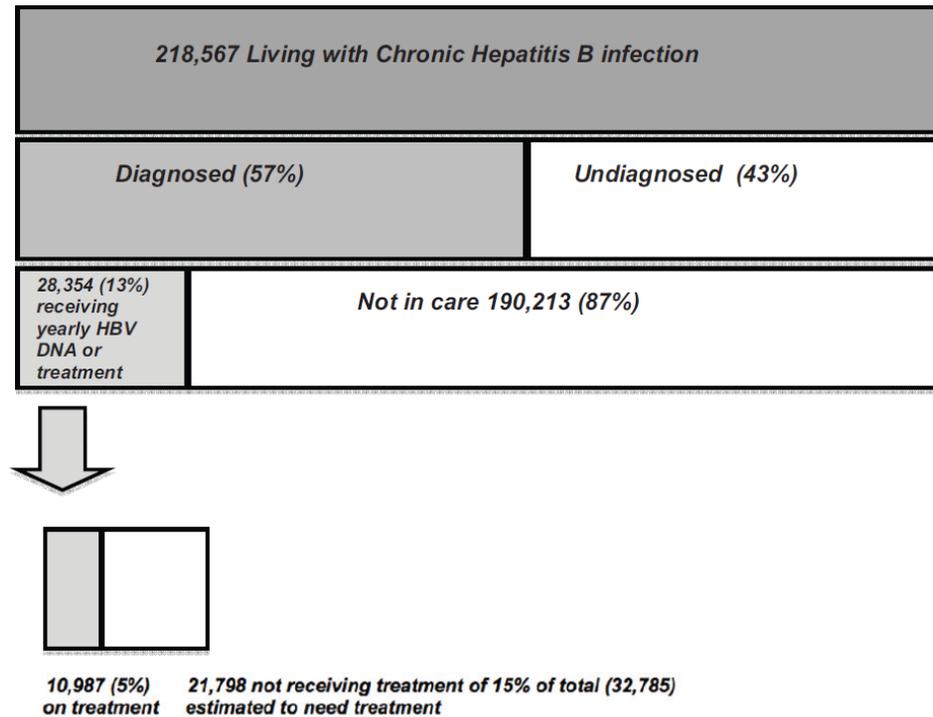
90%

What do we need to address for Australia to achieve these targets by 2030 or 10 years

- Everyone infected diagnosed
- Everyone diagnosed engaged in care
- Models of care that suit key affected populations
- Harm reduction
- Vaccine development
- Address stigma and discrimination
- Work force capacity

HBV cascade of care: Australia

Figure 1: Estimates of the cascade of care for people living with CHB in Australia.



Allard NL et al. (2015). "The cascade of care for Australians living with chronic hepatitis B: measuring access to diagnosis, management and treatment." Australian & New Zealand Journal of Public Health **39**(3): 255-259.

Cascade of Care

Table 1: Proportion of people not in care (defined as not receiving treatment or yearly HBV viral load) by state and territory using 2011 Census derived estimates, PBS and MBS data.

State/Territory	Number of yearly viral load tests, 2012	Number of people receiving antiviral treatment, 2012 (percentage of census based estimates on treatment)	Census based estimates of people living with CHB, 2011 2	Total notifications for unspecified (chronic) hepatitis B, 1998-2012	Proportion of people with CHB not in care
Australian Capital Territory	265	152 (4.2%)	3,603	1,101	88%
New South Wales	7,782	5,844 (7.6%)	77,076	42,455	82%
Northern Territory	336	72 (2.0%)	3,556	1,527	89%
Queensland	1,412	941 (2.5%)	37,427	12,736	94%
South Australia	141	419 (2.9%)	14,442	5,350	96%
Tasmania	47	31 (0.9%)	3,513	628	98%
Victoria	6,856	2,979 (5.2%)	56,836	26,496	83%
Western Australia	528	549 (2.5%)	22,055	8,065	95%
Australia	17,367	10,987 (5.0%)	218,567*	98,358	87%

** Total includes 59 people with CHB whose state was recorded as 'other territory'.*

Allard NL et al. (2015). "The cascade of care for Australians living with chronic hepatitis B: measuring access to diagnosis, management and treatment." *Australian & New Zealand Journal of Public Health* 39(3): 255-259.

HCV cascade of care: Australia

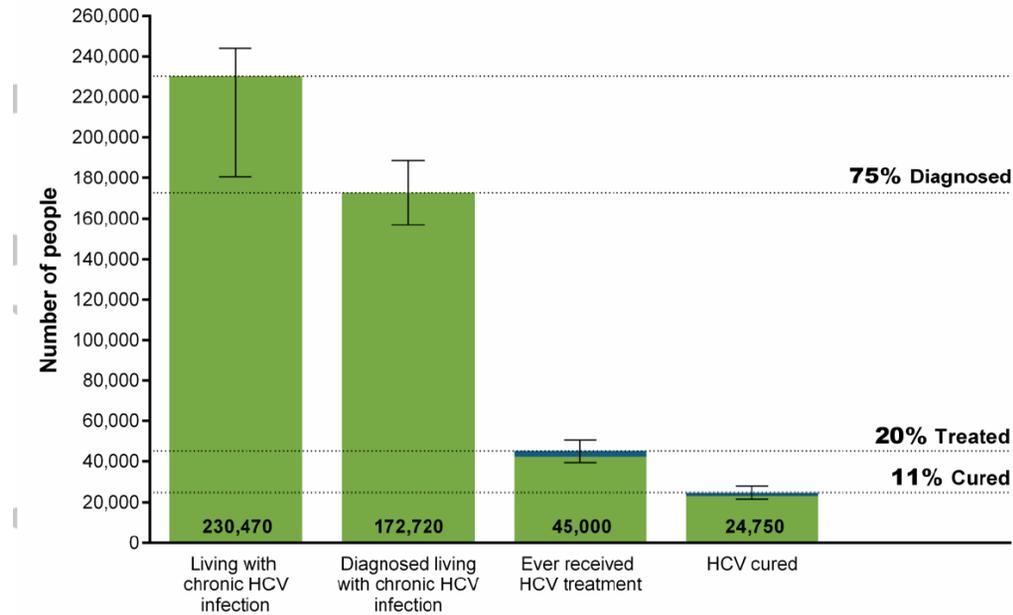


Figure 1: Estimates of the care cascade for chronic HCV infection in Australia in 2014

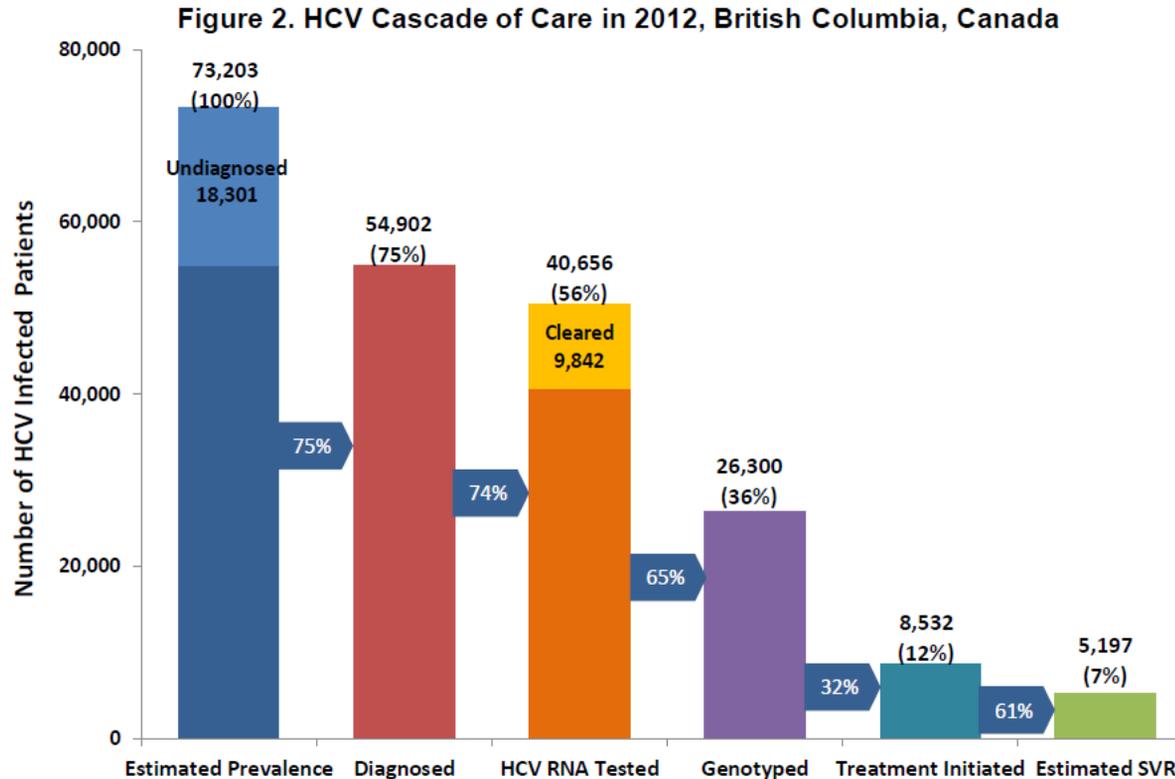
Hajarizadeh B et al. (2016). Chronic hepatitis C burden and care cascade in Australia in the era of interferon-based treatment. *Journal of gastroenterology and hepatology*. doi: 10.1111/jgh.13453

Surveillance – why bother

- The US Centre for Disease Controls (CDC) guidelines for *Evaluating Public Health Surveillance Systems* outlines how surveillance data can be used for
 - immediate public health action
 - program planning and evaluation and,
 - formulating research hypotheses
- When thinking about elimination
 - Identify gaps in cascade of care (Janjua et al. 2016)
 - Improve linkage to care (Bove et al. 2015)
 - Monitor progress

Generally speaking – few countries have systems that provide high quality national coverage

Other countries – surveillance systems to monitor cascades of care – HCV Canada



Janjua et al. (2016). The BC Hepatitis Testers Cohort (BC-HTC): the population level hepatitis C Cascade of Care, BC, Canada. *5th Canadian Symposium on Hep C*. Montreal.



Current surveillance systems in Australia for hepatitis B and C

- *Passive Surveillance* - records notifications of new hepatitis C diagnoses
- *Targeted Enhanced Surveillance* - collects extra demographic and risk behaviour on new diagnoses with specific indicators of incident infection
- *Sentinel Surveillance Network (SSN)* - sexual health services and some primary care services have the capacity to monitor hepatitis B and hepatitis C testing rates, prevalence and risk behaviour among individuals routinely tested for the infections
- *Australian Needle and Syringe Program Survey (NNSPS)* - annual survey and blood testing among PWID recruited through NSPs.

How to improve our current surveillance systems for hepatitis B and hepatitis C

- Develop clear guidelines for routine testing of high risk groups
- Routine reflex testing where appropriate – eg following a HCV antibody test if HCV antibody test is positive.
- Routine linkage of test results as part of passive notifications
- ACCESS surveillance system – more in a moment
- Annual Australian Needle and syringe program survey
- Database linkage – PSB, Medicare, clinical data bases, death index, cancer registries
- Link with prison data



ACCESS

- ACCESS is a surveillance system that compiles data collected in two clinical and one laboratory network
- Each network collects information to describe patterns of BBV and STI testing and positivity for chlamydia, gonorrhoea, HIV, syphilis, hepatitis B and hepatitis C
- Priority populations include: young heterosexuals, men who have sex with men, people who inject drugs, culturally and linguistically diverse communities, indigenous people and sex workers

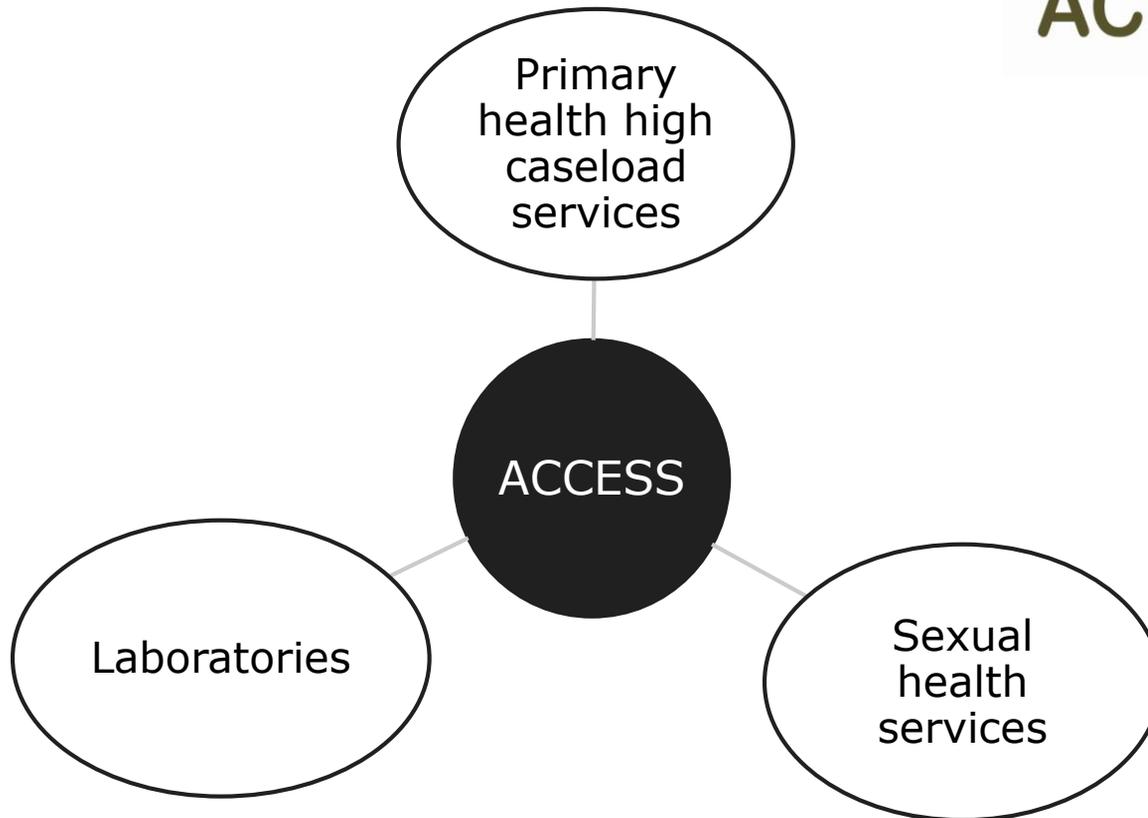


What can ACCESS do?

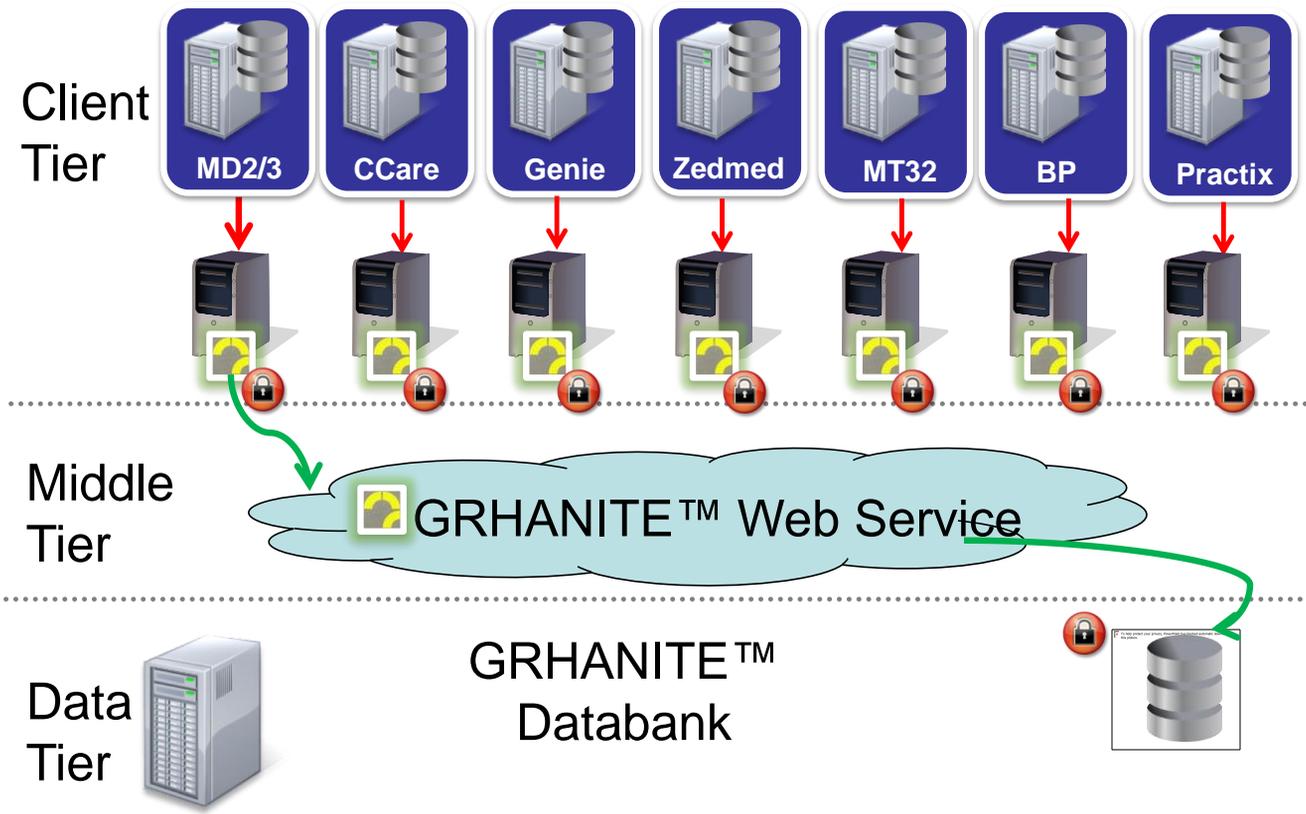
- Number of consultations & testing rate
- Characteristics of patients tested
- Completeness of screening
- Testing uptake
- Testing frequency
- Proportion testing positive/ incidence
- Assessment of care cascades
- Assessment of immunity



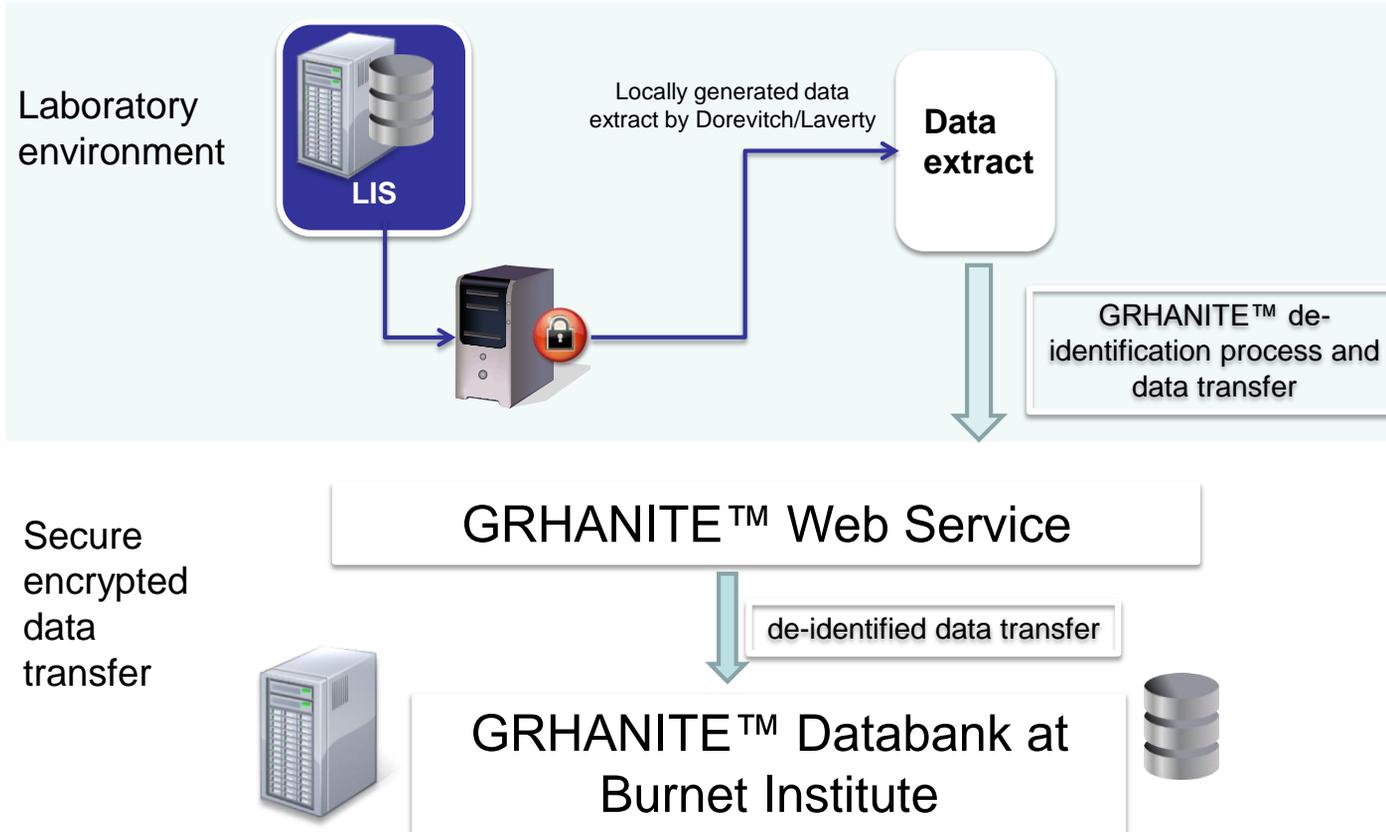
ACCESS Networks



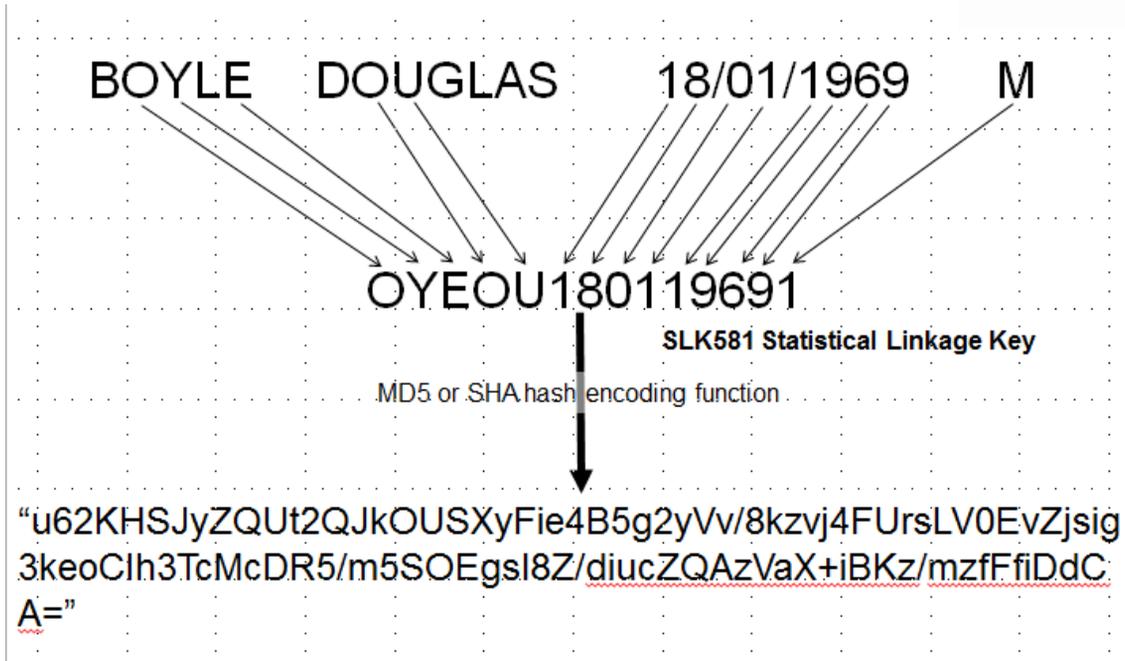
How does ACCESS work



How ACCESS works



Data privacy



Benefits of ACCESS



- Automated extractions, flexible, inexpensive
- Monitors all notifiable STIs and BBVs targeted by national strategies
- Monitors testing patterns and positivity rates across clinical, community and laboratory settings
- Continuous feedback allows input into preventive activities and evaluations of interventions

Summary

- Elimination of hepatitis B and hepatitis C by 2030 is achievable
- Important to monitor our progress
- Need to link surveillance systems where ever possible with data from health services, databases like PBS, caner and death registries
- ACCESS– as it is rolled out over next two years - important for monitoring of HCV and HBV in Australia



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- Participating sites

