



YEARS OF IMPACT

**We're
just getting
started.**

Hepatitis C across generations: Demographic and behavioural insights into mothers and their children in New South Wales

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The Kirby Institute at UNSW Sydney is located on the Traditional Lands of the Bidjigal peoples.

We acknowledge the Traditional Owners of Country throughout Australia, and First Nations people's continuing connection to culture, land, sea, waters, and community.

We pay our respects to Elders, both past and present.

Disclosures & Financial Support

Disclosures:

HV has received honoraria from Gilead Sciences.

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MM has consulted for Abbvie.

All conflicts are declared as being outside of the submitted work.

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Disclaimers

These data are reflective of real people and real families:

In the presentation I will be talking about serious outcomes of clinical and systems level failures, such as generational risks and death. These data can be a lot to take in. I sometimes struggled with the analyses, and I understand if you are not in a place where you can listen to this presentation.

Language:

Our data are based on sex (female) and throughout the presentation I will be using the term “mother”. There may be a small minority of gender-diverse people in our cohort that do not refer to themselves as a “mother” and their specific experiences of HCV and parenthood should be further explored.



Pregnancy & HCV care- what do we know?

- Time of increased clinical engagement
- **Stigma** and fragmented services
- Potential for perinatal transmission
- Testing during pregnancy recommended, but not universal
- Childbirth associated with lower treatment uptake; more recent and multiple childbirths lowest uptake
- DAA therapy not licensed for use during pregnancy or lactation
- Postpartum HCV care has been inadequate
- Evidence is emerging supporting safety of DAA therapy during pregnancy, demonstrating efficacy and safety for maternal HCV cure and prevention of perinatal infection
- Data to describe mothers with HCV are scarce



Children born to mothers with HCV- what do we know?

- ~5% of children born to mothers with HCV will acquire infection perinatally
- Testing among infants recommended and treatment in children from three years old
- Fragmented maternal services contribute to high loss to follow up in children, creating unknowns and inadequate care
- Little is known about children born to mothers with HCV who do not receive a diagnosis of perinatal infection



Aims:

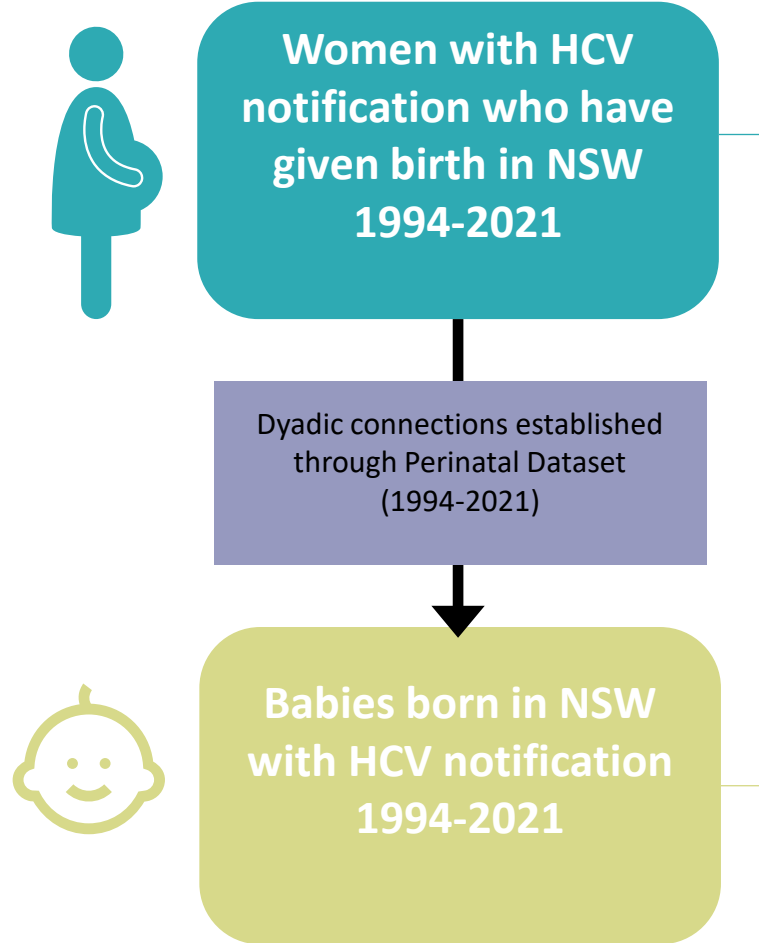
Describe two key populations in the context of HCV elimination:

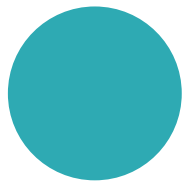
- Mothers with HCV
- Children born to these mothers who acquire HCV

Methods

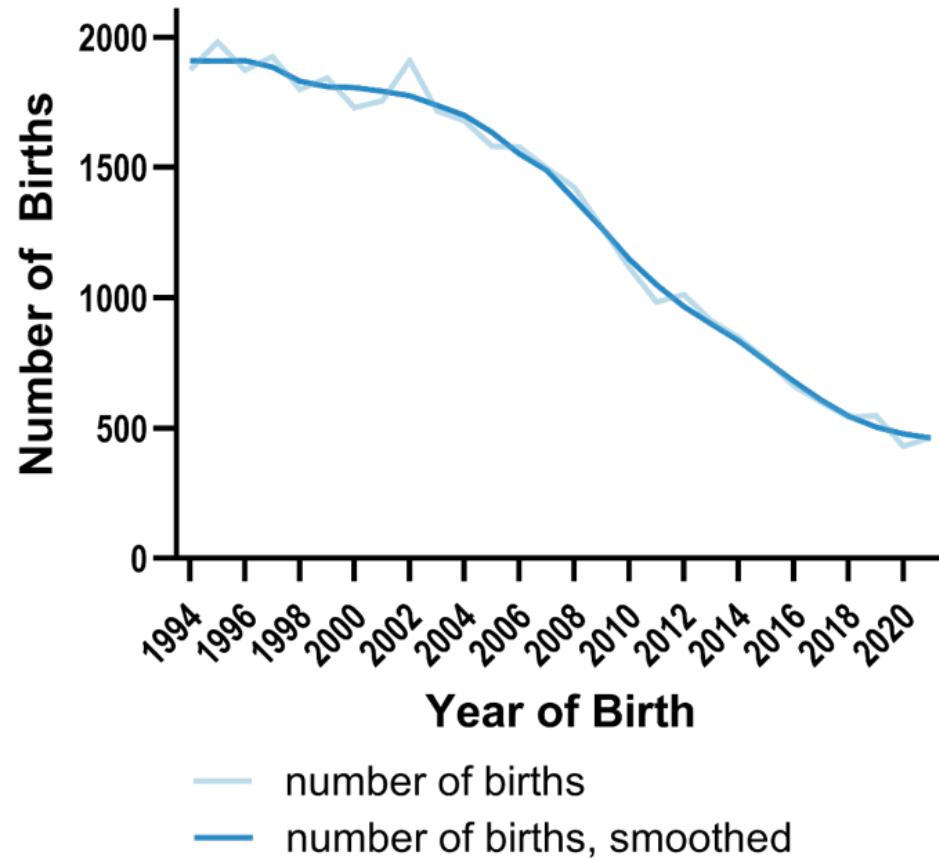
Study design and setting: Cohort study using secondary data collection and data linkage in New South Wales

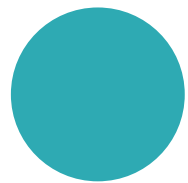
Data sources and linkage:





HCV mothers cohort

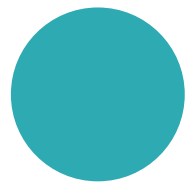




HCV mothers: Risk at time of childbirth

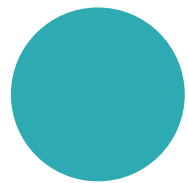
Characteristics at time of childbirth among mothers
whose child had HCV notification made and those who did not:

Vulnerability heightened in mothers whose children had HCV



HCV mothers: HCV treatment

By the end of follow up, 50% of all mothers had received treatment

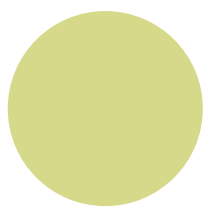


HCV mothers: Mortality

Mortality

- Between 1994 and 2021, 15,996 mothers contributed 438,239 PY follow up
- 1,193 total deaths (7.5%), crude mortality rate of 2.7 per 1000 PY
- Mean age at death was 43 years old, 15 years after first childbirth

Cause of death:



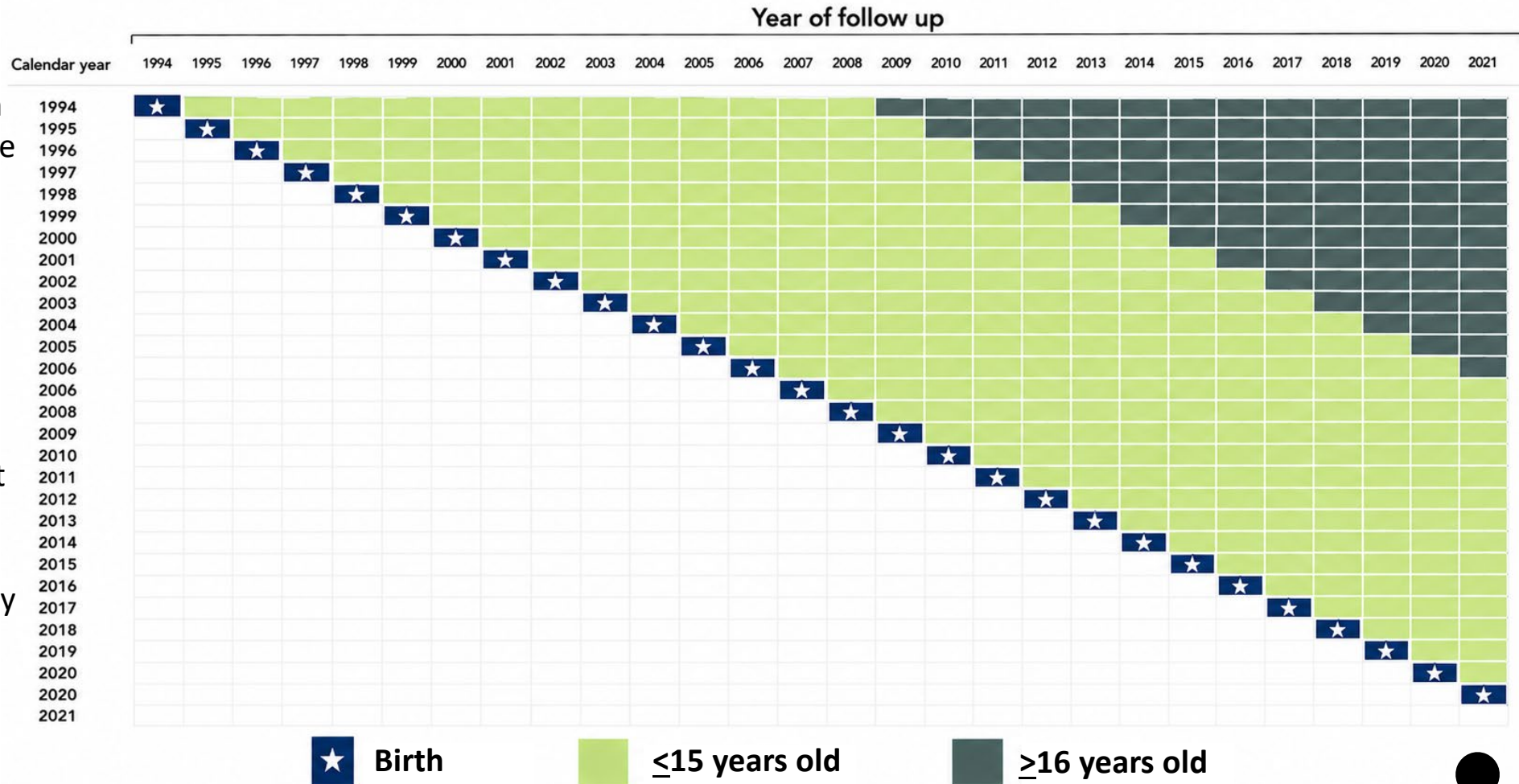
Child cohort: Follow up

627 children were born to mothers with HCV and had an HCV notification made any time after birth

median year of birth
1998
(IQR: 1995, 2001)

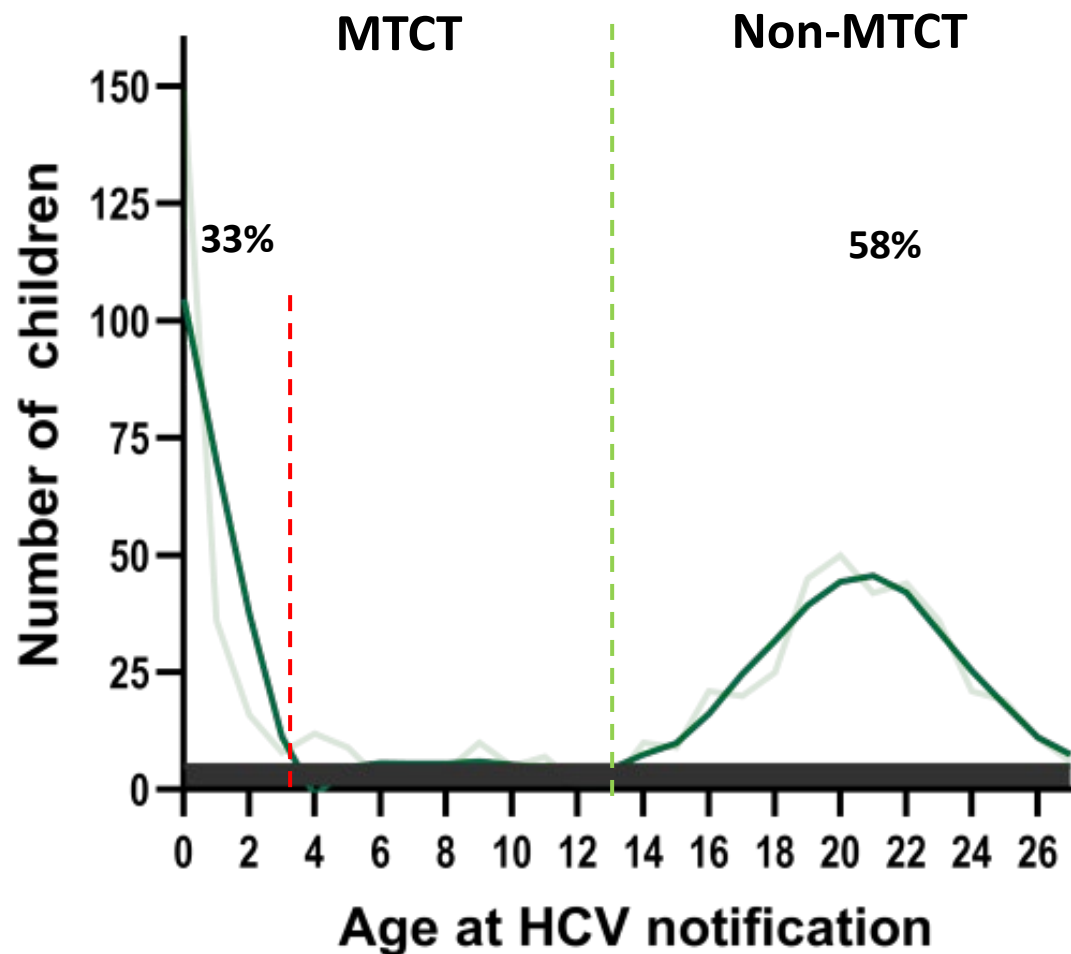
Follow **up to 28 years** in the earliest and 1 year in the most contemporary birth cohort

Children at least 16 years old by end of follow up assessed for risk behaviors related to HCV acquisition

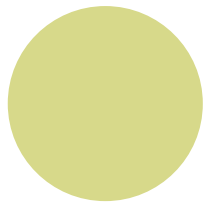


Child cohort: Age at HCV notification

0.7% of all births
(n=265/36,332) with
notified, suspected
mother-to-child
transmission

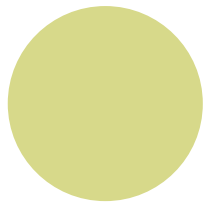


median age at HCV
17 (IQR: 1, 21)



Child cohort: HCV risk

Characteristics relating to HCV acquisition among children at least 16 years old at end of follow up:



Child cohort: HCV treatment



Discussion & Implications

- There are clear missed opportunities for mothers with HCV
- The missed opportunities among mothers may translate into heightened vulnerability for both vertical (mother-to-child) and horizontal (injection drug use) HCV transmission for their children
- Women included in this cohort experienced intersecting forms of social and structural disadvantage and these disadvantages may have contributed towards adverse health outcomes among their children
- Data supports policy and public health strategies and to recognize pregnant women, mothers, and their children as priority populations to achieve equitable HCV elimination



Further research is needed

- Mother-baby link for all children born to mothers with HCV would provide valuable data on the extent of HCV screening and risk among all children born to mothers with HCV
- Impacts of child protection need to be assessed
- Nuanced data on maternal intersectionality may help tailor policy and social interventions that have the potential to reduce intergenerational risk and prevent infection
- Larger study categorizing mental health comorbidity and assessing predictors of mortality in mothers with substance use
- Trials of multidisciplinary, integrated models of care to increase maternal and paediatric linkage to care

Conclusion

- Need to include all children born to mothers with HCV in public health strategies and models of care to prevent generational risk and ongoing transmission - don't just test for perinatal infection and forget
- Need for equitable, family-centered, wholistic services providing harm reduction, overdose prevention, psychosocial support, and HCV care alongside broader support for social determinants of health
- Services need to be accessible, gender-appropriate, and judgement-free



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