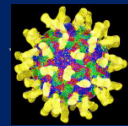
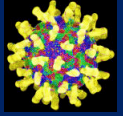
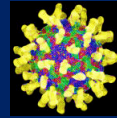
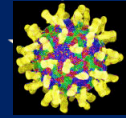




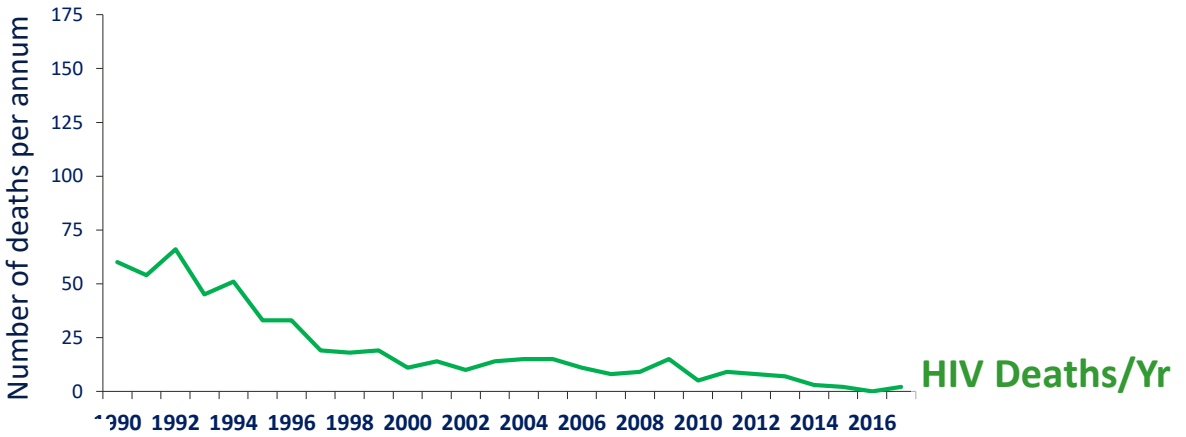
HepC Elimination in New Zealand

How are we tracking?

Ed Gane
University of Auckland

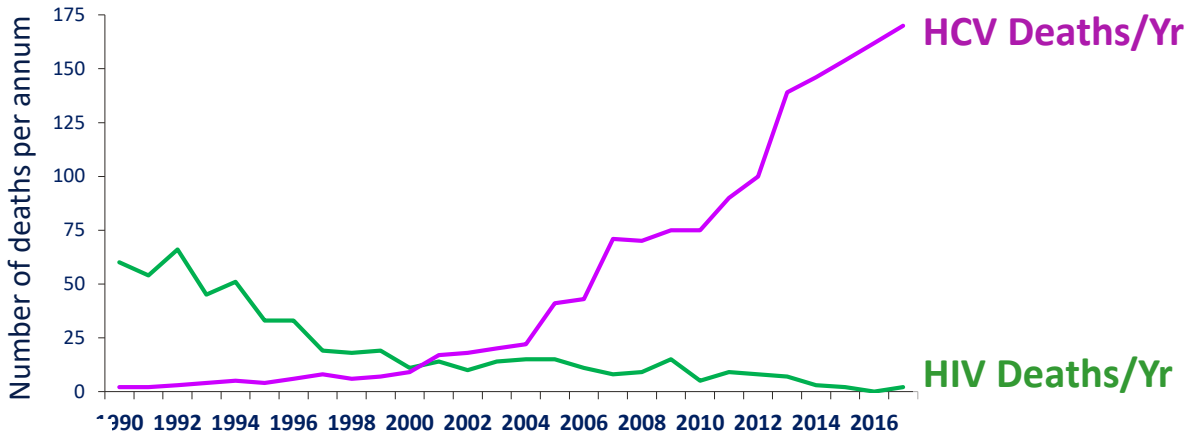


Excellent HIV Awareness, Testing & Treatment
Has Resulted in Falling Mortality in New Zealand



AIDS New Zealand 2018. Available at: http://img.scoop.co.nz/media/pdfs/1806/77_AIDSNZ_June_2018.pdf (accessed June 2019).

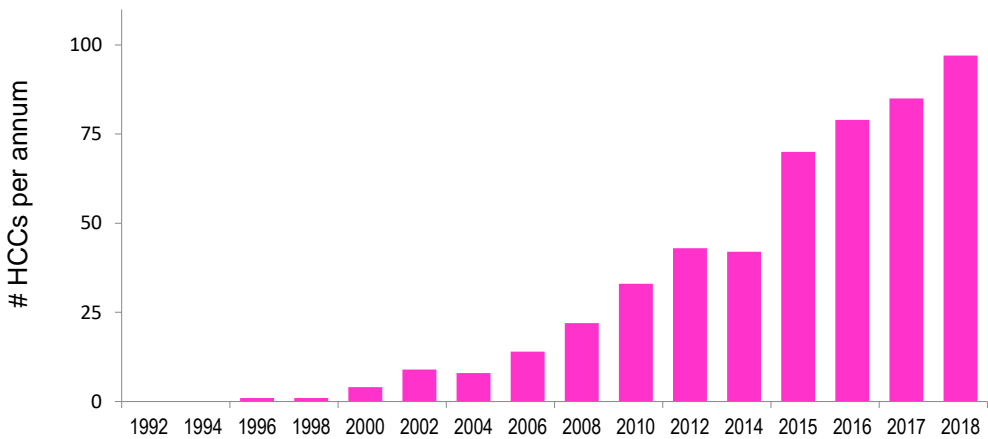
Poor HCV Awareness, Testing & Treatment Has Resulted in Climbing Mortality in New Zealand



AIDS New Zealand 2018. Available at: http://img.scoop.co.nz/media/pdfs/1806/77_AIDSNZ_June_2018.pdf (accessed June 2019).

Increasing HCV disease burden in New Zealand

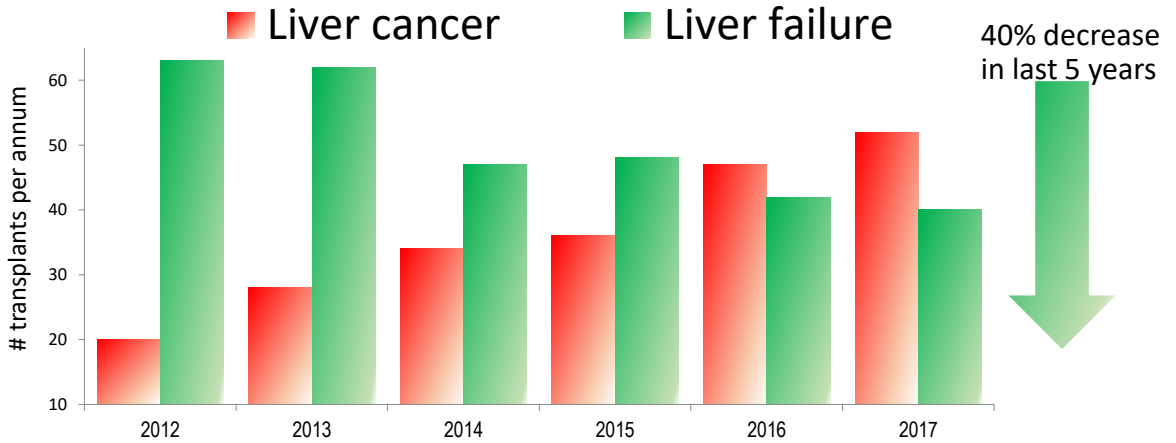
(1) Hepatitis C-related Liver Cancer



NZLTU Annual Report 2018

Increasing HCV disease burden in New Zealand

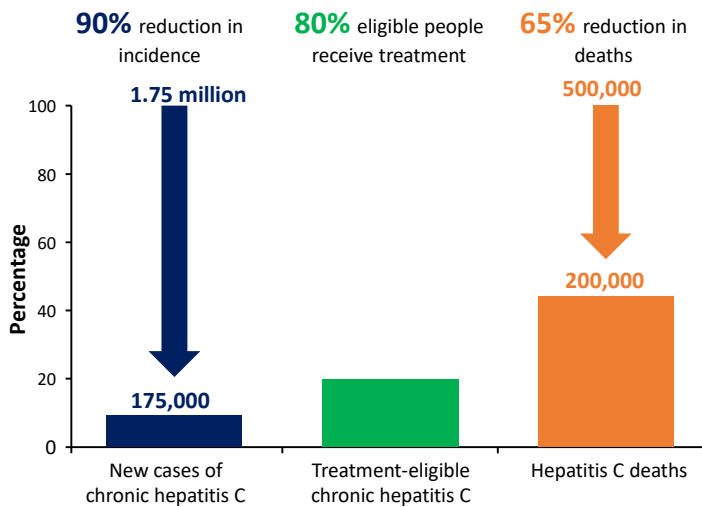
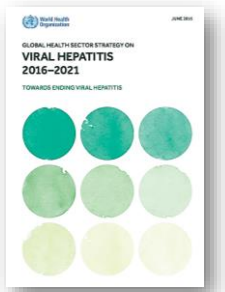
(2) Hepatitis C-related Liver Transplant



ANZLTR DATA TO 31/12/2016
SECTION 2 : Primary Diagnosis

28th Australian and New Zealand Liver Transplant Registry. Available at <http://www.sswahs.nsw.gov.au/gastro/livertransplant/RPAH2011/>

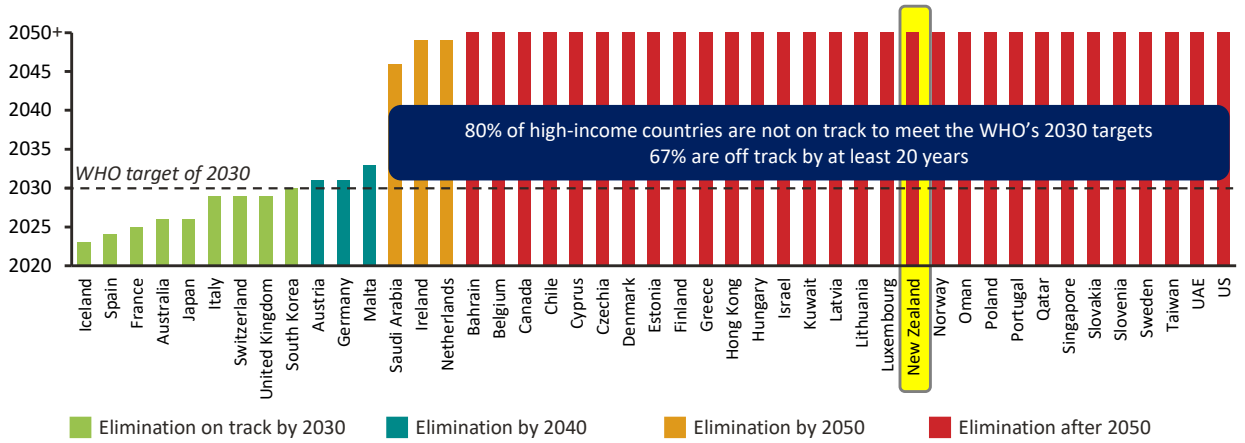
WHO has Set Ambitious Global Targets by 2030



WHO global health sector strategy on viral hepatitis. Available at: <http://apps.who.int/iris/bitstream/10665/246177/1/WHO-HIV-2016.06-eng.pdf?ua=1> (accessed April 2017)

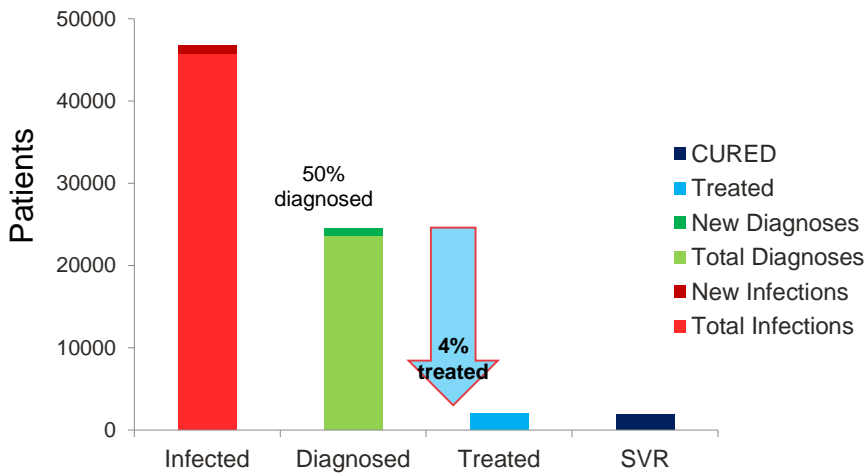
Progress towards Elimination in High-Income Countries

Estimated Year of Elimination



Razavi H, et al. EASL 2019; poster presentation (SAT-260).

Cascade of Care in New Zealand in 2016



Source: Polaris Observatory (<http://www.polarisobservatory.org/>)

How Can We Increase Treatment Uptake?

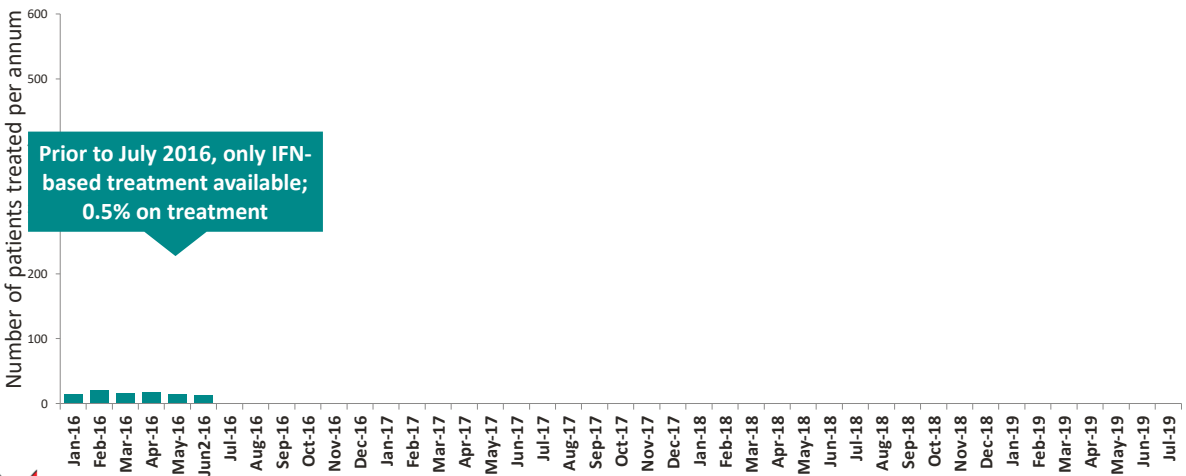
1. Simplify treatment for community prescribing
2. Find the Undiagnosed
3. Improve Linkage to Care



WHO global health sector strategy on viral hepatitis 2016–2021, 2016. Available at: <http://www.who.int/hepatitis/strategy2016-2021/ghss-hep/en/> (accessed June 2019).

1. Simplify treatment for community prescribing

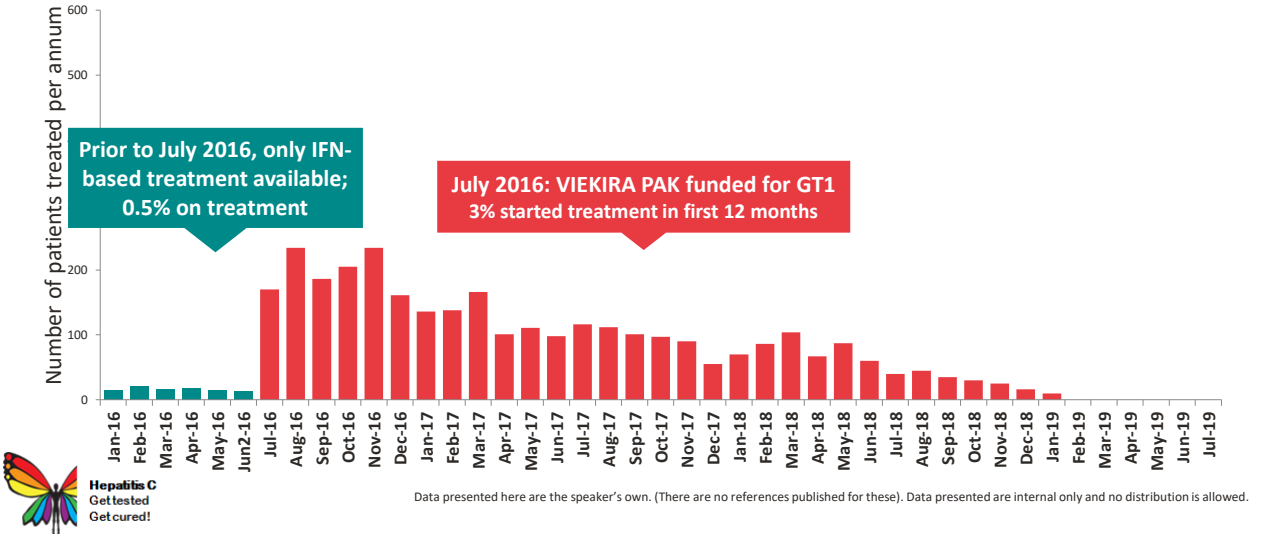
Simplified Treatment and Universal Access has Increased Treatment Rates



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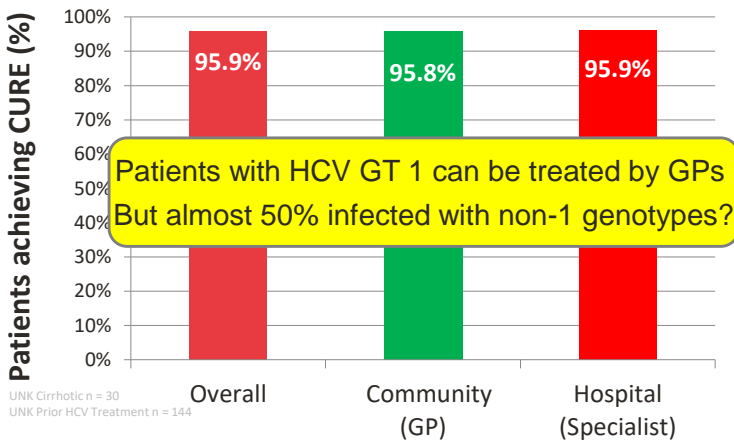
1. Simplify treatment for community prescribing

Simplified Treatment and Universal Access has Increased Treatment Rates



1. Simplify treatment for community prescribing

- 3200 patients started VIEKIRA PAK since July 2016
- Outcome data collected in REACH-C database



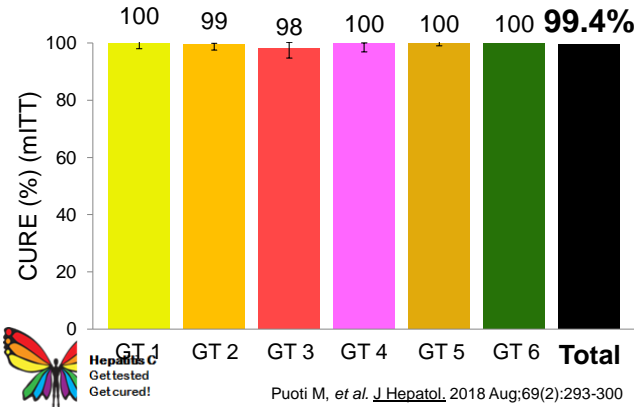
Gane E, et al. *Hepatology Int* 2019; 13(S1): A1084

1. Simplify treatment for community prescribing

- In February 2019, Glecaprevir-Pibrentasvir (Maviret) was funded in New Zealand without restriction

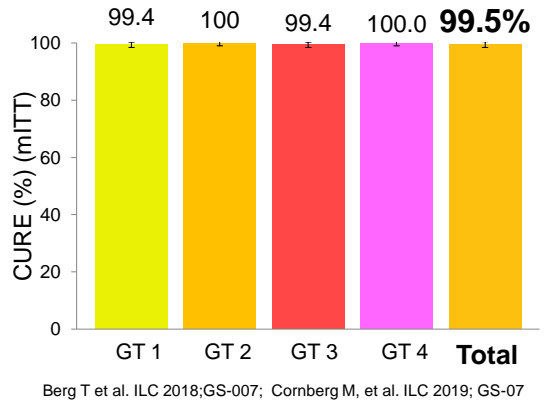
MAVIRET clinical studies

2016 patients in 9 studies



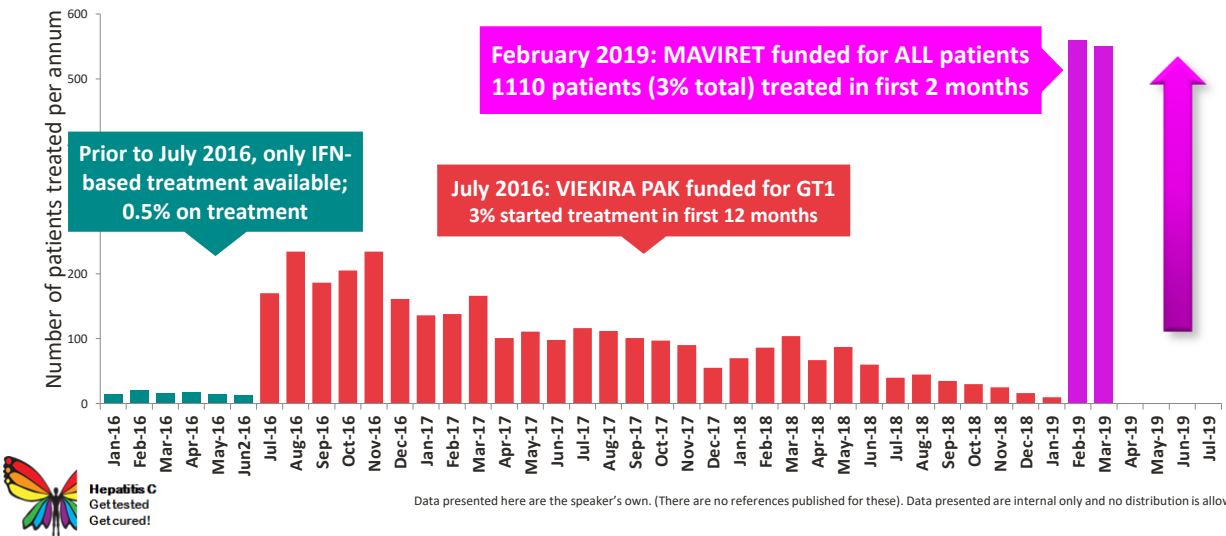
MAVIRET in real world

1698 Germans treated in community



1. Simplify treatment for community prescribing

Simplified Treatment and Universal Access has Increased Treatment Rates



What were the challenges in engaging GPs?

1. GPs initially unkeen to take over care

- "I don't have the time to treat HepC"
- "I don't have any HepC patients in my practice"
- "I don't want HepC patient as they are drug addicts"
- "treating HepC takes too long and there is no funding"
- "treating HepC is complex, dangerous and ineffective"
- "treating HepC needs a hospital specialist"

2. Most HepC patients in their practice remain undiagnosed

Improve GP Awareness and Education

NZ SOCIETY OF GASTROENTEROLOGY HCV TREATMENT GUIDELINES

Initial assessment

Hepatitis C Virus (HCV) serology

- 1. Confirm HCV exposure
- 2. Confirm HCV RNA
- 3. Determine treatment option

Screening

Liver Enzymes (Alanine Aminotransferase (ALT) and Aspartate Aminotransferase (AST))

- 1. ALT > 1.5 x ULN
- 2. AST > 1.5 x ULN

Screening for Hepatitis C Virus (HCV) antibody

- 1. Screen for HCV antibody in patients with ALT > 1.5 x ULN or AST > 1.5 x ULN
- 2. Screen for HCV antibody in patients with ALT > 1.5 x ULN or AST > 1.5 x ULN who are at high risk of HCV infection
- 3. Screen for HCV antibody in patients with ALT > 1.5 x ULN or AST > 1.5 x ULN who are at high risk of HCV infection and who are also at high risk of HCV infection

Screening for Hepatitis C Virus (HCV) RNA

- 1. Screen for HCV RNA in patients with ALT > 1.5 x ULN or AST > 1.5 x ULN
- 2. Screen for HCV RNA in patients with ALT > 1.5 x ULN or AST > 1.5 x ULN who are at high risk of HCV infection
- 3. Screen for HCV RNA in patients with ALT > 1.5 x ULN or AST > 1.5 x ULN who are at high risk of HCV infection and who are also at high risk of HCV infection

The treatment of hepatitis C has changed

Best Practice

Issue 27.10 | November 2019

bpac
better practice

CONTENTS

- 7 The treatment of hepatitis C has changed
- 9 Testing for hepatitis C virus (HCV)
- 15 Pre-treatment assessment for patients with HCV genotype 1 infections
- 20 Management of patients taking direct-acting antiviral (DAA) therapy
- 25 Follow-up after treatment is completed

AUCKLAND REGIONAL / Te rohe o Tamaki Makaurau HealthPathways

Chronic Hepatitis C

Assessment

1. Consider hepatitis C in patients who are at **higher risk**.
2. Consider hepatitis C when unexplained elevation of ALT/AST is present.
3. Screen by testing for hepatitis C antibody.

Management

1. If HCV antibody is **negative**, in almost all people no further testing is required.
 - If patient may have recently been exposed (e.g., high-risk activity such as injecting drug use in the last 3 months), **repeat** test in 3 months.
 - If test or repeat test is **negative**, reassure patient. No further HCV follow up is required unless there is new potential exposure.
2. If HCV antibody is **positive**, the laboratory will perform a reflex HCV RNA (PCR) test when required. To ensure that reflex testing is performed, advise patients to attend a Labtests collection centre, not the hospital phlebotomy clinic.
3. If HCV RNA (PCR) test is **negative**, the patient does not have hepatitis C. Reassure the patient. No

<https://aucklandregion.healthpathways.org.nz/28219.htm>

http://www.nzsg.org.nz/cms2/uploads/2017/NZSG%20Hepatitis%20C%20Guidance_November%20UPDATE.pdf

<https://bpac.org.nz/2019/hepc/overview.aspx>

Improve GP Awareness and Education

The image shows two overlapping screenshots. The background screenshot is the 'Hepatitis C E-Learning for GPs' website. It features a blue header with the title and a 'Learn About' section with three modules: 'What is Hepatitis C' (15 min), 'Identifying Hepatitis C' (15 min), and 'Diagnosing Hepatitis C' (15 min). Below this is a 'Gain Accreditation' section with 'Assessment', 'Your feedback', and 'Print your certificate' buttons. A 'Post-Learning Support' section includes 'Quick facts' and 'Resources'.

The foreground screenshot is a webinar recording slide for 'Maviret for the treatment of chronic hepatitis C infection (webinar recording)'. It features the 'og' logo and two speakers: Dr Ed Gane, Hepatologist, and Dr Richard Davies, Auckland City Mission's Calder Health Centre. The slide is branded with 'The Goodfellow Unit' logo at the bottom.

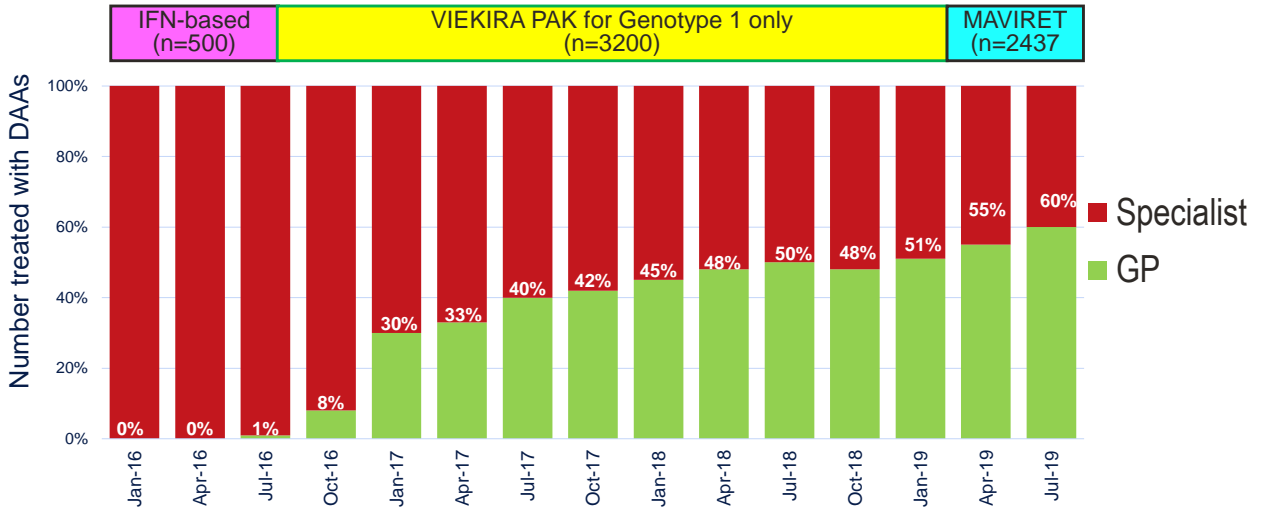
Incentivise Treatment in the Community

- 1. Single pangenotypic regimen without restriction (no forms)**
- 2. Incentive funding for the patient**
 - a) No Pharmacy dispensing fee
 - b) No GP fee for anyone with Community Service Card
 - c) Special needs grant for anyone with Community Service Card cover any additional costs during DAA therapy (transport, food, medical)

<https://www.workandincome.govt.nz/eligibility/health-and-disability/prescriptions-and-gp-costs.html#null>
- 3. Incentive funding for GP**
 - \$100-300 per patient commenced on DAA therapy

<https://www.poac.co.nz/page/hepatitis-c-treatment/>

GP engagement is increasing



The HepC Population will become easier to treat

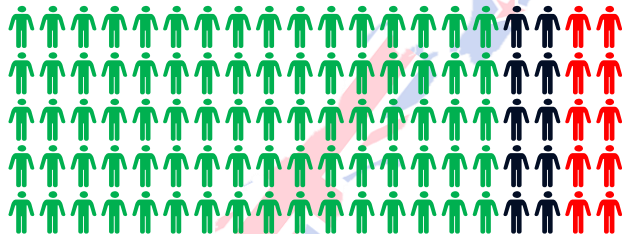
- In 2019, 80% HCV+ New Zealanders can be treated in community



50,000¹

New Zealanders live with chronic HCV infection

- Treatment-naïve, no cirrhosis
- Treatment-naïve, cirrhosis
- Treatment-experienced ± cirrhosis



1. New Zealand Ministry of Health. Available at: <https://www.health.govt.nz/your-health/conditions-and-treatments/diseases-and-illnesses/hepatitis-c> (assessed June 2019);
 2. Data presented here are the speaker's own. (There are no references published for these). Data presented are internal only and no distribution is allowed.

The HepC population will become easier to treat

- By 2024, 98% HCV+ New Zealanders can be treated in community



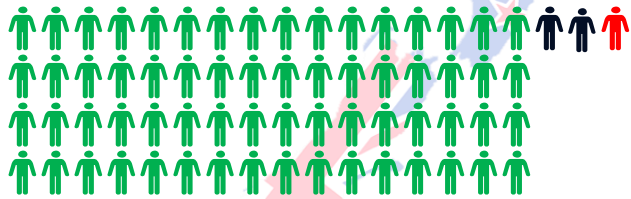
30,000

New Zealanders live with chronic HCV infection

● Treatment-naive, no cirrhosis

● Treatment-naive, cirrhosis

● Treatment-experienced ± cirrhosis



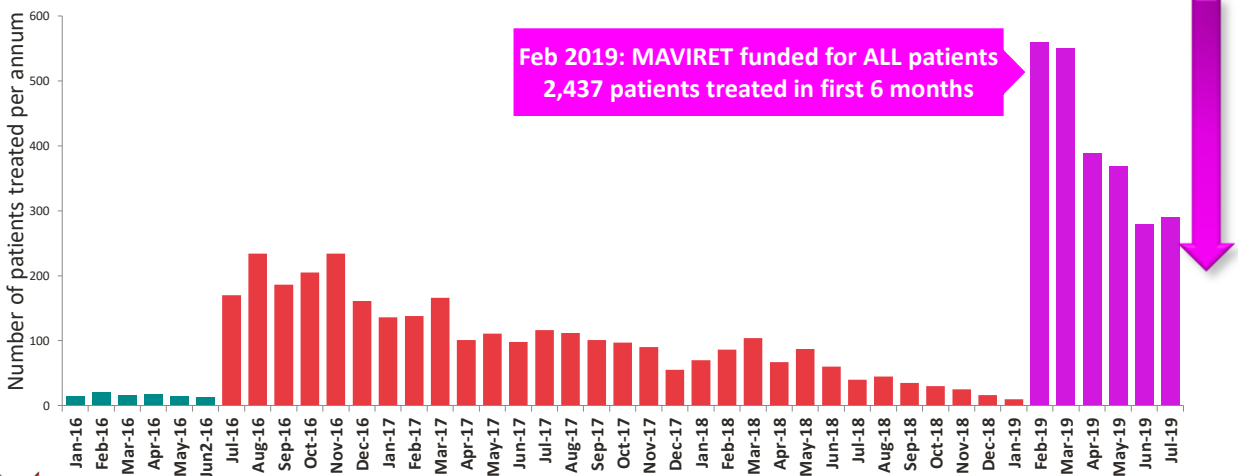
98% suitable for GP prescribing



Data presented here are the speaker's own. (There are no references published for these). Data presented are internal only and no distribution is allowed.

But simplifying treatment is not enough!

Simplified Treatment and Universal Access has Increased Treatment Rates



Data presented here are the speaker's own. (There are no references published for these). Data presented are internal only and no distribution is allowed.

2. Find the undiagnosed



2. Find the undiagnosed

1. Targeted testing (ANZ/UK approach)

- Using recognised risk factors
 - Ideal for CADS, AOTS, Needle Exchange
 - Fails at population level Vermeiren et al. PLOS1 2012; 7 e51194

2. Birth Cohort Testing (US approach)

- Born 1945-65 “Woodstock” and Vietnam War era
 - Not relevant in most countries

3. Universal Testing

- Cost-effective if combined with cheap diagnostics and National HCV Registry
 - Registry prevents duplicate tests and ensures all diagnosed are linked to care
 - Examples include Iceland, Georgia, Egypt, Uzbekistan, Mongolia, Sweden

50,000

Know it.
Test it.
Treat it.

New Zealanders have
Hepatitis C
that could cause **liver cancer**
Only **half** of them know it

Could you be one of them?

- Have you **ever** injected drugs?
- Have you **ever** been in prison?
- Have you **ever** had a tattoo or piercing?
- Did you **ever** receive a blood transfusion before 1992?
- Have you **ever** had jaundice, hepatitis, abnormal liver tests?
- Have you **ever** lived in or had medical treatment in Eastern Europe, S.E. Asia, the Middle East, or Indian Subcontinent?
- Did your mother or a household member have hepatitis C?

HPA National Awareness Campaign

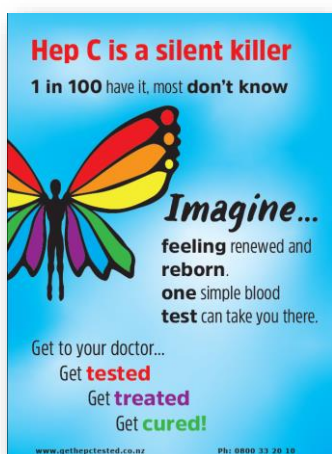


“People Like You” campaign, aims to remove stigma associated with previous high-risk behaviour

- Television: on TV1 and TV3 on demand
- Radio: on the Sound, and Hauraki FM,
- Social media: YouTube, Facebook, Google search
- Key message “Get Hep C tested - ask your GP”, see www.GetHepCTested.co.nz

The Hepatitis Foundation of New Zealand. Available at: <https://www.hepatitisfoundation.org.nz/home/get-hep-c-tested> (accessed June 2019).

Community “Butterfly” Campaign



- Formulated by Hazel Heal, Rachel Stace and the affected community.
- NO association with risk factors in effort to destigmatise HepC
- Focuses on nonspecific symptoms
- Emphasizes benefits of treatment which results in “metamorphosis”



Hepatitis C
Get tested
Get cured!

isation.

Hep C Action 2019. Available at: <https://www.hepc-action.nz/resources/the-butterfly/> (accessed 2 June 2019).

Community "Butterfly" Campaign



Community "Butterfly" Campaign



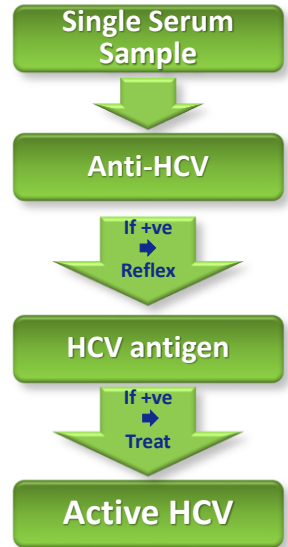
2. Improve Linkage to Care

1. Simplified HCV diagnosis

- Reflex Ab/Ag tests at community labs

2. Simplified liver assessment

- No genotyping
- No biopsy ⇒ Fibroscan or **APRI blood test**
 - ➔ Community Lab APRI Request Form
 - APRI <1.0, GP can treat in community
 - APRI ≥1.0, then 50% have cirrhosis ⇒ Fibroscan
 - ➔ Reduce Fibroscans by 80%
 - ➔ Expedite GP treatment



Applegate T, et al. *Infect Dis Clin N Am* 2018; 32:425-445.



Outreach services for marginalized populations



ChCh Community

- 206 treated

Centures Collective

- 700 clients, >50% IDU
- Mobile clinic planned

Auckland Community Alcohol and Drug Service

- 1500 stable clients receiving OST
 - Annual testing for BBVI \Rightarrow 70% anti-HCV+; 50% HCV RNA+
- 15,000 new clients referred each year (self or court diversion)
 - Alcohol, Methamphetamine, Cannabis, Opiates (25% injected in last month)
 - Attend for 12 weeks counselling services
 - No testing for BBVI – expected HCV prevalence 5-10%

➔ Ideal population for HCV Test & Treat Initiative



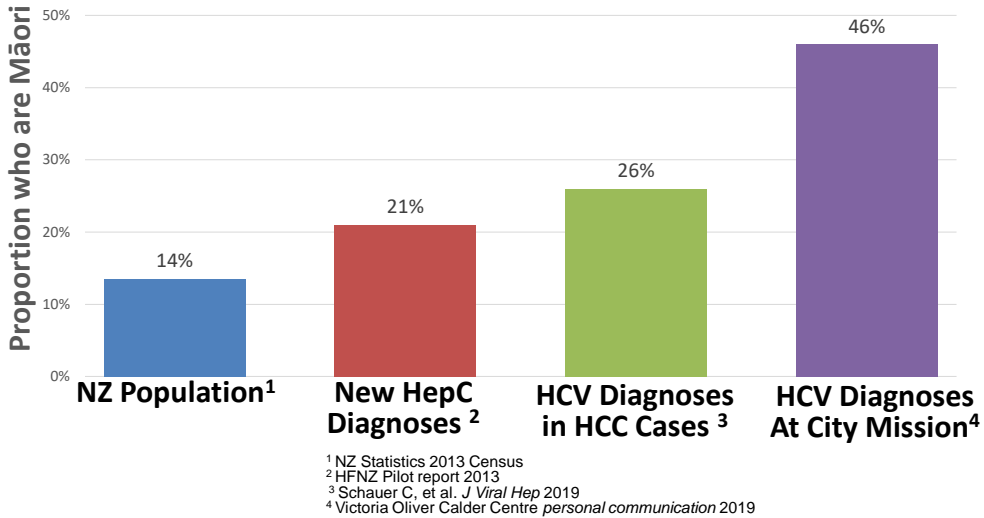
What about our prison population?

- >10,000 prisoners but lack of prevalence data
 - No national approach
 - Reported prevalence rates <10% - accurate?
 - Low testing rates - still Opt-In in most prisons
 - Low treatment rates
 - High rate of treatment d/c on transfer, discharge
- ➔ Need a new standardised approach
 - “Opt-Out” testing
 - POC HCV testing
 - Nurse prescribing for Maviret
 - Ensure follow-up on discharge or transfer
 - Incentivising treatment



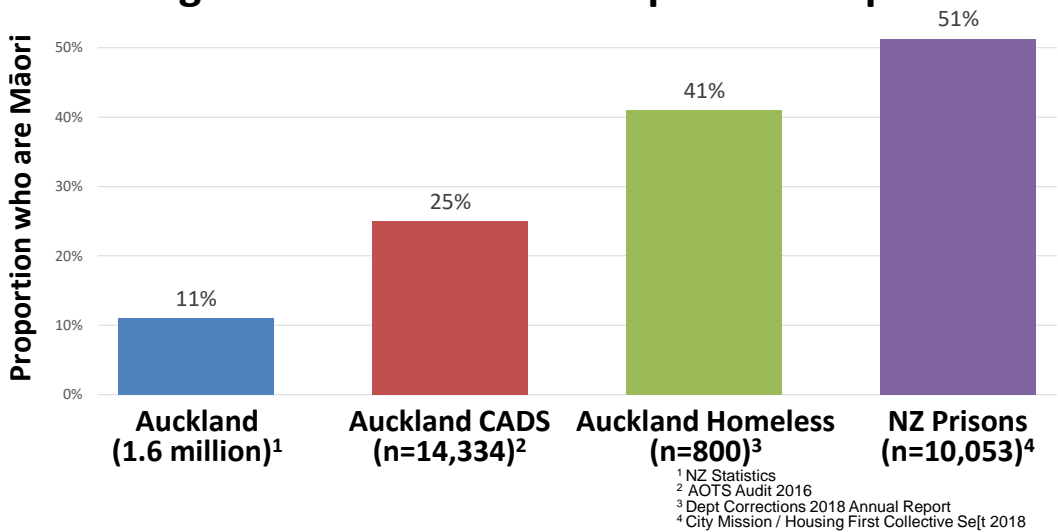
What about the Māori population?

Higher rate of Hepatitis C Infection



What about the Māori population?

Higher Risk Factors for Hepatitis C Exposure



Māori will need specific outreach services

Compared to non-Māori, are

- Younger
- Shorter Life Expectancy
- Poorer Health Outcomes
- Poorer Educational outcomes
- Lower Employment
- Increased deprivation
- Poorer access to healthcare
- Higher incarceration

The Treaty of Waitangi (1840)



Over-arching principles are

- Partnership, Participation, Protection

A national HepC action plan must include initiatives to improve awareness, testing and treatment of hepatitis C, and improved access to services for Māori

Is New Zealand on-track to achieve HCV elimination?

Eliminating Hepatitis C in New Zealand Green Paper HEPATITIS C SUMMIT 2018

The urgent need to develop a Hepatitis C National Action Plan

EIGHT PILLARS OF NEW ZEALAND'S NATIONAL ACTION PLAN TO ELIMINATE HEPATITIS C



Dare T, et al. Green Paper National Action Plan for HCV in NZ 2018. Available at: <https://researchspace.auckland.ac.nz/handle/2292/45012> (accessed June 2019).



What must
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**National
Hepatitis C Action
Plan for Aotearoa
New Zealand**

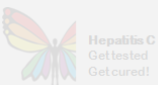
*"To achieve the elimination of Hepatitis C
as a public health threat by 2030"*

July 2019

Ministry of Health Working Group:
Raine Berry, Sarah Blair, Cheryl Brunton,
Jo Davis, Time Dare, Tony Farrell, Ed Gane
Lisa Gestro, Hazel Heal, Belinda Heaphy,
Helen Liley, Caroline McElnay, Rebecca
O'Connell, Derek Perkins, Darren Quirk,
Karl Piloto-Fridemann, Rachel Stace, Matt
Tyson, Arlo Upton, Jeff Won

DRAFT NATIONAL HEPATITIS C ACTION PLAN FOR AOTEAROA NEW ZEALAND |

s C Plan include
duction
PWID
nderstanding of hepC
Prisons)



Thankyou!

- Greg Dore and the Kirby Institute, Sydney
- Tracy Moore and the MoH Implementation Team
- Mike Wilson and the NRA HepC Steering Group
- Vicki MacFarlane, Community Alcohol & Drug
- Victoria Oliver, Lesley McTurk and ADIO Trust
- Richard Davies and Calder Centre, City Mission
- Rachel Stace, Hazel Heal, James Freeman
- Homie Razavi, Centre for Disease Analysis, USA
- Sarah Fitt, Matthew Tyson and PHARMAC
- Jasmine Bourne and AbbVie New Zealand
- Chris Cunningham and Hepatitis Foundation