

EUROPEAN-TAIWAN
CANCER SCREENING
CONFERENCE 2026

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Riga, Latvia



Screening and Prevention of Liver Cancer

Future Strategies for the European Union from Taiwan's Experience



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Disclosures

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GSK, Sysmex

Lectures

AbbVie, Bristol-Myers Squibb, Gilead
Sciences,
Grifols, GSK, Merck Sharp & Dohme, Roche

The slides were prepared with use of Claude code (Fable 5) and Codex (GPT6-Astra)

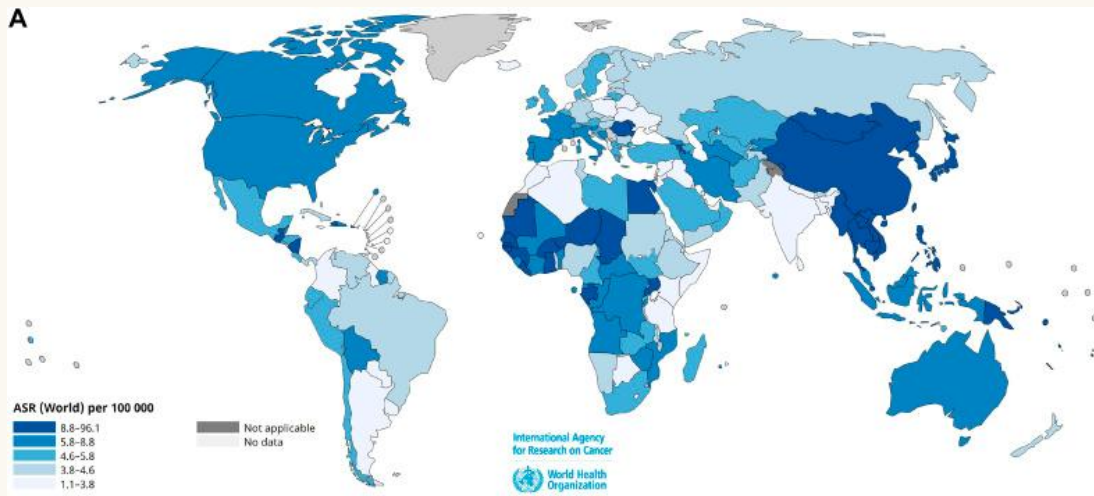
Liver cancer remains a global public health priority

843,045

new cases in 2024

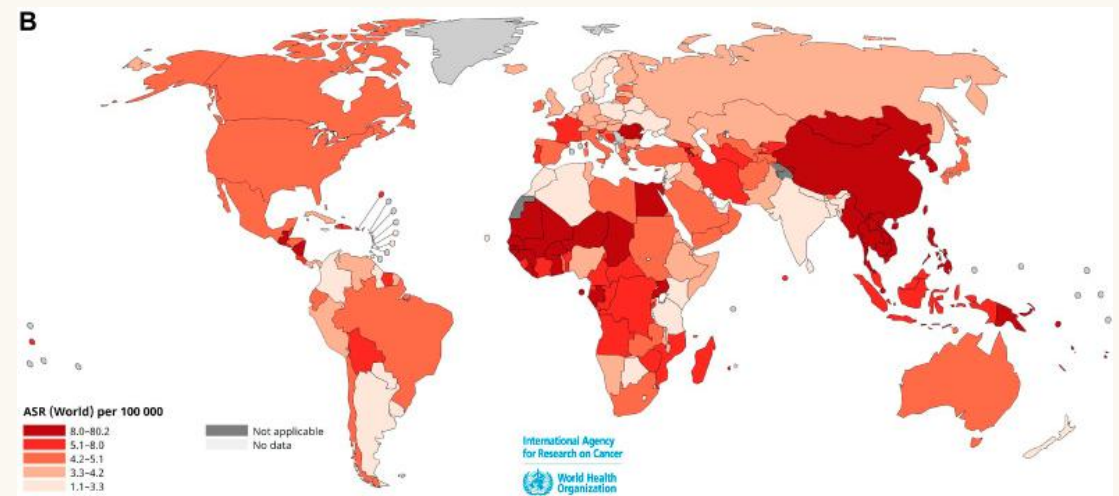
732,489

deaths in 2024



Incidence

Maps: 2022 rates per 100,000, world standard, both sexes



Mortality

Sung H et al. CA Cancer J Clin. 2026;76(4):e70090.
Cano L et al. Front Oncol. 2025;15:1565692.

A continuing burden in both Taiwan and Europe

TAIWAN



2nd

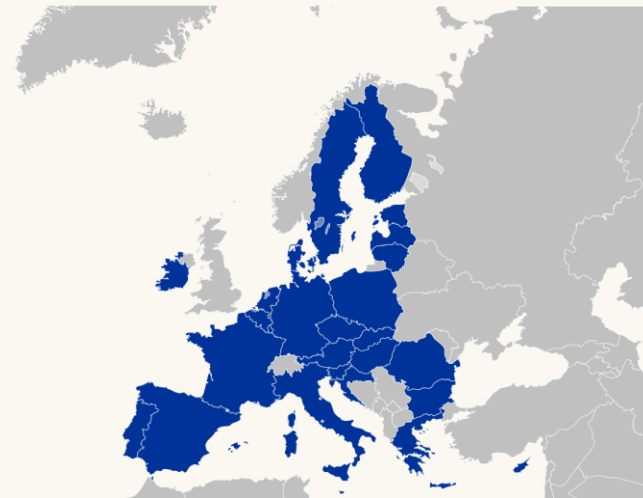
cause of
cancer death

10,449 new cases (2023)

7,601 deaths (2025)

National registry / vital statistics

EUROPEAN UNION



6th

men

8th

women

62,124 new cases (2022)

54,165 deaths (2022)

EU-27 estimates

Taiwan HPA. Cancer Registry 2023. Released 30 Dec 2025. Taiwan MOHW. Causes of Death 2025. 22 Jun 2026, Table 4.

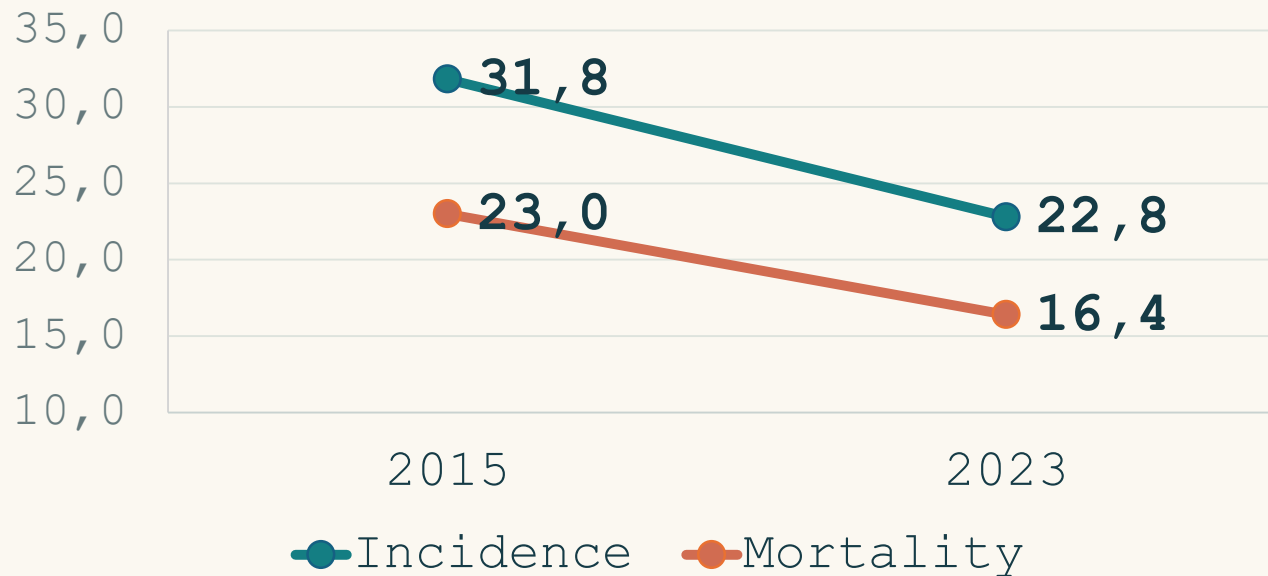
European Commission JRC. Liver Cancer in the EU. Oct 2024 (2022 estimates).

CONTEXT

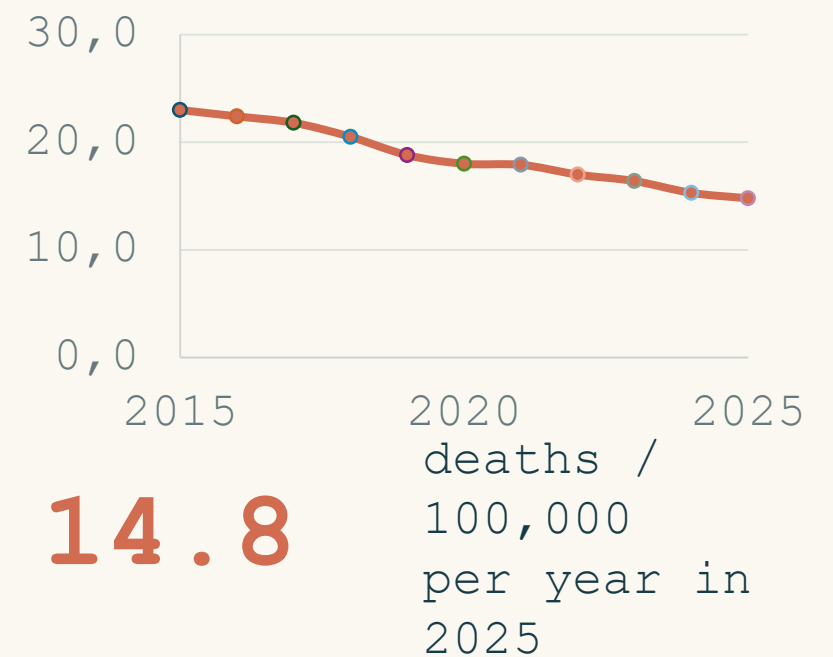
Liver cancer incidence and mortality declined in Taiwan

WHO 2000 age-standardized rates per 100,000 per year

2015 and 2023 endpoints



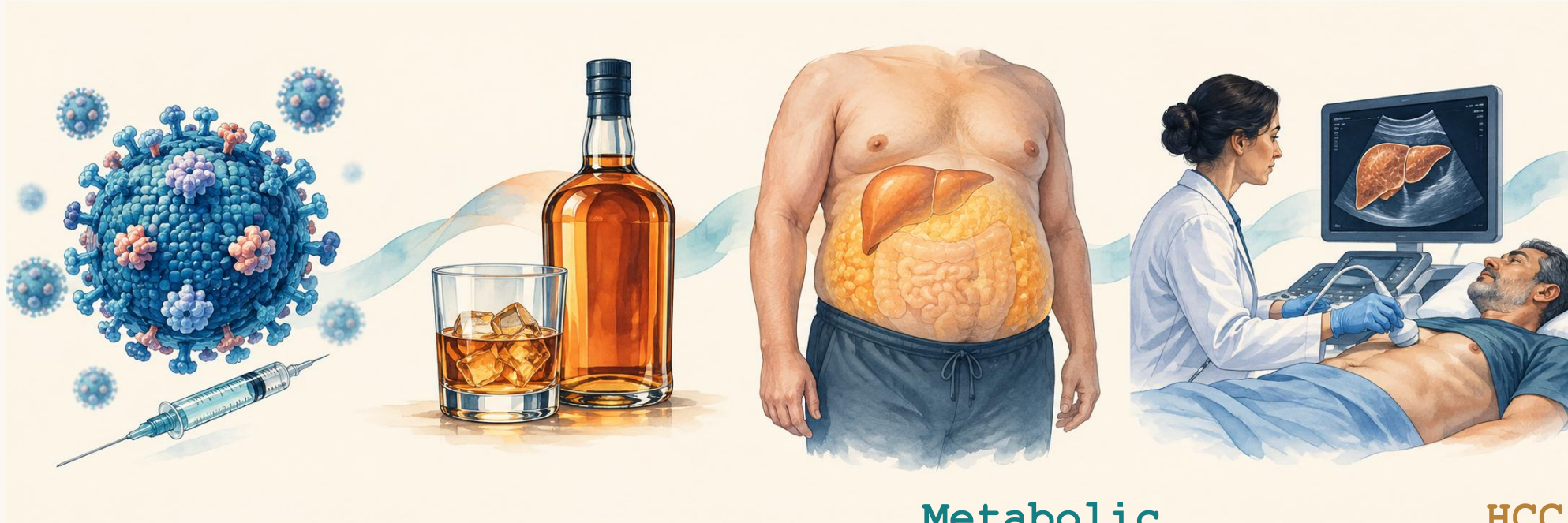
Annual mortality



Chen CF, Chang HC. Adv Dig Med. 2023;10(3):135-142.

Taiwan HPA. Cancer Registry 2023. Released 30 Dec 2025. Taiwan MOHW. Causes of Death 2025. 22 Jun 2026, Table 4.

Two parts: prevention and early detection



Viral hepatitis

Alcohol

Metabolic
disease

HCC
surveillance

01 PREVENTION

02 EARLY DETECTION

WHO. Guidelines for chronic hepatitis B infection. 2024.
Sangro B et al. J Hepatol. 2025;82(2):315-374. (EASL)

01

Prevention to stop future cancers

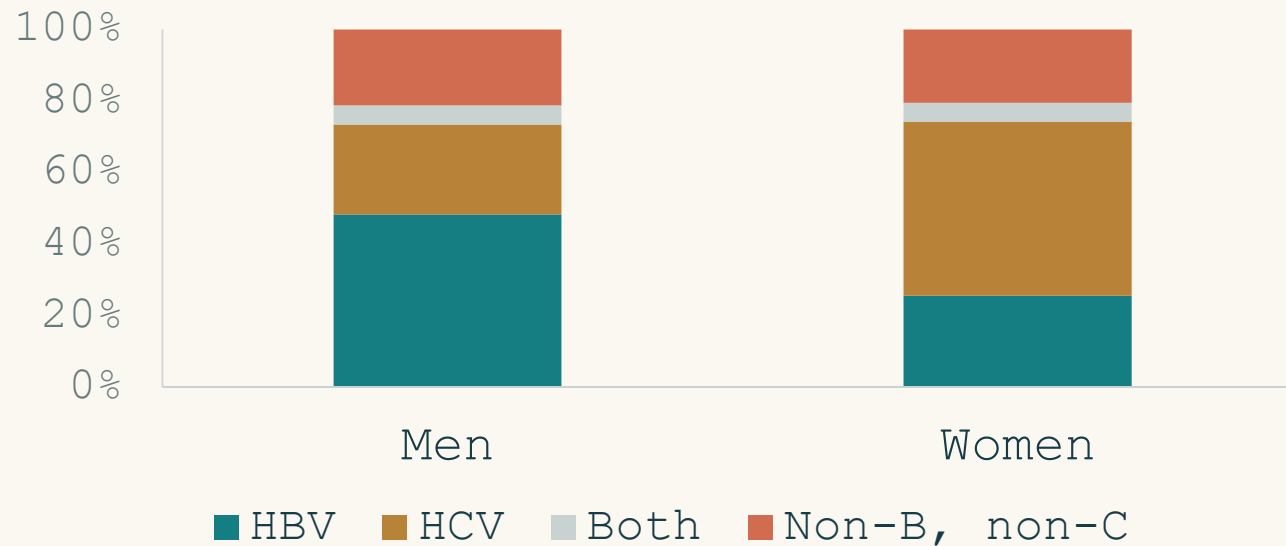
Risk of liver cancer can
be reduced by
removing/treating the
etiologies



Taiwan's etiology remains mostly viral, but is changing

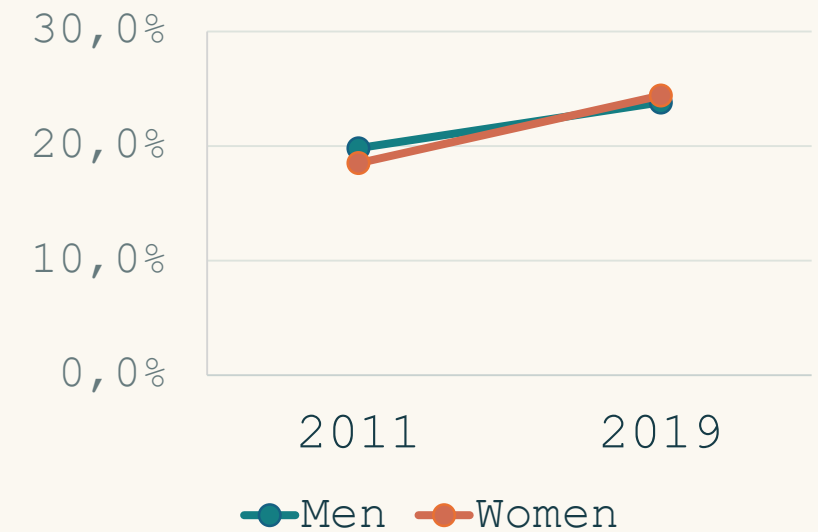
Taiwan Cancer Registry (TCR)

73,817 HCC cases, 2011–2019



HBV predominates in men; HCV in women

Non-B, non-C share



Non-B, non-C $\neq$ MASLD

Four decades of Taiwan's crusade against viral hepatitis



1984 / 86

Infant HBV
vaccination

2003

Funded
hepatitis
treatment

2017

Funded
HCV cure

2020

HBV/HCV
testing
45–79 years¹

2025

Testing: born
≤1986, age
≤79

¹ Indigenous adults: 40–79 years. One-time adult hepatitis testing.

Chang MH et al. Gastroenterology. 2016;151(3):472–480.e1. Chien RN et al. J Infect Dis. 2023;228(Suppl 3):S180–S188.

Taiwan MOHW. HBV/HCV screening expansion. 28 Jul 2025; updated 11 Aug 2025.

Protection begins before birth



- **During pregnancy**

HBsAg testing; antivirals for high viral load

- **At birth**

Vaccine + HBIG for infants of HBsAg-positive mothers

- **1 and 6 months**

Complete the vaccine series

- **After vaccination**

Infant serology confirms protection

HBsAg: 9.78% vs 0.64%

Unvaccinated vs vaccinated birth cohorts, 2024 survey

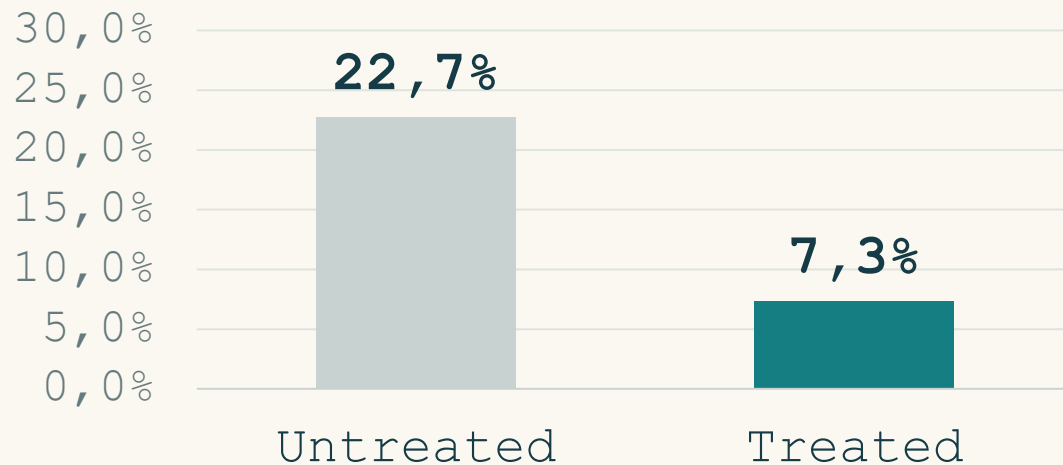
Chang KC et al. Liver Int. 2024;44(8):2054-2062. Chang MH et al. Gastroenterology. 2016;151(3):472-480.e1.

Taiwan CDC. Infant HBV guidance, HBIG update Jul 2019. WHO. Chronic HBV guidelines. 2024.

Antiviral treatment reduces future HCC risk

HBV

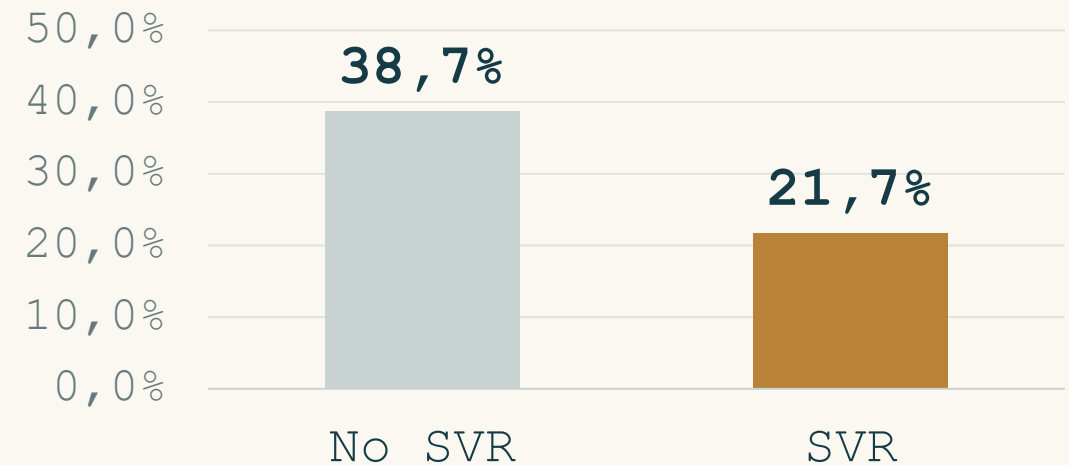
Taiwan nationwide matched cohort



7-year HCC incidence

HCV

Taiwan nationwide cohort,
cirrhosis



10-year HCC incidence

Risk remains after viral suppression or cure

Wu CY et al. Gastroenterology. 2014;147(1):143-151.e5.

Chang CW et al. Dig Dis Sci. 2024;69(9):3501-3512.

Taiwan widened access to antiviral treatment for HBV

Fibrosis threshold

F3 → **F2**

2021

2023

Other ALT and HBV DNA
criteria still apply

- **2003**
Public funding begins
- **July 2010**
Compensated cirrhosis
HBV DNA $\geq 2,000$ IU/mL
- **2021**
F3 eligibility pathway
- **2023**
F2 and simpler
HBeAg-negative eligibility

Gaps remain in HBV care for HCC prevention

34,550 people who developed HBV-related HCC

No recorded antiviral treatment

Treated



33.0%

No entry into
liver care

7,847 / 23,751 untreated

83.8%

No HBV DNA
test in care

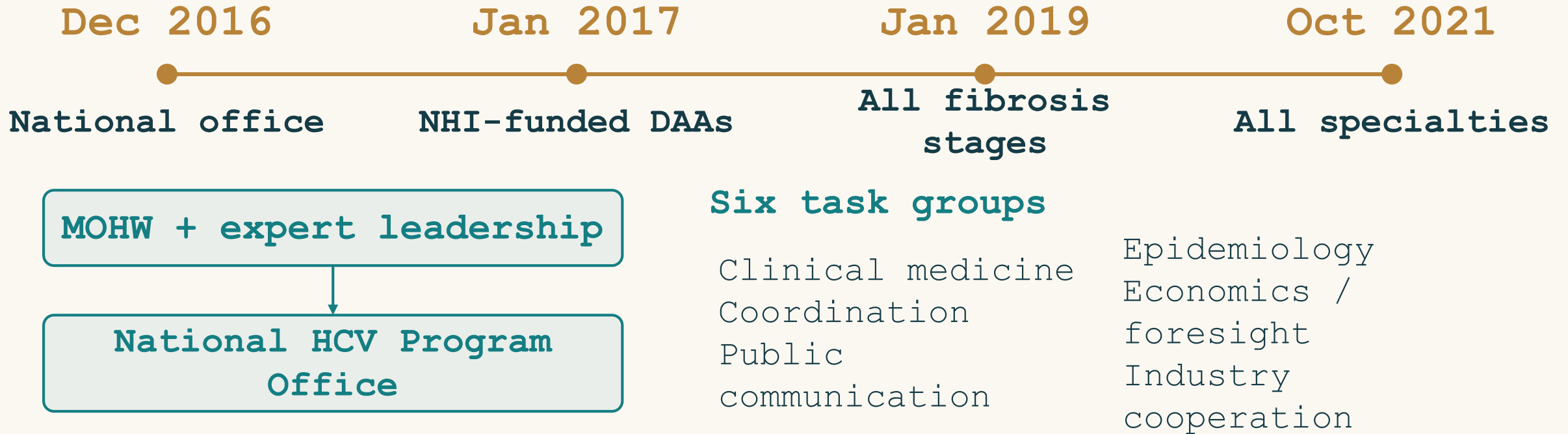
12,402 / 14,801 untreated
in care for ≥ 1 year

Active linkage to care

Protocol-based assessment

Different denominators. No prescription does not establish treatment eligibility.

DAA treatment became accessible in the community



Policy, risk mapping and linked data to monitor care gaps

2023: functions integrated into HPA's B/C hepatitis prevention office

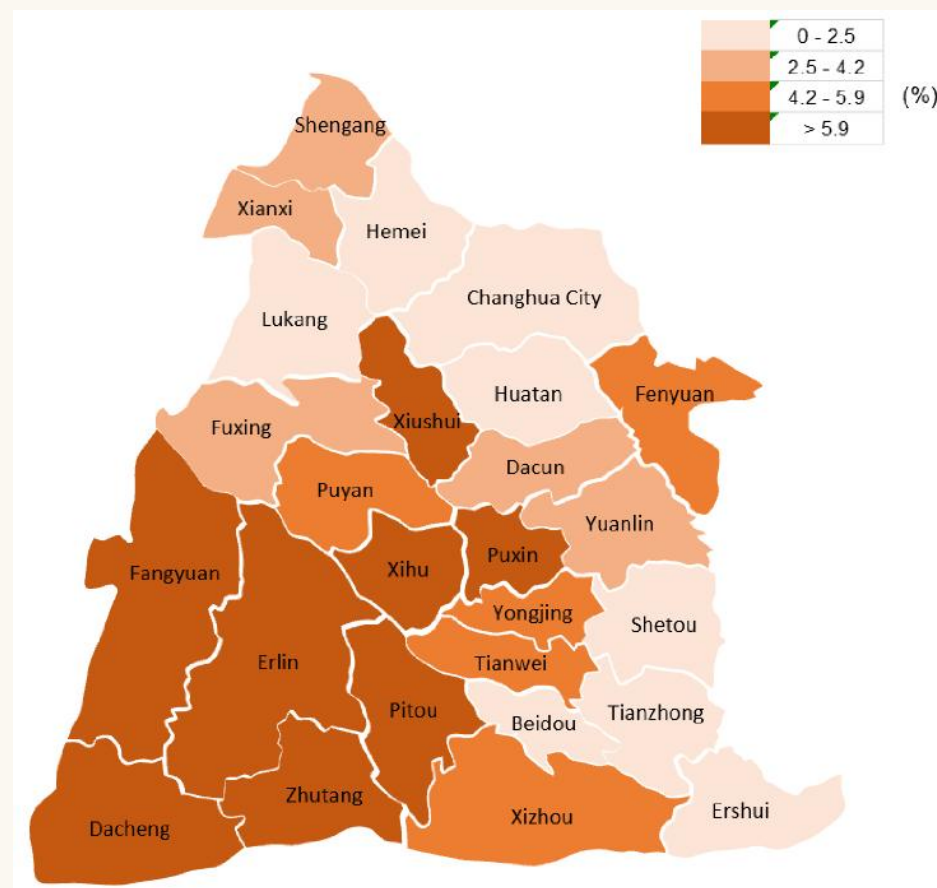
Chien RN et al. Glob Health Med. 2021;3(5):293-300. Chien RN et al. J Infect Dis.

2023;228(Suppl 3):S180-S188.

Taiwan MOHW. National hepatitis office reorganisation. 24 Mar 2023.

Changhua targets HCV hotspots through existing care

Anti-HCV prevalence, 2005–2018



Anti-HCV positivity before CHIPS-C

26 townships, 1.28 million residents

Existing entry points

Community screening
Diabetes, CKD and dialysis care
PWID, HIV care and prisons

Reflex RNA
testing

Local DAA
treatment

Nurse-led linkage and mobile care

Shared data and monthly review

Feedback to each site and expert review
Diabetes network: 27 clinics, 10,848 patients

93.4% screening coverage

CHIPS-C improved the HCV care cascade

Program results, 2019–2022

273,562

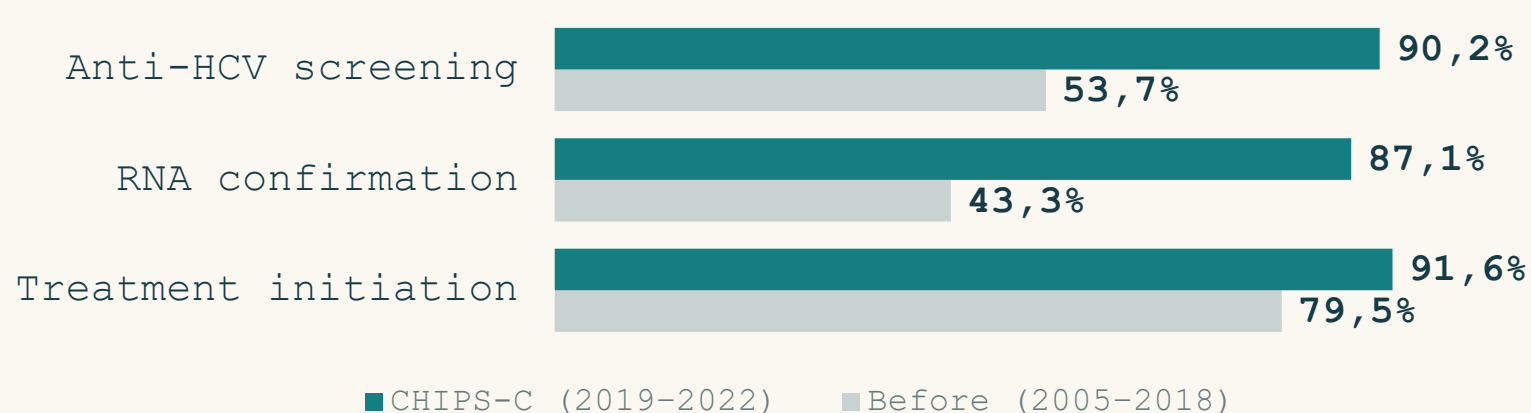
people screened for anti-HCV

7,925

people with confirmed viremia

7,261

people who started DAA therapy



Adjusted overall treatment completion*

83.9%

38.7% before CHIPS-C

Coverage denominators differ by stage and program period. Before-after comparison.

*Model-adjusted completion across the care cascade, distinct from treatment initiation.

Taiwan reports meeting WHO PTE gold-tier benchmarks



Geneva HCV elimination forum, May 2026

2025

PTE GOLD

Diagnosis &
treatment >90%

02

Surveillance to catch cancer early

Liver cancer is
curable with
timely treatment



HCC surveillance: shared indications and Taiwan's P4P

Risk / approach	Taiwan	EASL	AASLD
Cirrhosis, any etiology ¹	Yes	Yes	Yes
HBV, no cirrhosis	Yes, risk-based	Selected risk	Selected risk
HCV cure + cirrhosis	Continue	Continue	Continue
Usual test / Interval	US + AFP / PIVKA-II 6 months ²	US every 6 months AFP reasonable	US + AFP every 6 months

Taiwan P4P 2026: metabolic or alcohol-related hepatitis with F3+ is eligible

¹ Includes alcohol and MASLD cirrhosis when HCC treatment can benefit the patient-tailored in Taiwan. P4P eligibility is distinct from guideline recommendations.

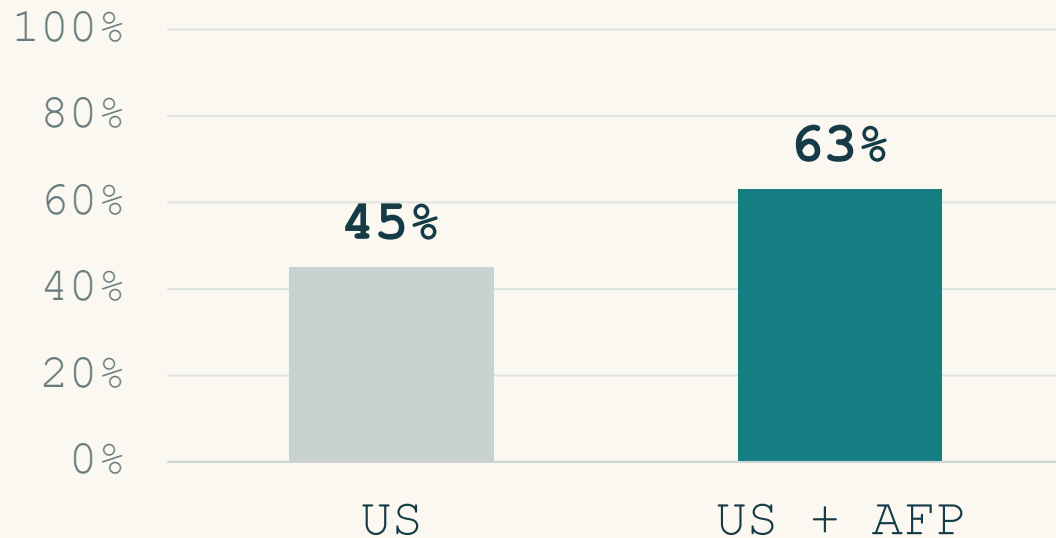
Teng W et al. Liver Cancer. 2024;13(5):468-486. Sangro B et al. J Hepatol. 2025;82(2):315-374. (EASL)

Singal AG et al. Hepatology. 2023;78(6):1922-1965. (AASLD)

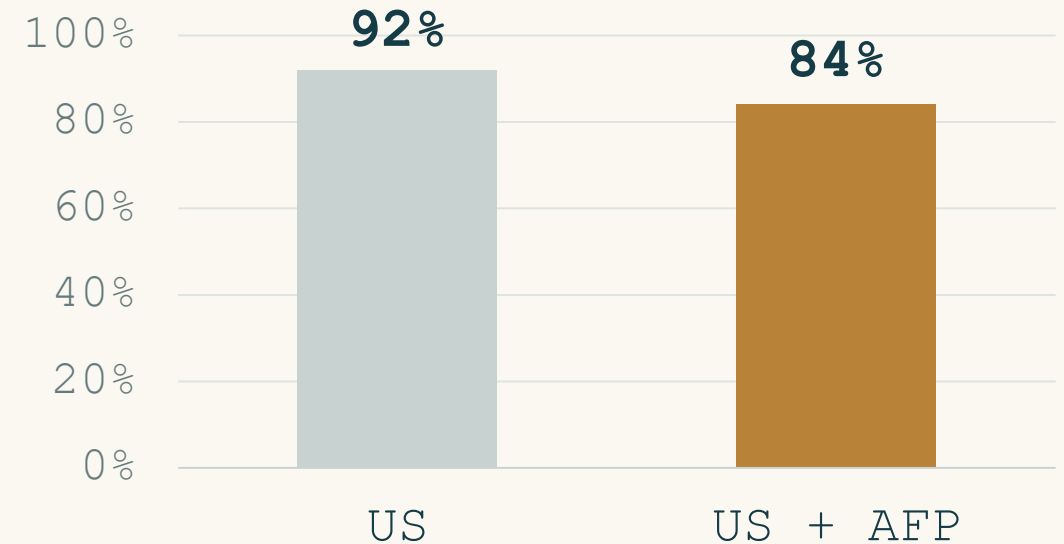
Taiwan NHIA. Hepatitis P4P programme. 19 Aug 2026, p. 2.

AFP adds sensitivity, at the cost of more false positives

Early-stage sensitivity



Specificity



18 percentage points gained

8 percentage points lost

Paired comparative studies in patients with cirrhosis

Evidence for liver cancer surveillance in at-risk patients

Changhua community study

Risk-guided invitation + local US

0.69

Adjusted HCC mortality ratio

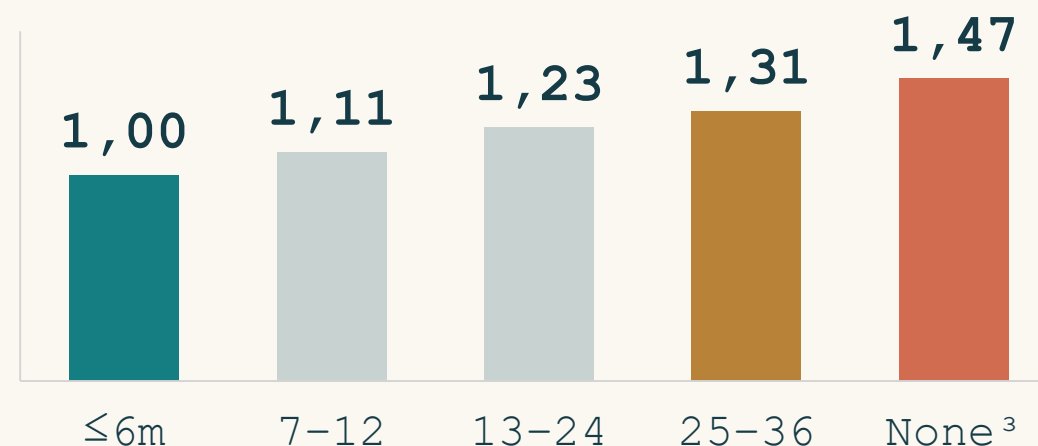
95% CI 0.56–0.84

Invited vs uninvited residents

Observational comparisons

Taiwan nationwide HCC cohort

52,823 HCC cases, 2002–2007



Post-HCC mortality (adjusted HR)

Prior US interval (months); ³ none within 3 years

Yeh YP et al. Hepatology. 2014;59(5):1840–1849.

Wu CY et al. Gut. 2016;65(4):693–701.

Singal AG et al. J Hepatol. 2022;77(1):128–139.

Taiwan's P4P programme for liver cancer surveillance

Enrol eligible patients

HBV / HCV
Metabolic or alcohol-related hepatitis, F3+
≥2 visits in 6 months
Consent + baseline viral / fibrosis status

→ Recall and assess →

About every 6 months
AST / ALT + AFP
US or CT / MRI results

150 points per visit
≥23 weeks between follow-up claims¹

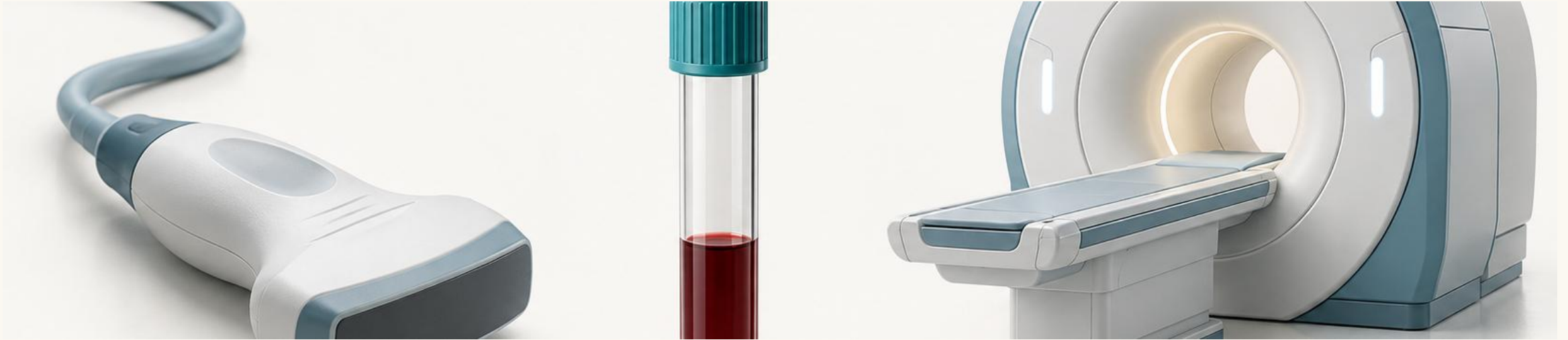
Complete diagnosis

Abnormal result
Referral + confirmation
Stage I / II HCC

Incentive
500 + 500 points
1,000 if same institution

¹ First follow-up ≥10 weeks after enrolment; management payments ≤3 per year.

Emerging surveillance tools need more evidence



Ultrasound quality

Document visualization
AI assistance in
development

Blood biomarkers

GALAD / protein panels
cfDNA / ctDNA
Methylation /
fragmentomics

Abbreviated MRI

Helps when US is
limited
Shorter than full MRI
Mortality benefit
unproven

Singal AG et al. Hepatology. 2023;78(6):1922-1965. (AASLD) Wang JH et al. Kaohsiung J Med Sci. 2026;42(2):e70104.
Foda ZH et al. Cancer Discov. 2023;13(3):616-631. TRACER: NCT06084234 (randomised trial).

The patient needs uninterrupted care at every step



Screen

Confirm &
assess

Prevent

Retain in
care

Surveil &
resolve

Yeh YP et al. Nat Commun. 2026;17(1):6478. Sangro B et al. J Hepatol. 2025;82(2):315–374. (EASL)

WHO. Chronic HBV guidelines. 2024. Taiwan NHIA. Hepatitis P4P programme. 19 Aug 2026.

Prevention works when people complete the care pathway



Vaccinate and treat

Fewer cancers from viral hepatitis



Audit the care cascade

Find gaps in access and assessment



Organise surveillance

Earlier HCC detection with reliable follow-up



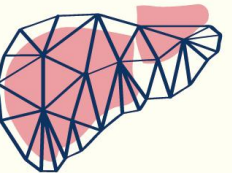
Taiwan's experience, adapted for Europe or other corners of the world

Thank you



APASL STC 2027

*Overcome viral, steatotic hepatitis and
liver cancer simultaneously*

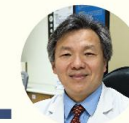


2027
June 25
Fri
|
June 27
Sun



Welcome to Kaohsiung!

 **KAOHSIUNG, TAIWAN**
Kaohsiung Exhibition Center (June 25-27)



Chia-Yen Dai
Chia-Yen Dai President,
2027 APASL STC Kaohsiung