

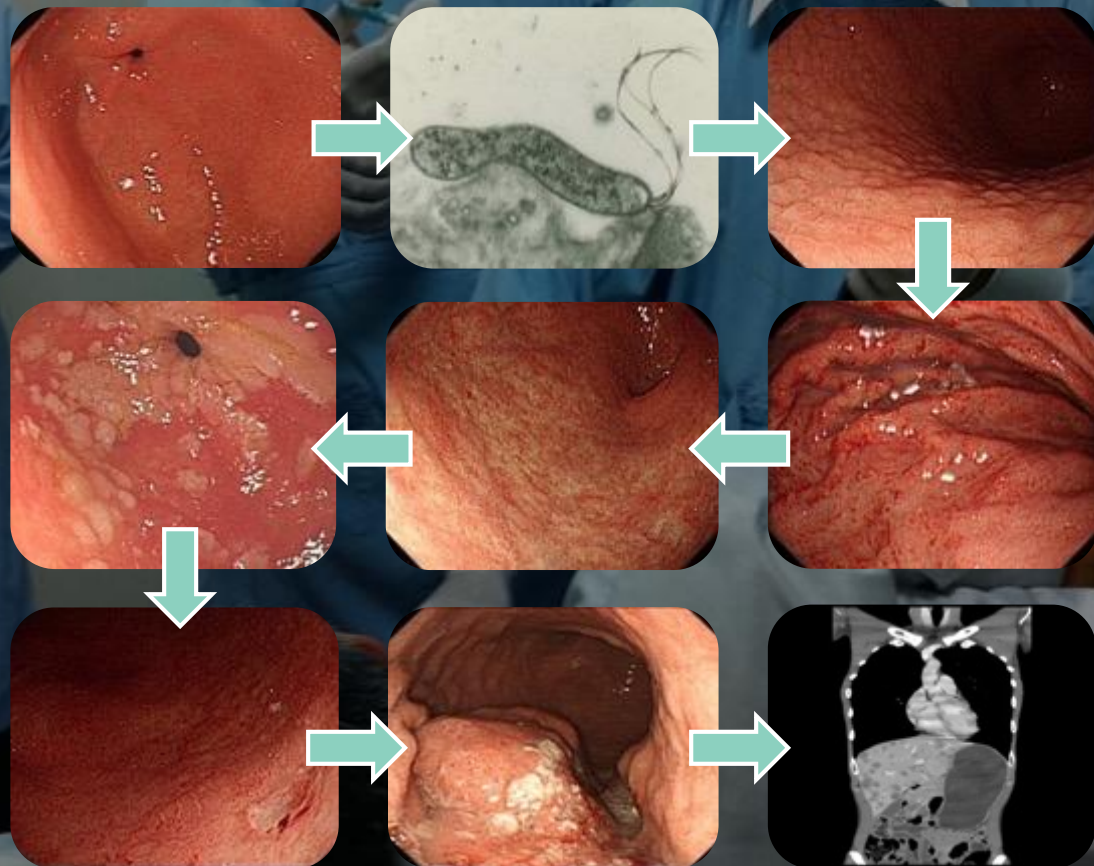
SCREENING AND PREVENTION OF GASTRIC CANCER: FUTURE STRATEGIES FOR THE EUROPEAN UNIT FROM TAIWAN' S EXPERIENCE

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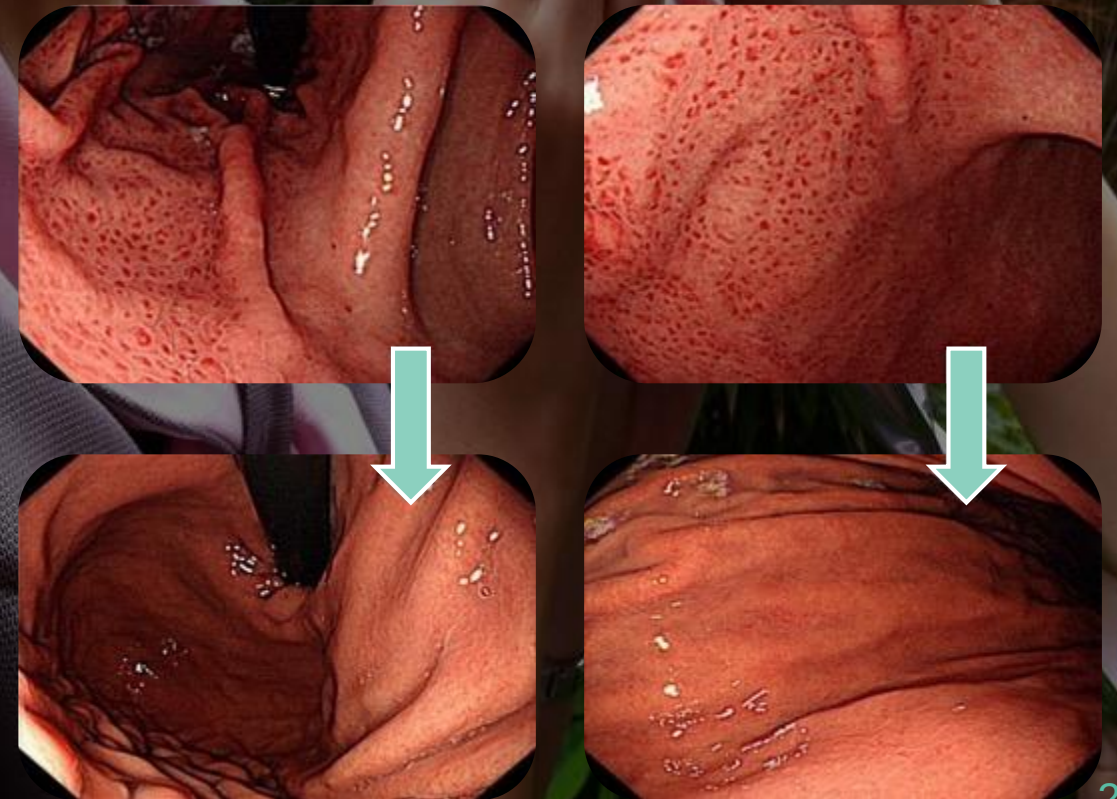
Traditional

Early detection of cancer



Preventive

Prevention of cancer



Progress of gastric cancer prevention in Taiwan

2004 N=13,582
Matsu Islands

≥ 30 of age
8 rounds of screening
Reducing GC incidence and mortality

2018 N=610,000
Indigenous communities

20-60 of age, extend to 20-74
Family outreach in 55 townships
Reducing HP prevalence rate

2026 FIT=1,300,000 per year
SAT=780,000 this year
Healthcare policy

A service screening
45-74 eligible for FIT
screening after 2 year
pilot for co-testing

2014 N=1,300,000
HPSA on FIT screening

50-69 of age
A pragmatic RCT following 2 year pilot
To develop the health care policy for the
intermediate risk population

2024 N=23,000,000
NHI coverage

≥ 18 of age
HP diagnosed by non-invasive
or invasive tests

Gastric cancer prevention started from a high risk community in Matsu Islands (2004)

- Immigrants from Changle, Lienchiang, and Mawei Counties in Fujian Province
- Gastric cancer incidence has been high
- Geographic location and limited healthcare facilities (one-hour flight or 8-hour ship)

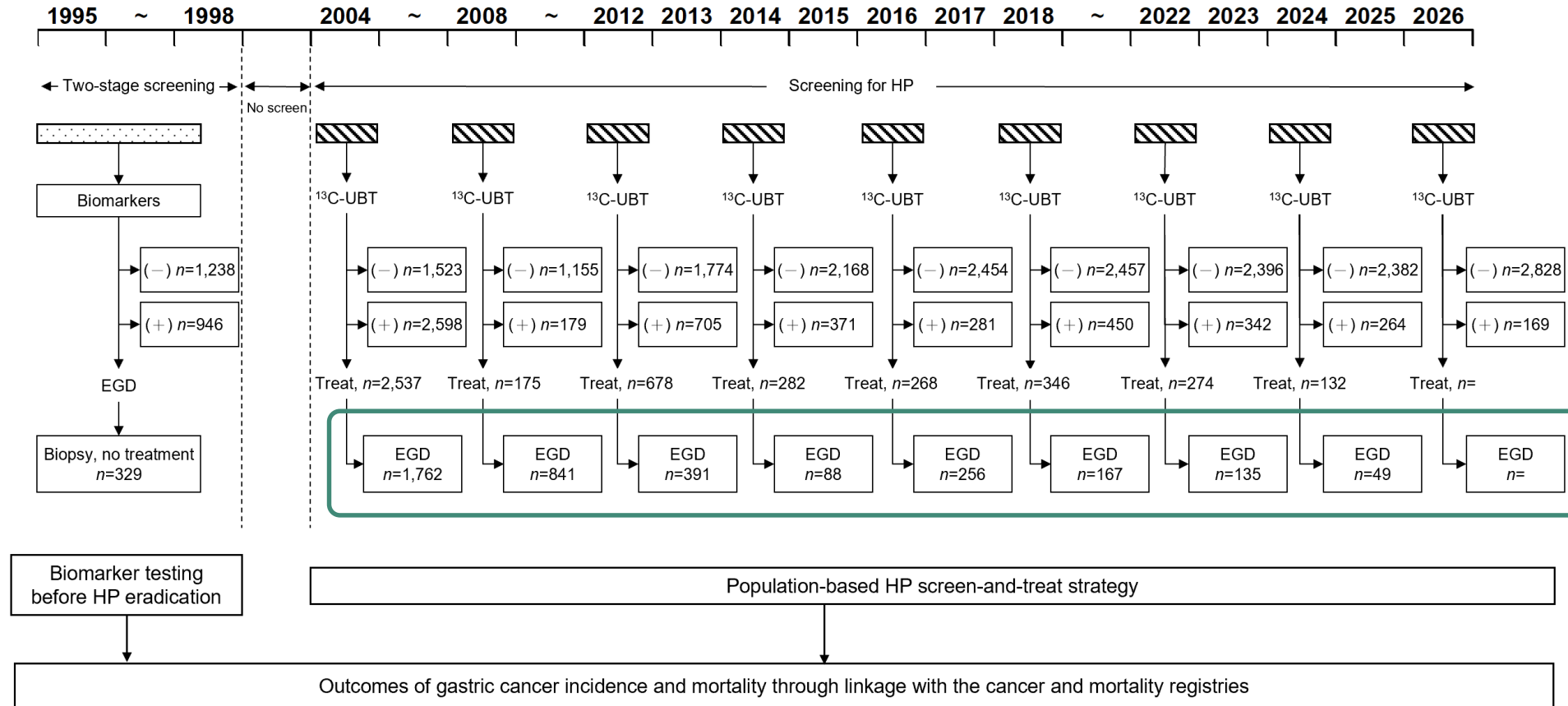




Urea breath test was used for the high accuracy and stability

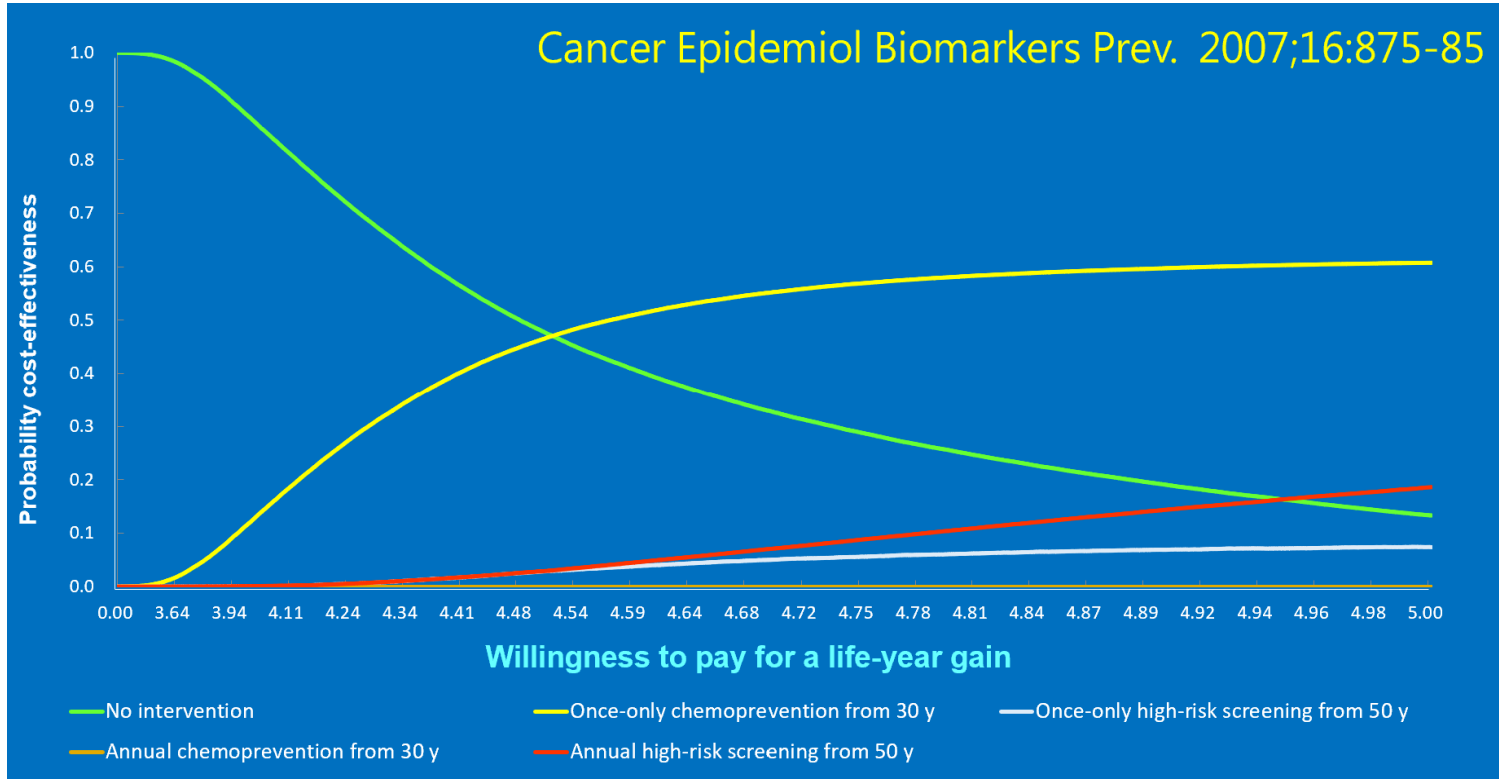


Timeline of Matsu gastric cancer prevention program



- 1995 to 1999: a biomarker endoscopic screening program.
- 2004: mass screening and eradication of *HP*.
- Outcomes were confirmed by cancer and death registries.
- Substantial reduction of endoscopy needs

Estimating the long-term cost-effectiveness



- Based on the natural course model and the initial data, the long-term cost-effectiveness were simulated.
- Results supported that the screening for *HP* was more cost-effective than the biomarker-endoscopic screening approach.

Cancer Epidemiol Biomarkers Prev. 2007;16:875-85.

Population screening and treatment of *H. pylori* infection to prevent gastric cancer in Matsu Islands

Intermediate- and long-term outcomes

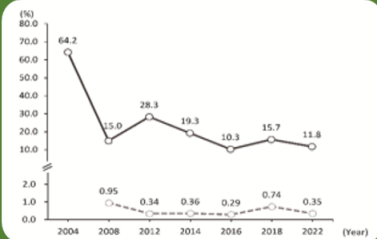


HP prevalence

Before screening in 2004
prevalence 64%

Prevalence reduced to
10%

Peptic ulcer reduced by
67% in 2012

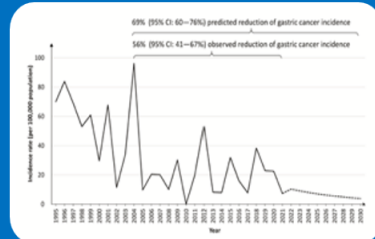


GC incidence

5-fold higher than
Taiwan before 2004

Incidence reduced by
56% in 2021

Expected incidence reduced
by **70%** in 2030

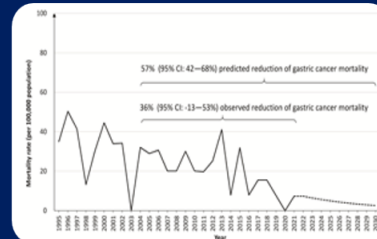


GC mortality

Mortality reduced by
36% in 2021

No GC death in 2021

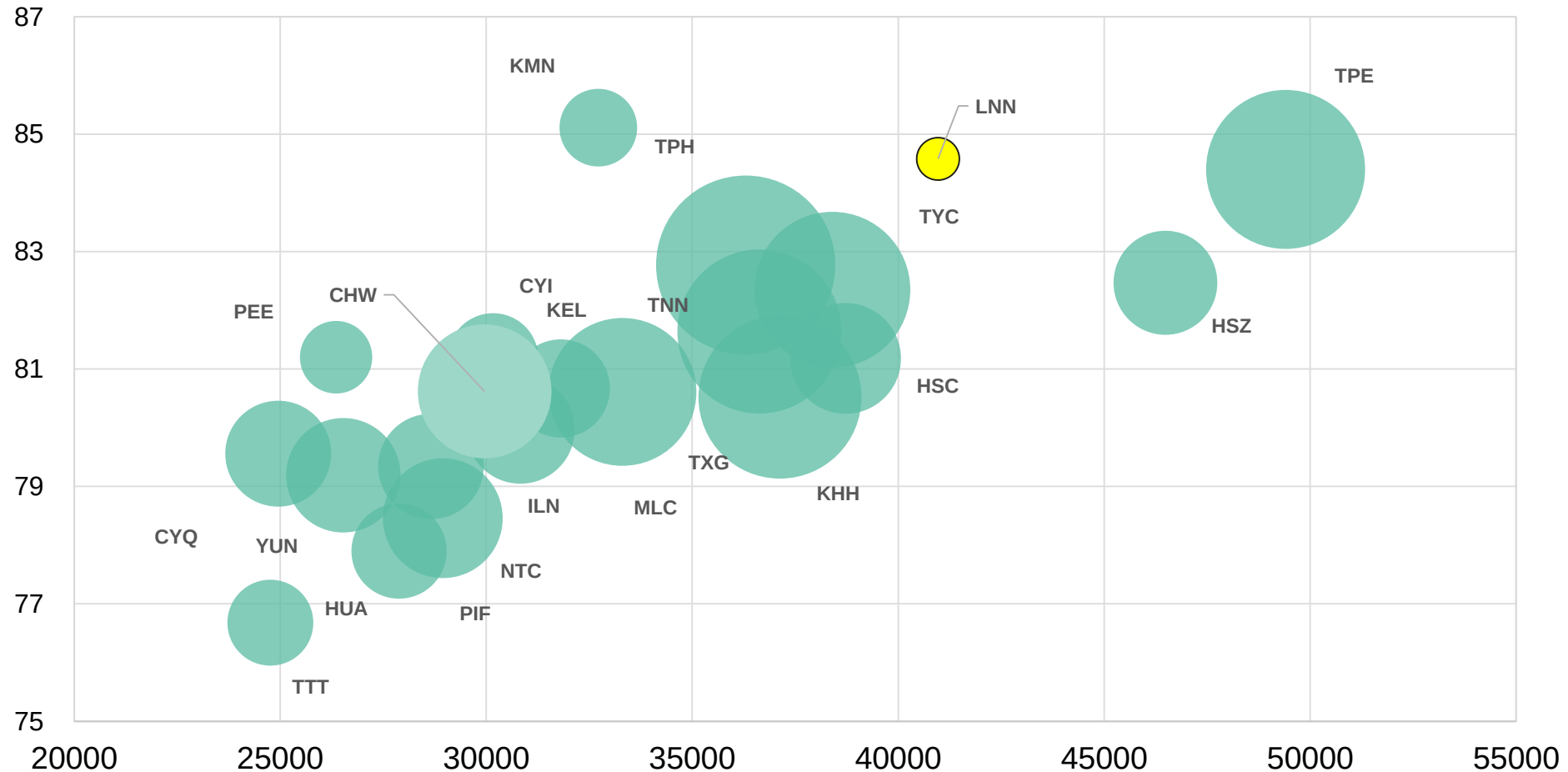
Expected mortality reduced
by **57%** in 2030



- The prevalence reduced from **64%** to around **5%**.
- The peptic ulcer declined significantly and it became very rare.
- In 2021, there was **56%** reduction of gastric cancer incidence and **70%** reduction was expected in 2030.
- In 2021, the mortality was declined by **36%**. There was no gastric cancer death in 2021. The reduction was expected to reach **57%** in 2030.

Extended from Gut. 2021;70:243-50

Life expectancy in Taiwan according to the average incomes (2022)

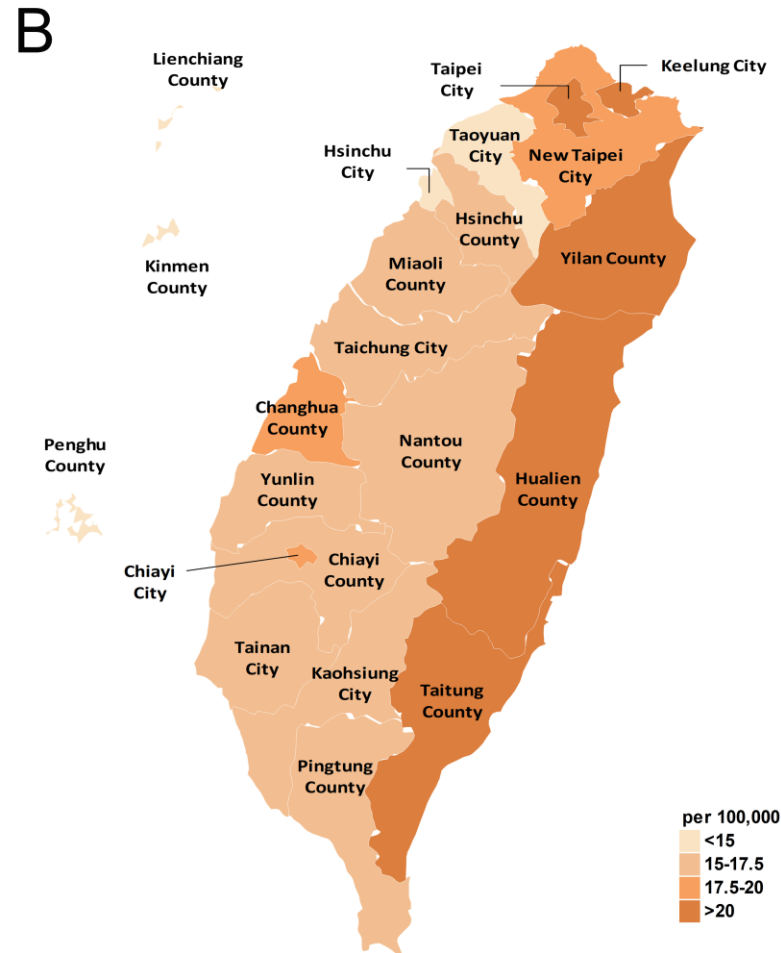


Extension of strategy to Taiwan main island

HP prevalence rate (2018-2025)



GC crude rate (2022)



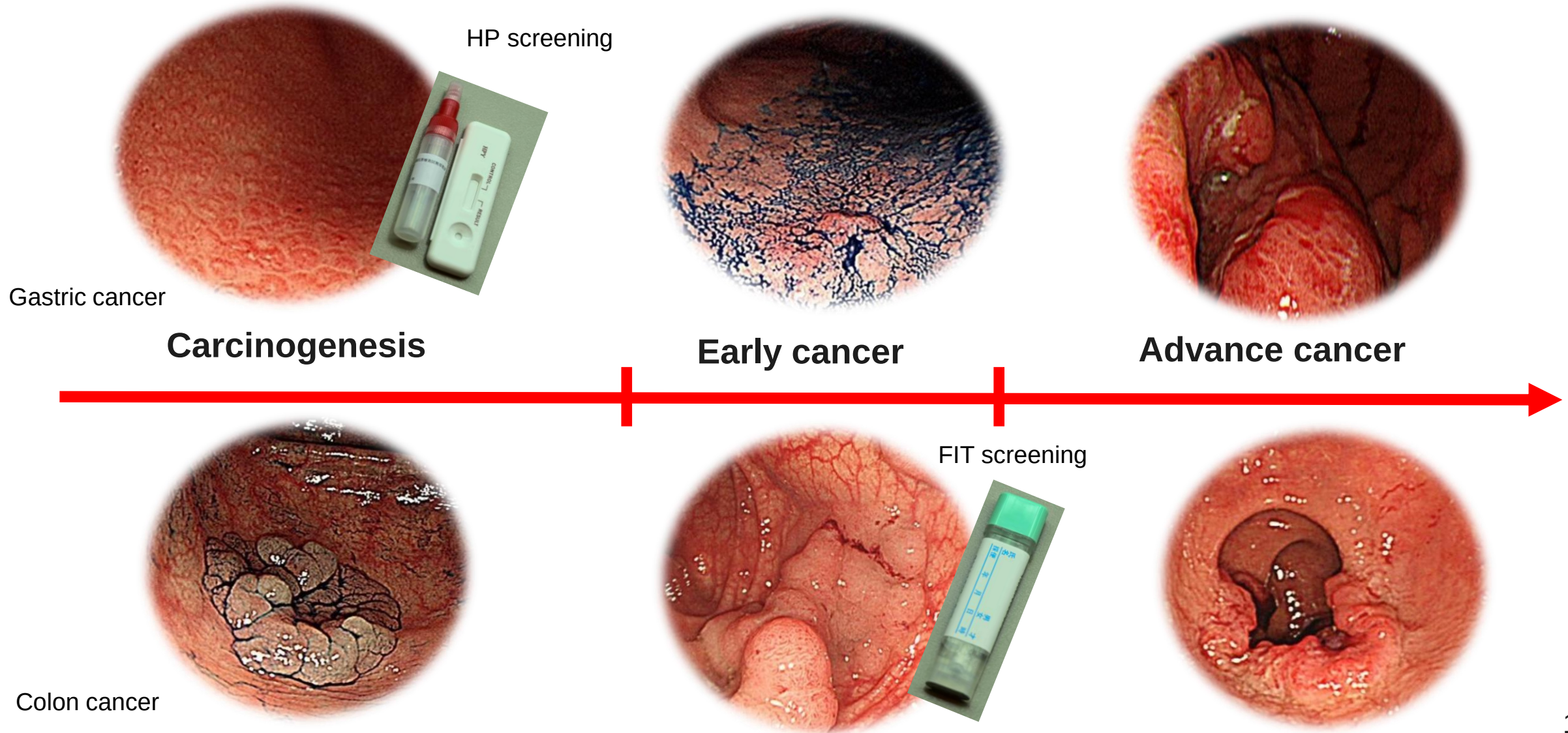
Intermediate-risk areas

- HP is often prevalent in the middle age.

High-risk areas

- HP tends to be prevalent at a younger age.
- Familial transmission and aggregation.

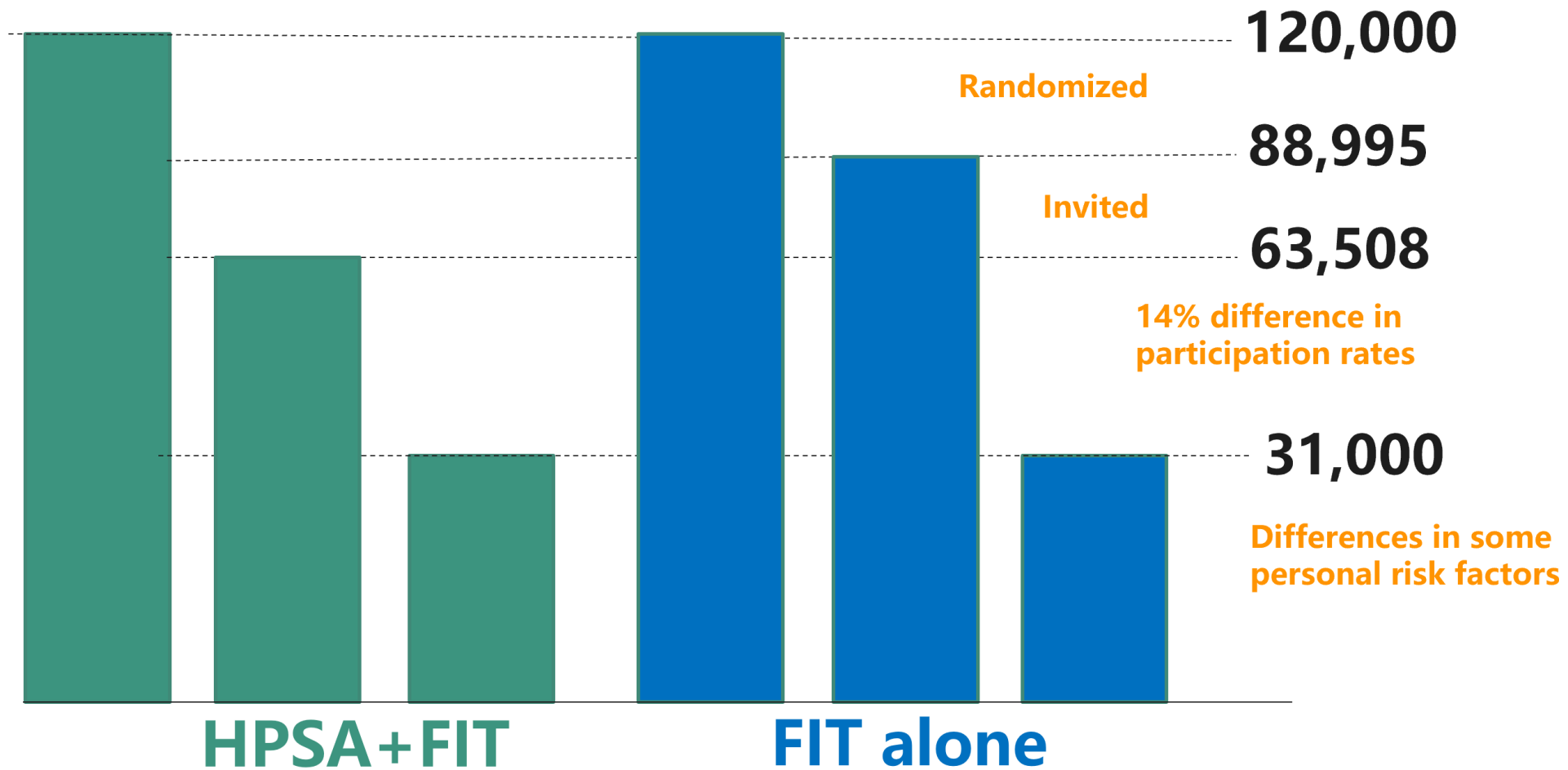
Gastric cancer prevention combined colon cancer screening for general average risk group (2014)



Stool antigen tests were used for the lower cost and existed FIT screening framework (2012)

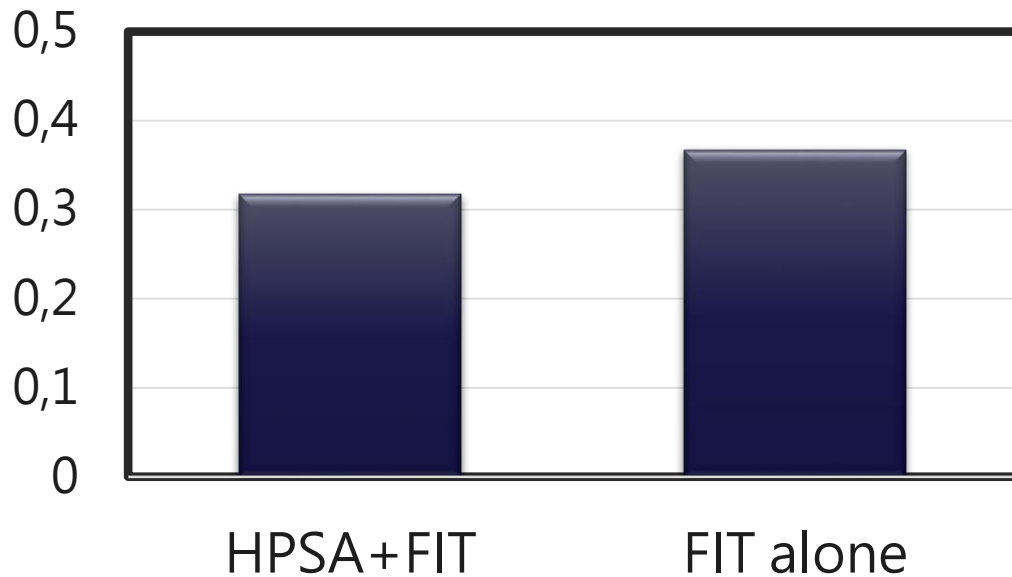


A pragmatic randomized clinical trial compared co-testing with FIT alone (2014)



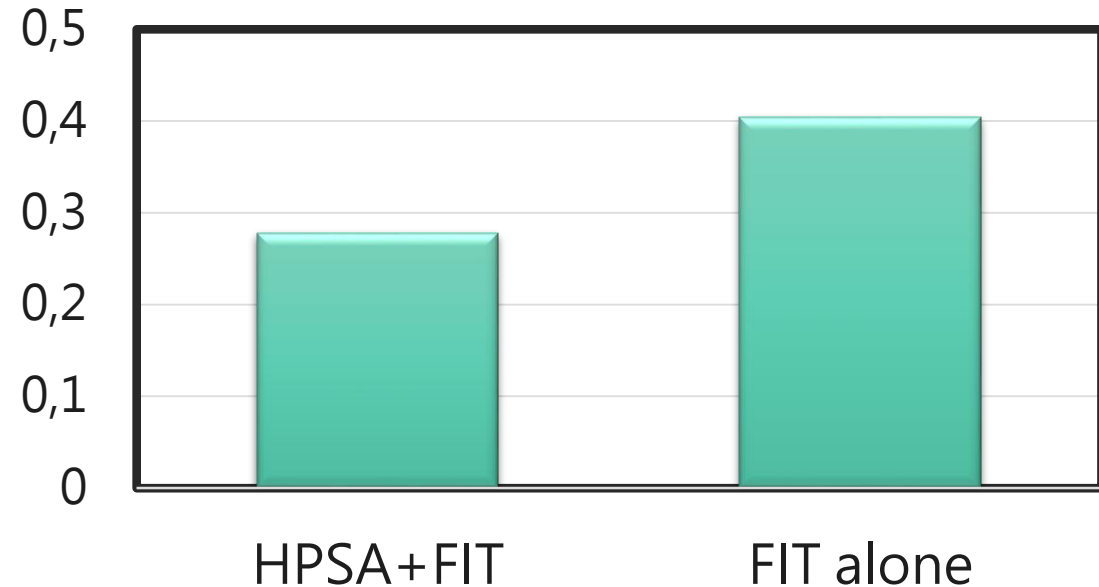
Primary outcome: GC incidence

Invited (per 1000)



Observed: 14%, non-significantly
Adjusted: reduced by 21% assuming the same adherence rate and risk factors, significantly

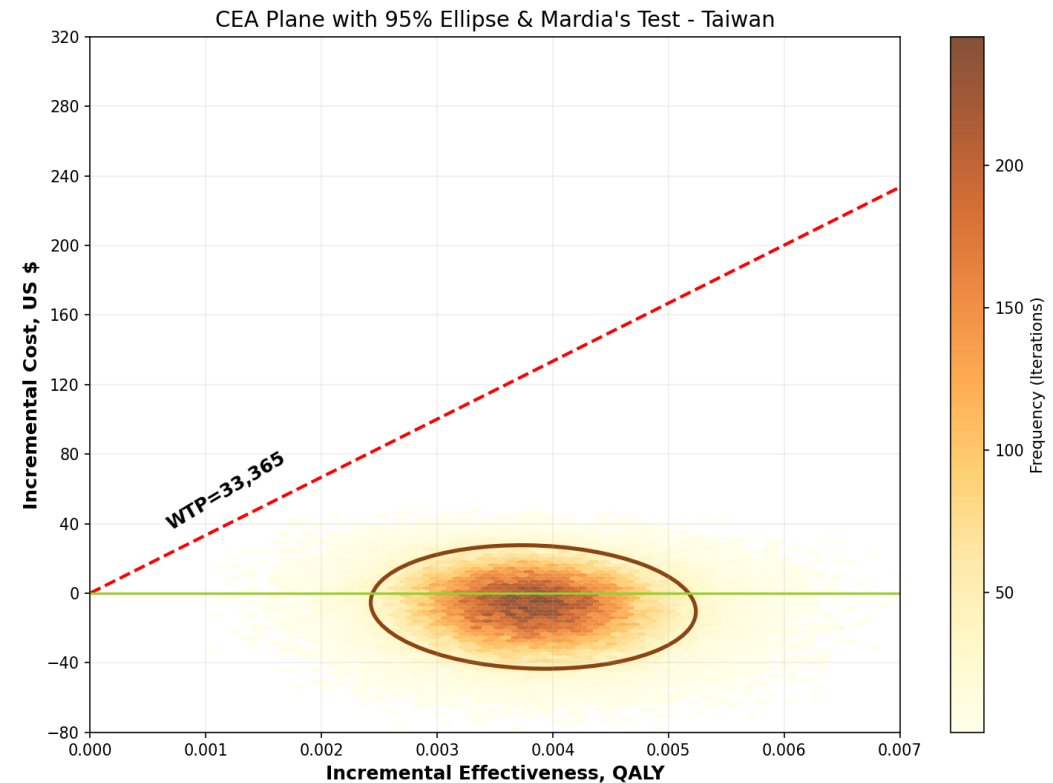
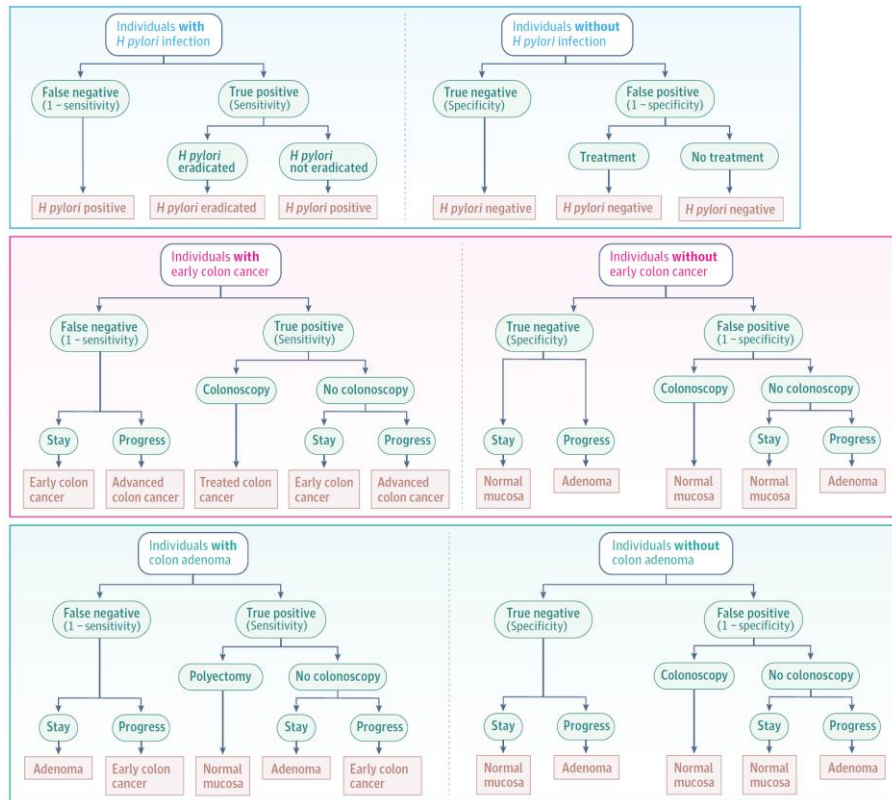
Participant (per 1000)



Observed: reduced by 32%, significantly
Adjusted: reduced by 42%, significantly

Cost-effectiveness of the co-testing approach

Invitation to undergo co-testing was cost-saving in 65.7% of simulations.
The remaining 34.3% was still cost-effective.



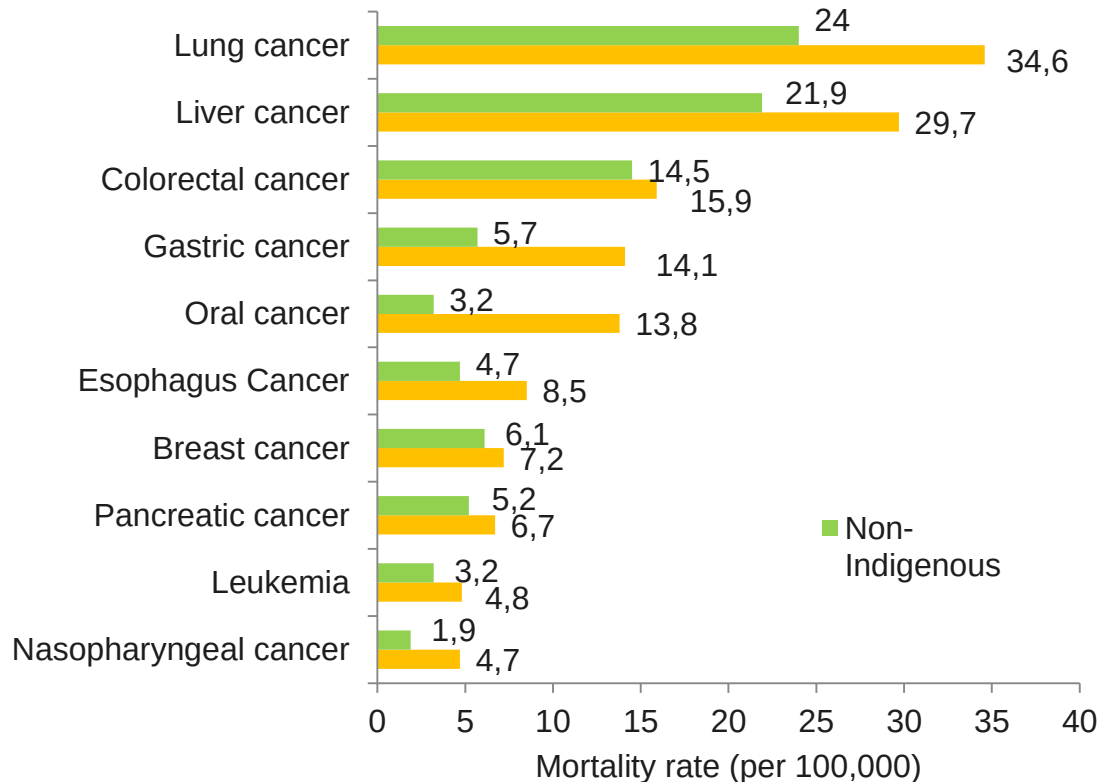
JAMA. 2026 Jul 7;336(1):35-46.

Indigenous communities GC prevention program (2018)

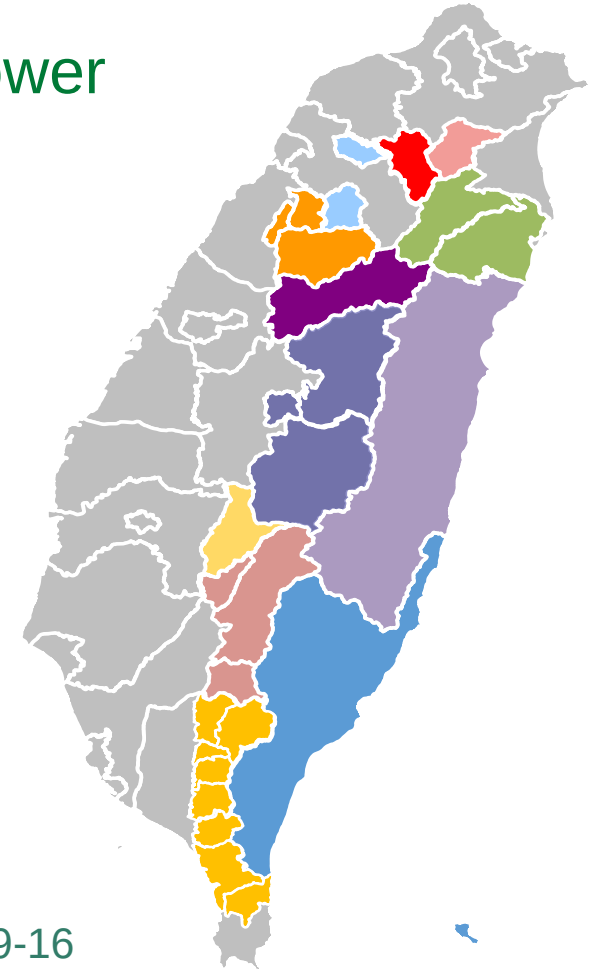
Quality and equity for an organized screening program

Cancer health disparities

Average life expectancy of Indigenous peoples about 8 years lower

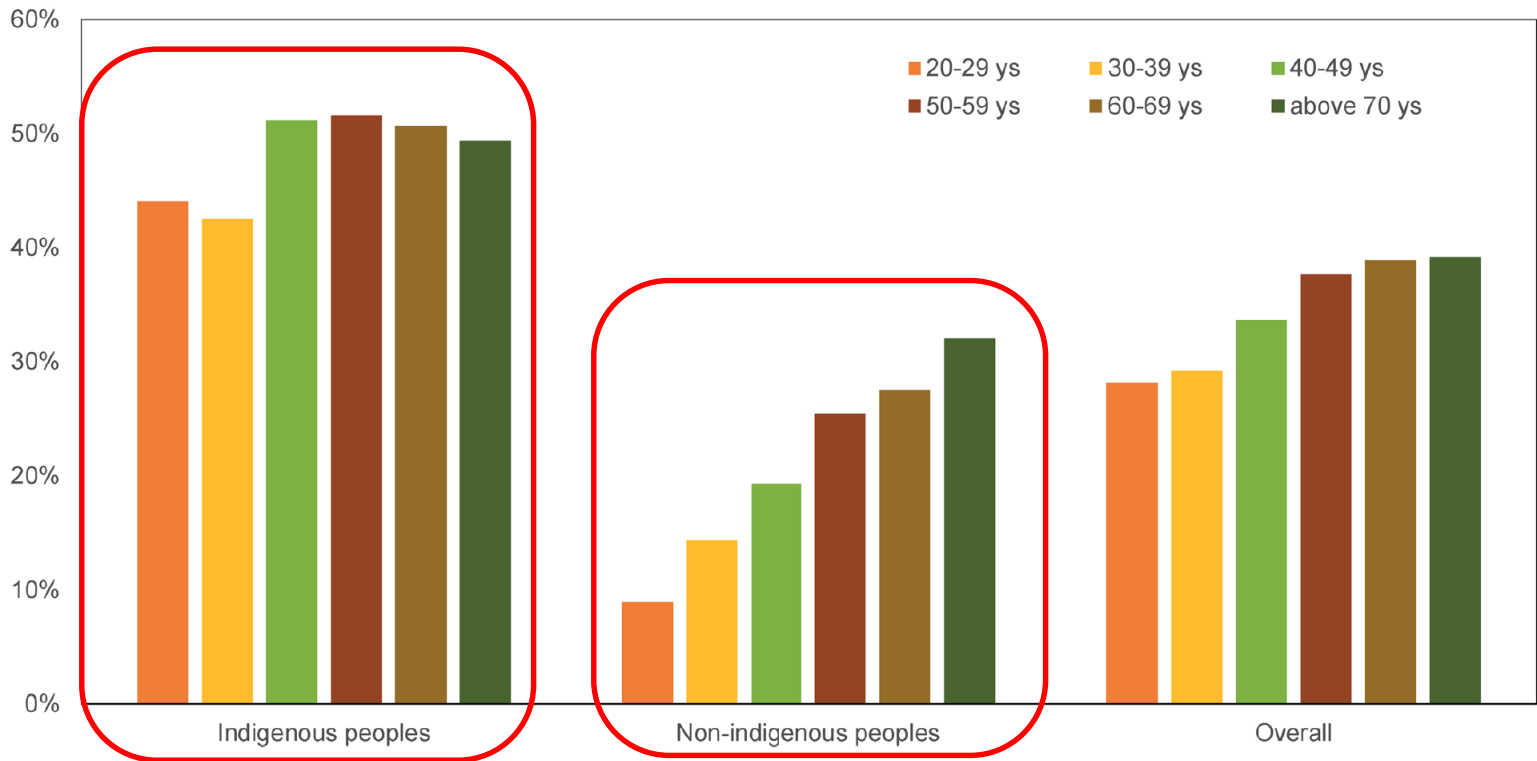


- Gastric cancer are ~3 fold more prevalent for indigenous people.
- A higher prevalence of *HP* (60%), close to the initial rate of Matsu Islands
- Positive index case family outreach for the high intrafamilial transmission.



J Gastroenterol Hepatol. 2020;35:609-16

Gut 2023 Nov 24;72(12):2231-40



Health insurance coverage expansion of HP treatment (2024)



- The traditional insurance coverage limited to patients with endoscopically proven peptic ulcers in 2003.
- Health insurance coverage for the HP treatment expanded to the non-invasive tests in 2024 based on **evidences, cost-effectiveness, affordability, and the improvement of public health**

HP screening as the 6th cancer prevention policy (2026)

TAIPEI 台北 TIMES

Wed, Jan 28, 2026 page1

Free 'H pylori' tests offered to prevent stomach cancer

PROTECTION: Open to people aged 45 to 74, the test could assist in early detection, with a five-year survival rate of more than 75 percent, the HPA said

By Lee I-chia / Staff reporter



TAIWAN · PUBLICLY FUNDED CANCER SCREENING

One new screening for *H. pylori*

H. PYLORI SCREENING

New publicly funded gastric cancer prevention

Tests for *Helicobacter pylori*, a major risk factor for gastric cancer.



WHO

45-74

All adults aged 45-74

One-time lifetime screening

HOW

Stool antigen test. Positive cases are referred for further treatment.

EXISTING FIVE SCREENINGS

Broader eligibility, lower starting ages

Starting ages for several screenings have been lowered so people can be screened earlier.

Colorectal cancer



TARGET POPULATION

Adults 45-74

Previously from age 50

INTERVAL

Every 2 years

Breast cancer



TARGET POPULATION

Women 40-74

Previously 45-69

INTERVAL

Every 2 years

Cervical cancer



TARGET POPULATION

Women 25-29

newly added

INTERVAL

Every 3 years

Oral cancer



TARGET POPULATION

Smokers or betel quid

chewers 30+

Including former users; Indigenous

chewers from 18

INTERVAL

Every 2 years

Lung cancer



TARGET POPULATION

Family history

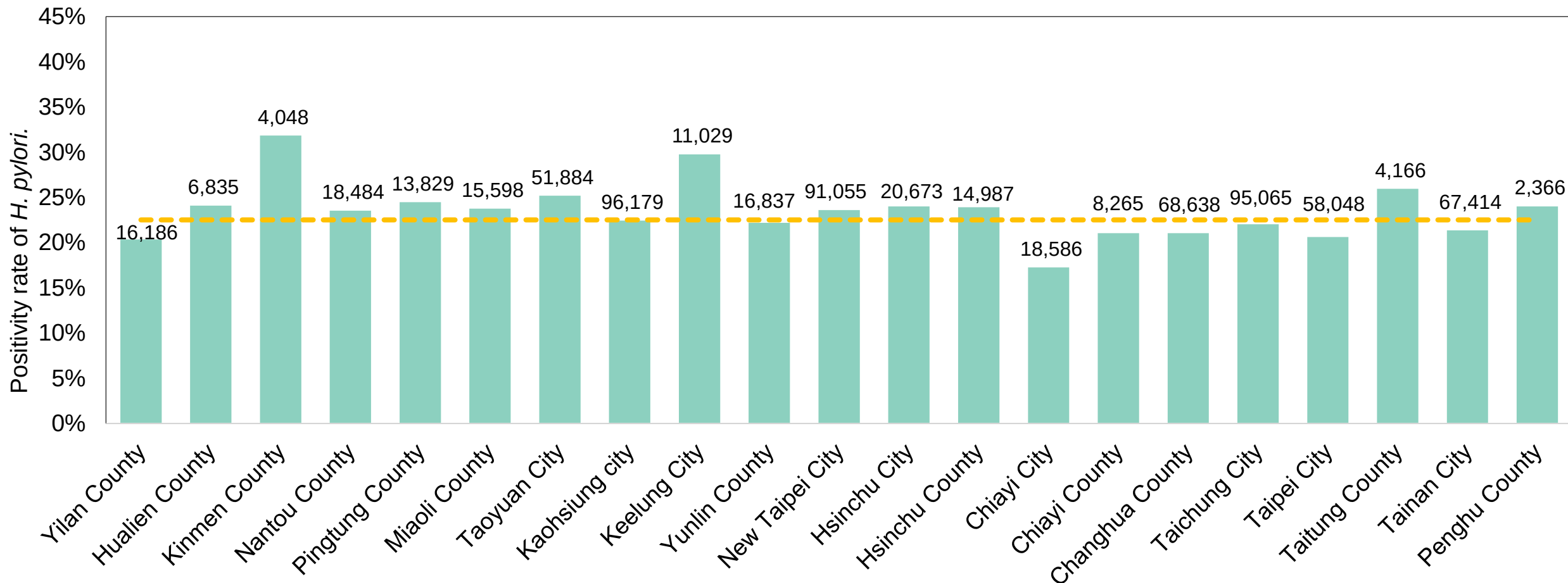
Women from 40, men from 45

INTERVAL

Every 2 years

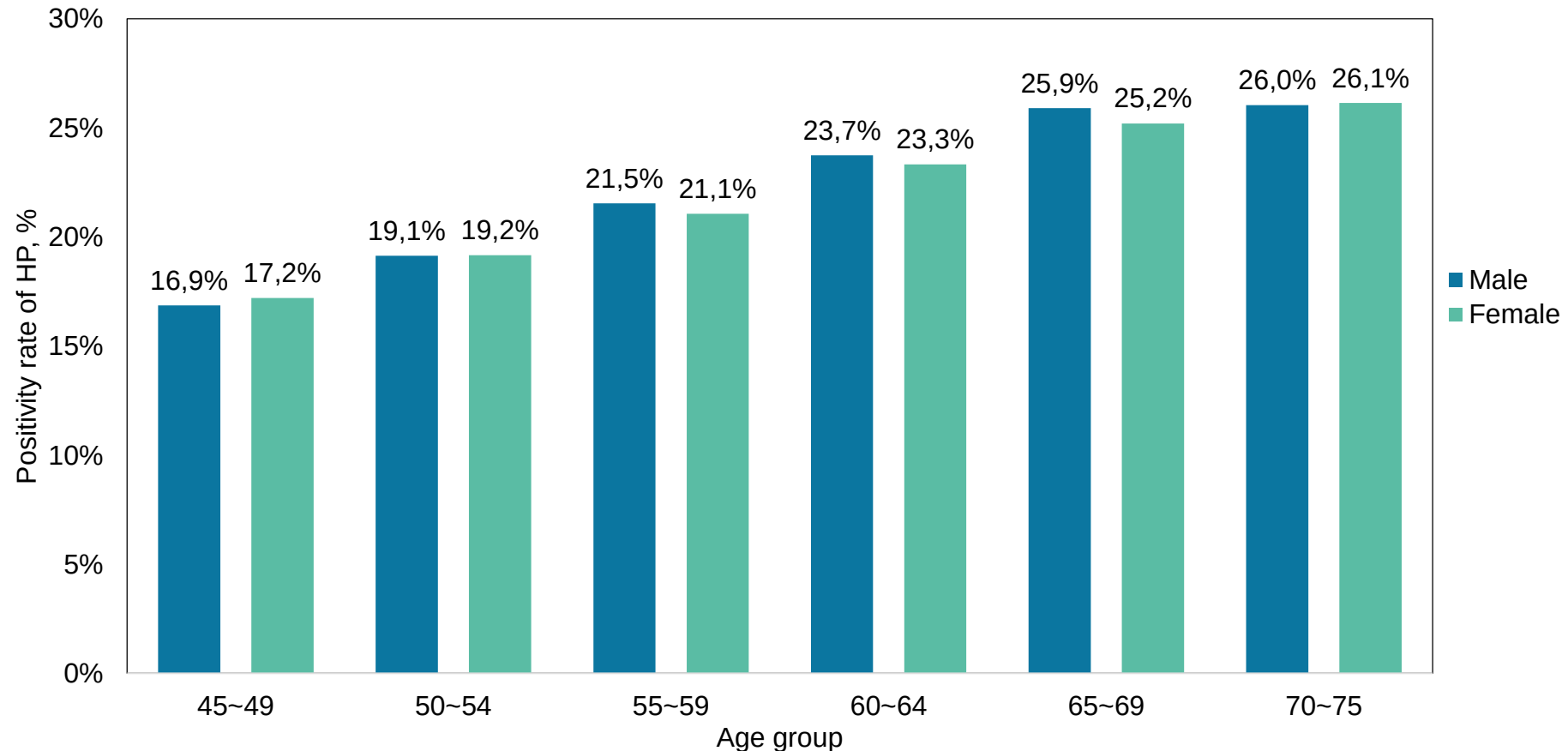
Positivity rate of HP in Taiwan Gastric Cancer Prevention Program (2026)

Up to Sep, about 700,000 underwent screening. The overall positivity rate was 22.5%. Screening volume varied across counties and cities according to population size and local health screening volume.

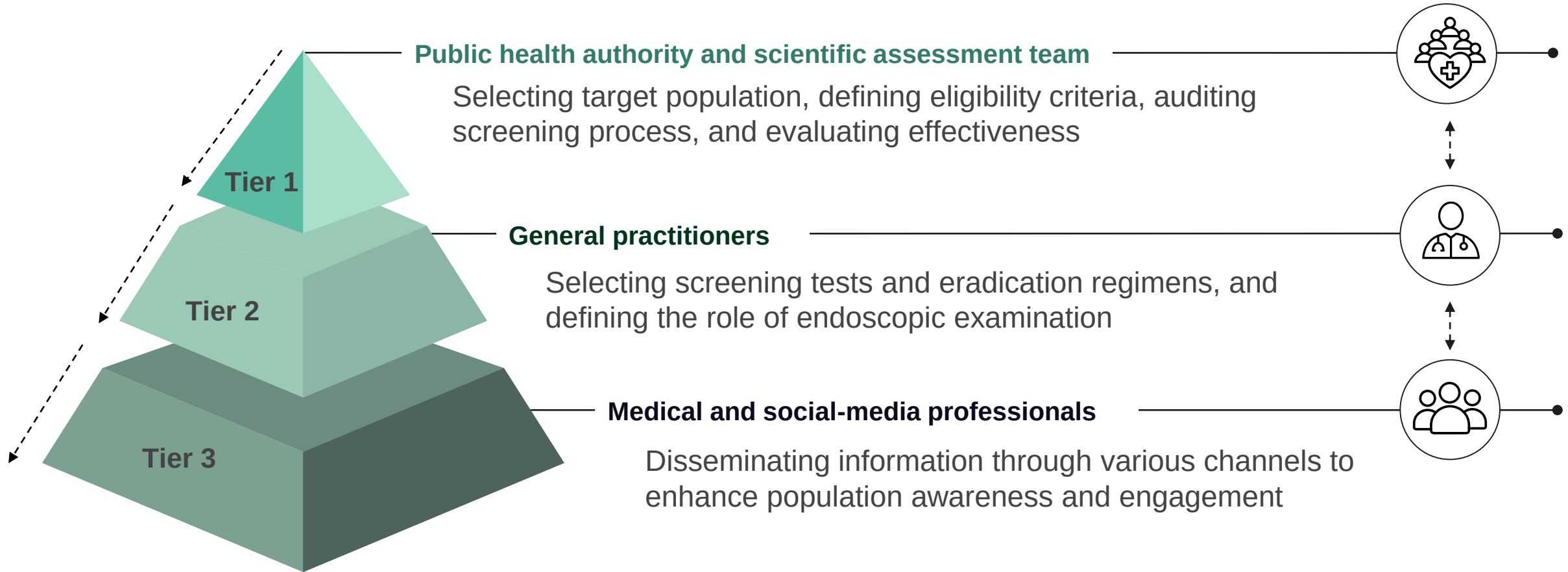


Positivity rate of HP in Taiwan Gastric Cancer Prevention Program by age groups (2026)

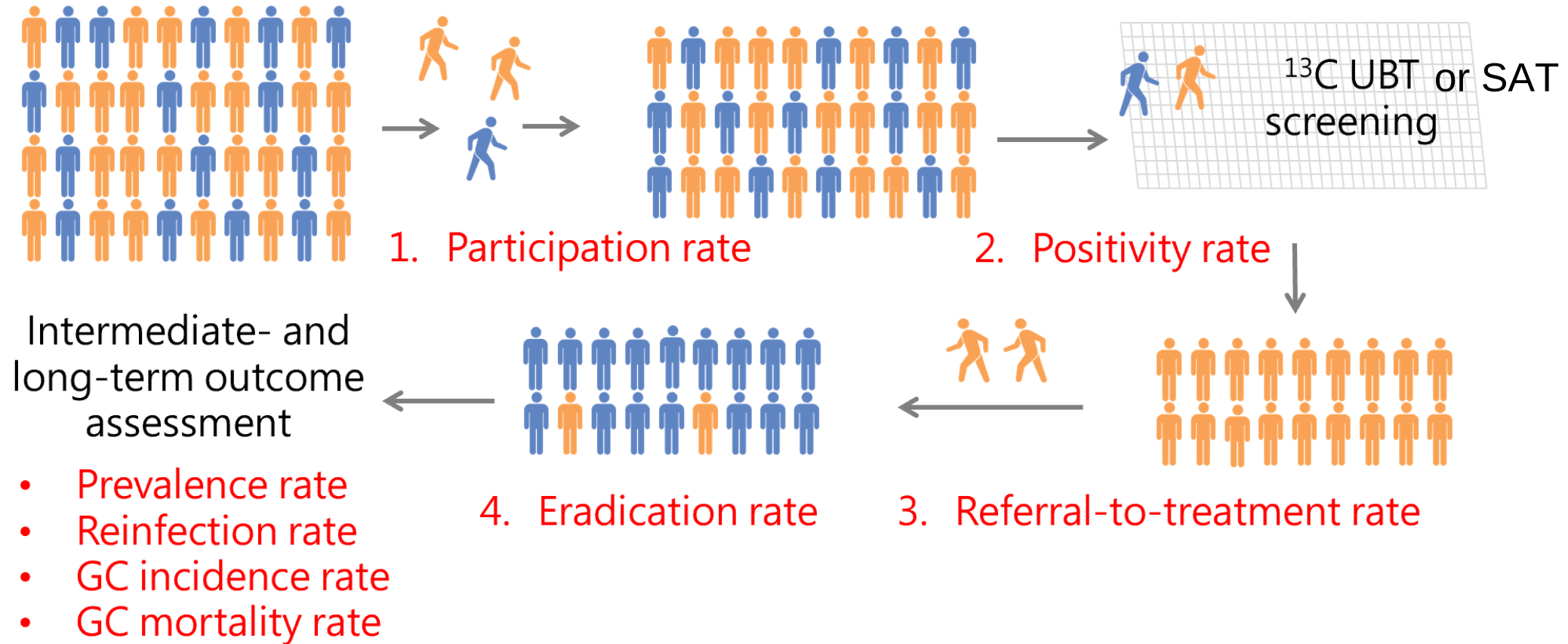
The positivity rate was similar between sexes. The infection rate increased with age.



Summary 1: Taiwan Gastric Cancer Prevention based on the multi-tier framework



Summary 2: Taiwan Gastric Cancer Prevention based on the principle of an organized screening program



Screening programmes: a short guide. Increase effectiveness, maximize benefits and minimize harm
<https://www.who.int/europe/publications/i/item/9789289054782>





Thank you for your attention

