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Needs for achieving global immunity through vaccination



Achieving global immunity against hepatitis A through universal vaccination: a position paper from the European Society of Clinical Microbiology and Infectious Diseases Study Group for Viral Hepatitis

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Position paper

Achieving global immunity against hepatitis A through universal vaccination: a position paper from the European Society of Clinical Microbiology and Infectious Diseases Study Group for Viral Hepatitis

Oana Săndulescu [1, 2, 3, 4, †], Stefania Mantovani [5, †], Anne-Marie Roque-Afonso [6, †], Gülsen Özkaya Sahin [7, 8], Asha K. Rajan [9], Mustafa Altındiş [10], Victor Daniel Miron [2, 11], Sertaç Küçükkaya [12], Mario U. Mondelli [5, 13, *, †], on behalf of ESGVH

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The paradox of progress

Better sanitation

Reduced childhood exposure

Susceptibility shifts

Toward adolescence and adulthood

Adult infection

More often symptomatic and severe

159 million

Infections · 2019 estimate

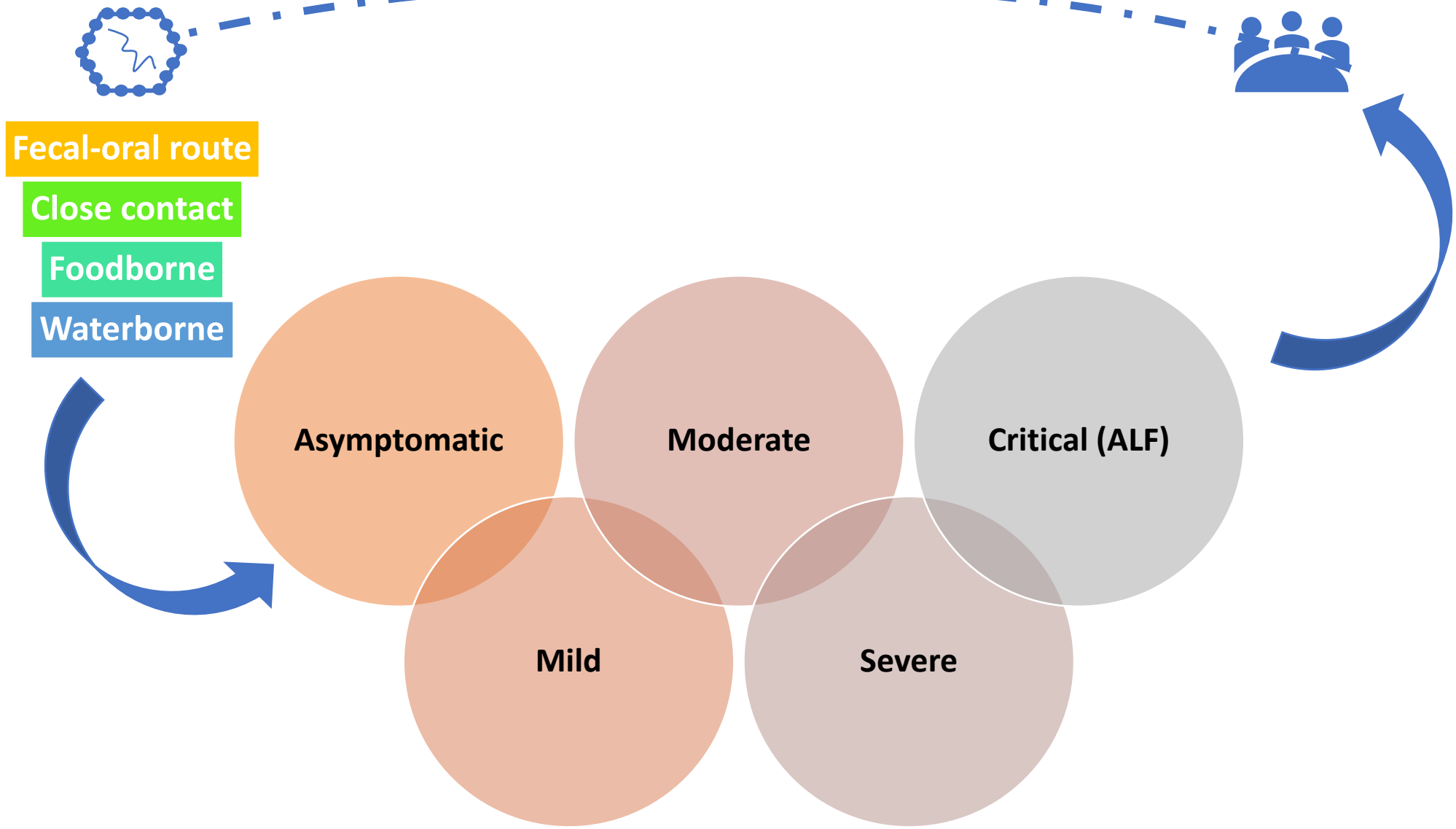
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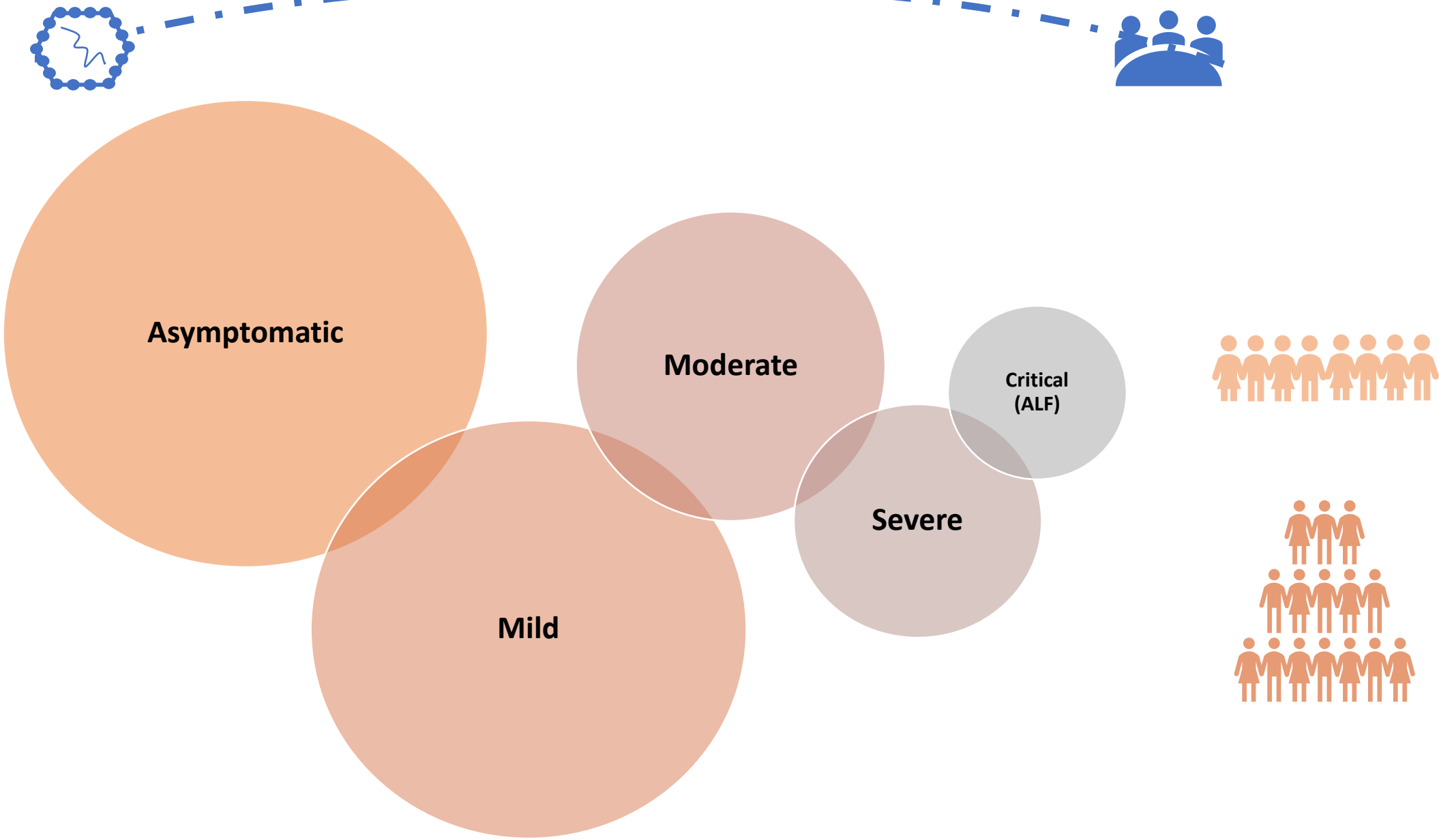
Deaths · 2019 estimate

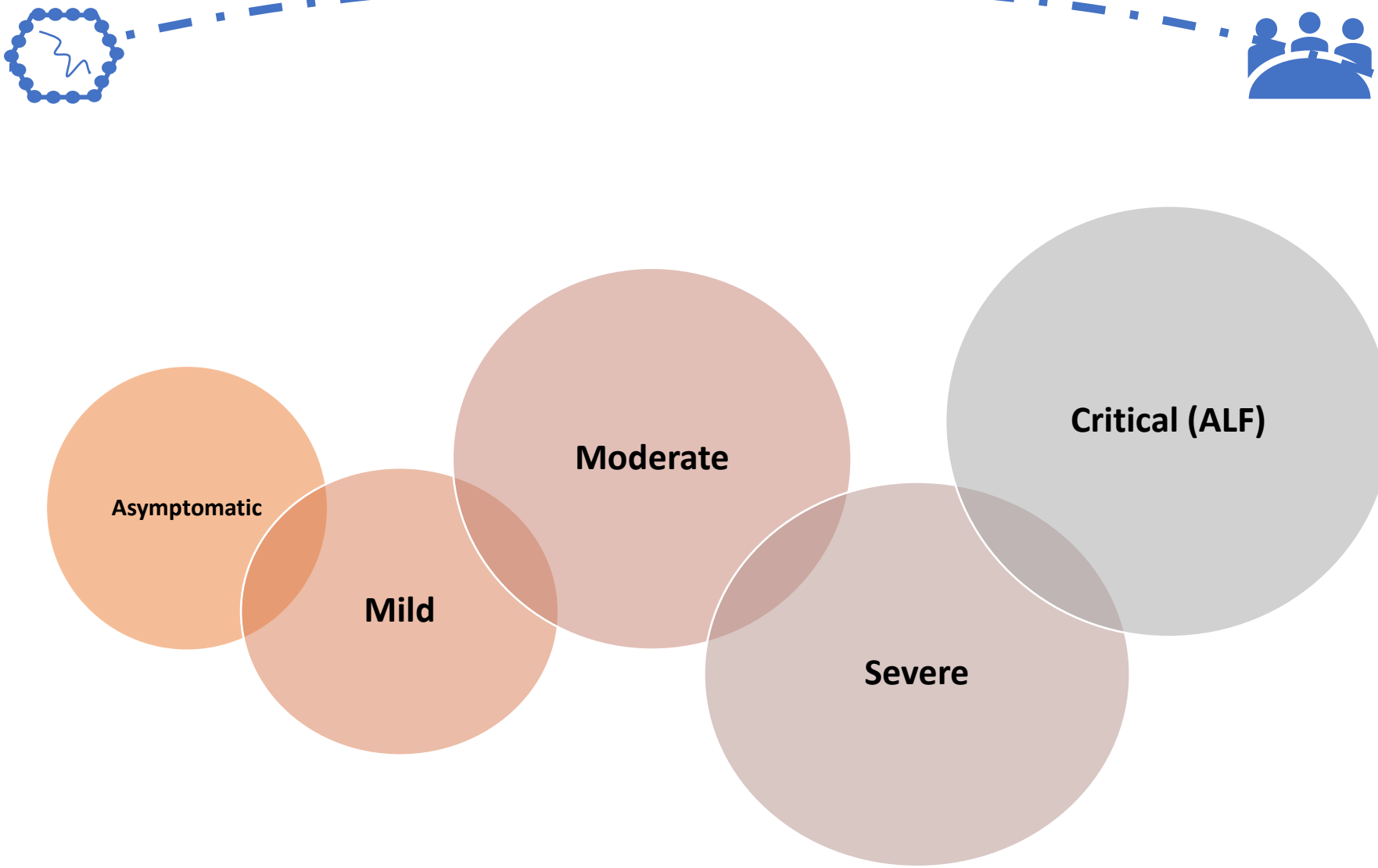
Lower endemicity is not lower risk when immunity gaps widen.



Săndulescu O, et al. Clin Microbiol Infect. 2026. doi:10.1016/j.cmi.2025.11.026. Săndulescu O, et al. Germs. 2025. doi: 10.18683/germs.2025.1473


Fecal-oral route
Close contact
Foodborne
Waterborne
Asymptomatic
Moderate
Critical (ALF)
Mild
Severe


Asymptomatic
Moderate
Critical
(ALF)
Severe
Mild


Asymptomatic
Mild
Moderate
Severe
Critical (ALF)
Extrahepatic manifestations
Autoimmune hepatitis

J Viral Hepat. 2024 Feb;31(2):88-95. doi: 10.1111/jvh.13902. Epub 2023 Dec 8.

Hepatitis A hospitalisations in the United States and risk factors for inpatient mortality: A nationwide population study, 1998–2020

Paul Wasuwanich [1], Joshua M So [1], Songyos Rajborirug [2], Wikrom Karnsakul [3]

National Inpatient Sample database

- **213 681 hepatitis A-related hospitalisations**
- **hospitalisation rates: 22.4-62.9 per 1,000,000**
- **inpatient mortality rate: 2.7%**

Increased odds of mortality

Wasuwanich P, et al. J Viral Hepat. 2024

MMWR Morb Mortal Wkly Rep. 2023 Oct 20;72(42):1128-1133. doi: 10.15585/mmwr.mm7242a1.

Preventable Deaths During Widespread Community Hepatitis A Outbreaks – United States, 2016–2022

Megan G Hofmeister [1], Neil Gupta [1]; Hepatitis A Mortality Investigators

Hofmeister M, et al. MMWR Morb Mortal Wkly Rep. 2023

A rare eradication opportunity

One single serotype

Humans are the only reservoir

No chronic carriage

Safe, highly immunogenic vaccines

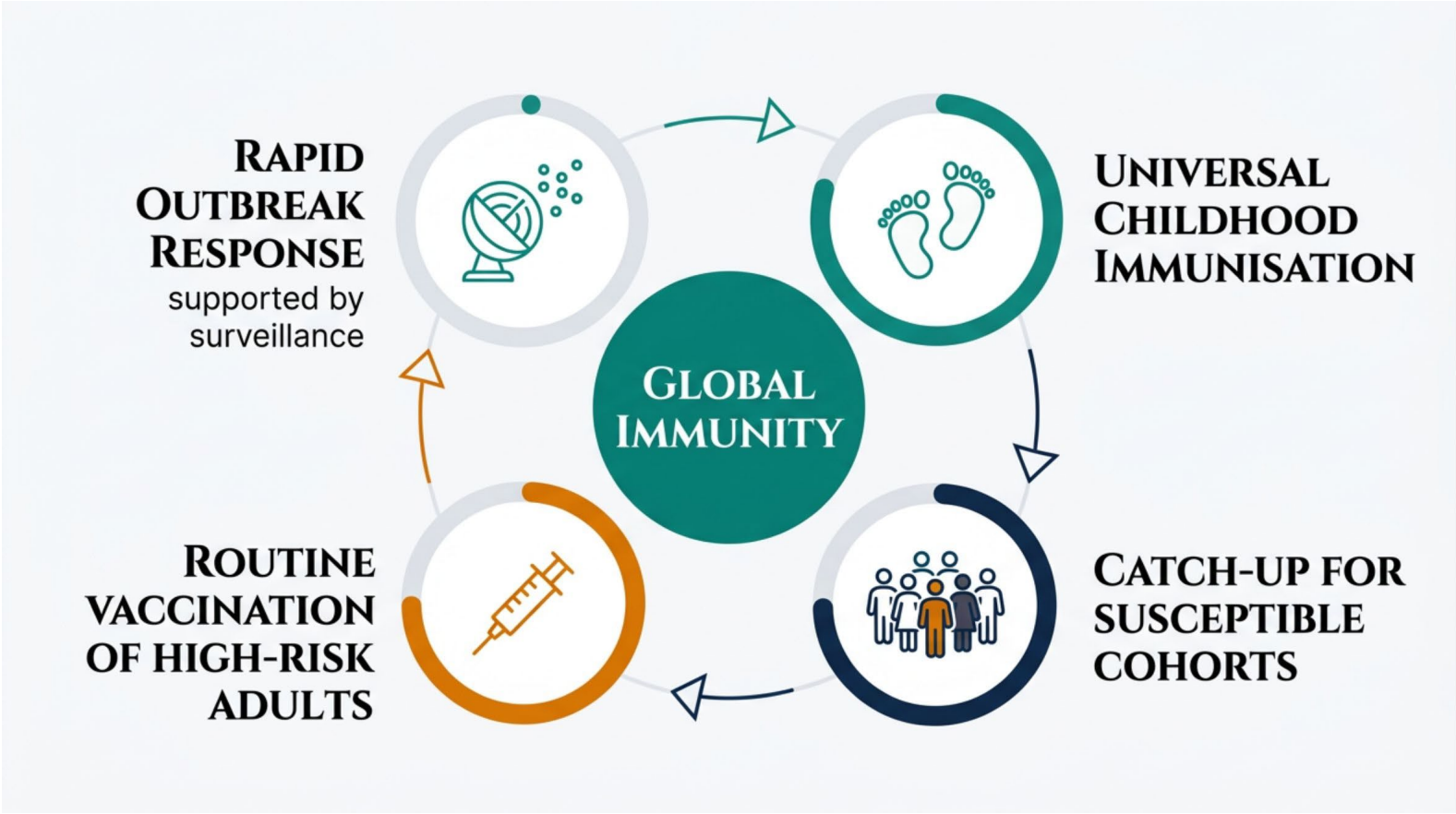
Durable immune protection



For HAV, eradication is a realistic public -health objective.

Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416–426. doi:10.1016/j.cmi.2025.11.026

Global immunity is a system



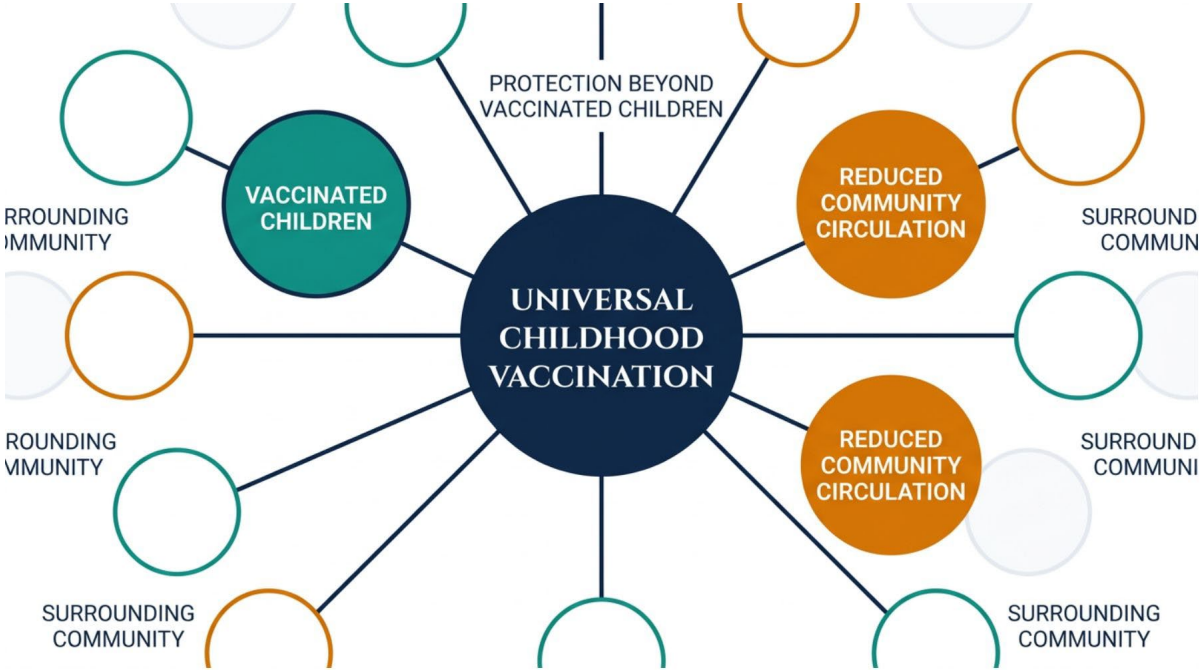
Each component closes a different immunity gap.

Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416 –426. doi:10.1016/j.cmi.2025.11.026

Routine childhood vaccination interrupts transmission

≈90%+

- Universal programmes have reduced HAV incidence by approximately 90% or more in multiple settings.
- Protection extends beyond vaccinated children by reducing community circulation.
- The strategic question is equitable, sustainable delivery.



Schedule and one-dose evidence are addressed elsewhere in the programme.

Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416–426. doi:10.1016/j.cmi.2025.11.026

Immunity gaps do not disappear by themselves

New childhood programmes

Older susceptible children, adolescents

Adults

Elderly adults

- New childhood programmes leave older susceptible children, adolescents and adults behind.
- These cohorts matter more as settings transition to low endemicity.
- Catch-up belongs in the initial plan, not after the next outbreak.

Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416–426. doi:10.1016/j.cmi.2025.11.026

Turn catch -up into a programme

Map susceptibility

Coverage, seroprevalence and epidemiological data

Prioritise cohorts

Ages 2–18 years

Add on new cohorts

Risk groups, adults & elderly

Deliver

Existing health platforms

Track through registries

Recall, completion monitoring and equity tracking

Every universal programme needs a time -bound plan to close the cohorts it missed.

Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416–426. doi:10.1016/j.cmi.2025.11.026

Move from risk recognition to routine protection

- MSM
- People who use drugs
- People experiencing homelessness
- Travellers to endemic settings
- People with chronic liver disease
- People living with immunosuppression

- Standing orders and reimbursement through HIV, primary care, harm-reduction and correctional services
- Stigma-free, convenient access

Risk-based vaccination works only when embedded in routine care.

Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416–426. doi:10.1016/j.cmi.2025.11.026

The bottleneck is delivery, not evidence

Supply and affordability

- Reliable production
- Pooled procurement
- Technology transfer

Delivery systems

- Cold chain
- Trained workforce
- Last-mile logistics

Political commitment

- Financing
- Accountability
- National immunisation policy

Global supply: about 37 million → 60 million or more doses annually

Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416–426. doi:10.1016/j.cmi.2025.11.026

From notification data to immunity intelligence

Laboratory -confirmed case reporting

Electronic immunisation registries

Wastewater surveillance

Complementary population -level signal

DASHBOARD INDICATORS

- Coverage
- Age -specific susceptibility
- Outbreak signal
- Time to response

Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416–426. doi:10.1016/j.cmi.2025.11.026

What countries can decide on now

1. Adopt universal infant vaccination in intermediate or higher endemicity countries
2. Fund catch-up for missed cohorts
3. Make high-risk adult vaccination routine and reimbursed
4. Secure supply and strategic outbreak stockpiles
5. Integrate HAV surveillance into hepatitis information systems
6. Measure progress publicly and regularly: HAV Eradication Oversight Committee

The tool is a vaccine; the solution is a policy architecture.

Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416 –426. doi:10.1016/j.cmi.2025.11.026

From 2025 to 2045: a measurable roadmap

2025 –2030

- Universal infant vaccination in intermediate -endemicity countries
- ⩾90% infant coverage
- ≥60 million doses/year

2030 –2038

- Expand to low-endemicity settings and adolescent catch-up
- ≥80% coverage in ages 2–18
- ≥80 million doses/year

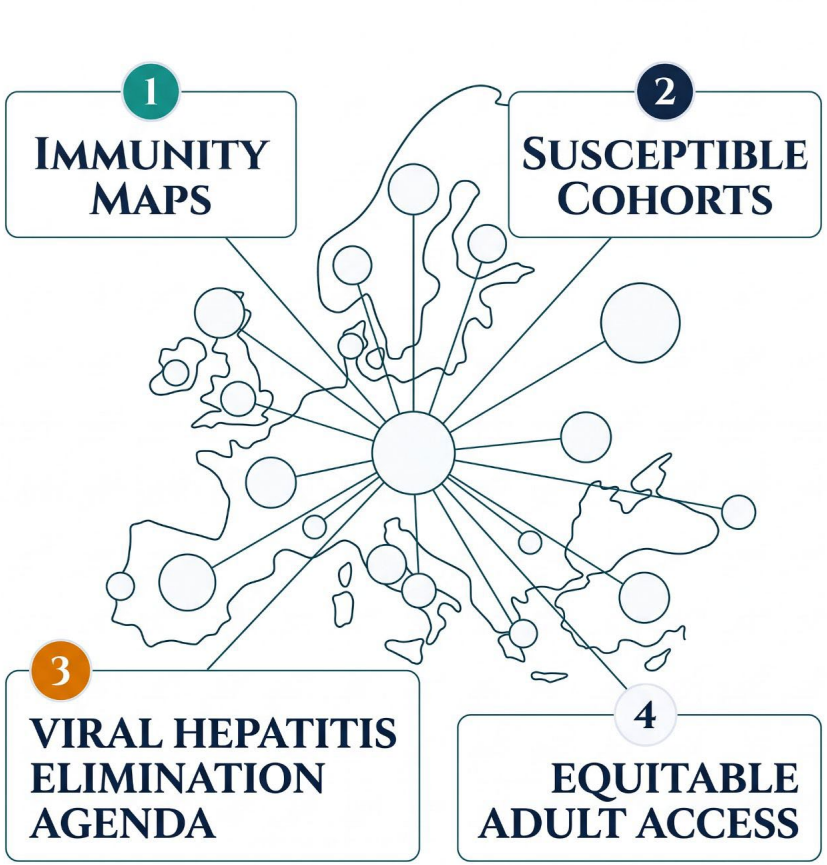
2038 –2045

- Micro-elimination in high-risk adults and certification preparation
- ≥90% high-risk adult coverage
- ≥95% reduction in laboratory-confirmed cases



Săndulescu O et al. Clinical Microbiology and Infection. 2026;32:416–426. doi:10.1016/j.cmi.2025.11.026

Europe can connect evidence to delivery



Prevention policies based on immunity maps

Replace event - driven responses

Identify susceptible cohorts before outbreaks reveal them

Integrate HAV prevention into the broader viral hepatitis elimination agenda

Pair universal approaches with targeted, equitable adult access

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Global immunity against hepatitis A is not wishful thinking.
It is a policy choice.

Universal. Equitable. Accountable.

- We have the biological opportunity, the vaccines and the evidence.
- The next step is to build the systems and commitment to use them at scale.

Thank you!

ESCMID | Study Group for Viral Hepatitis ESGVH

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