A close-up photograph of various pills and capsules scattered on a light-colored surface. The pills are in various colors including red, pink, white, yellow, green, and blue. Some are round, some are oval, and some are capsules. The background is slightly blurred, focusing attention on the individual pills in the foreground.

Health inequalities in
the management of
chronic hepatitis B in
patients from Sub-
Saharan Africa in high
income countries

Tim Mitchell, Jeremy Nayagam,
Geoff Dusheiko and Kosh
Agarwal

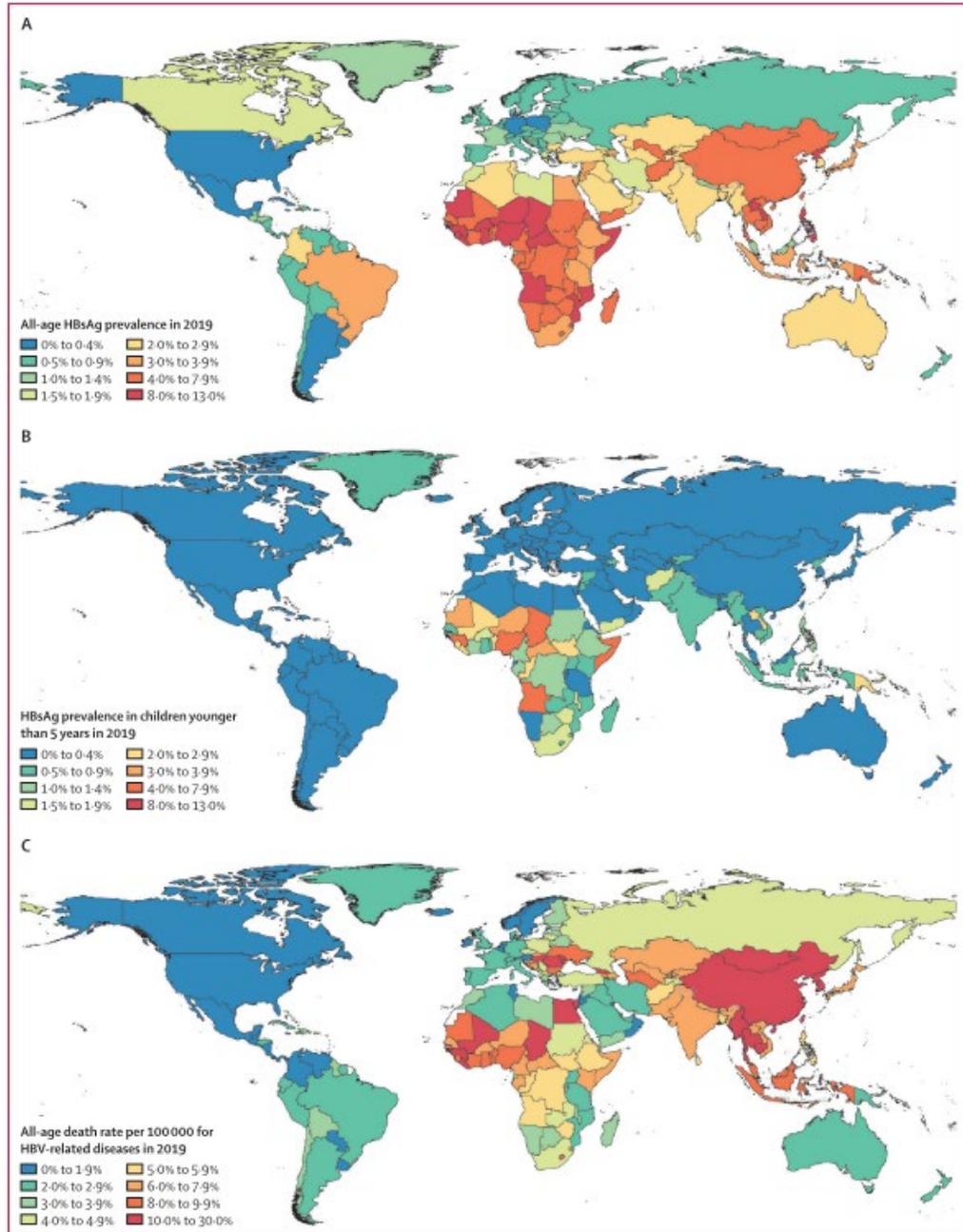
Hepatitis B and immigrants

- Western countries have become lands of immigration
 - From Africa, Eastern Europe Asia and Central America
- Asylum seekers refugees fleeing persecution, war and poverty
- Often destitute, or marginalised
- Conditions may not favour integration into host country
- Frequently poor, unemployed
- Continue cultural and religious traditions may not speak language host country
- May show “healthy migrant effect” harbour chronic hepatitis B or other BBV

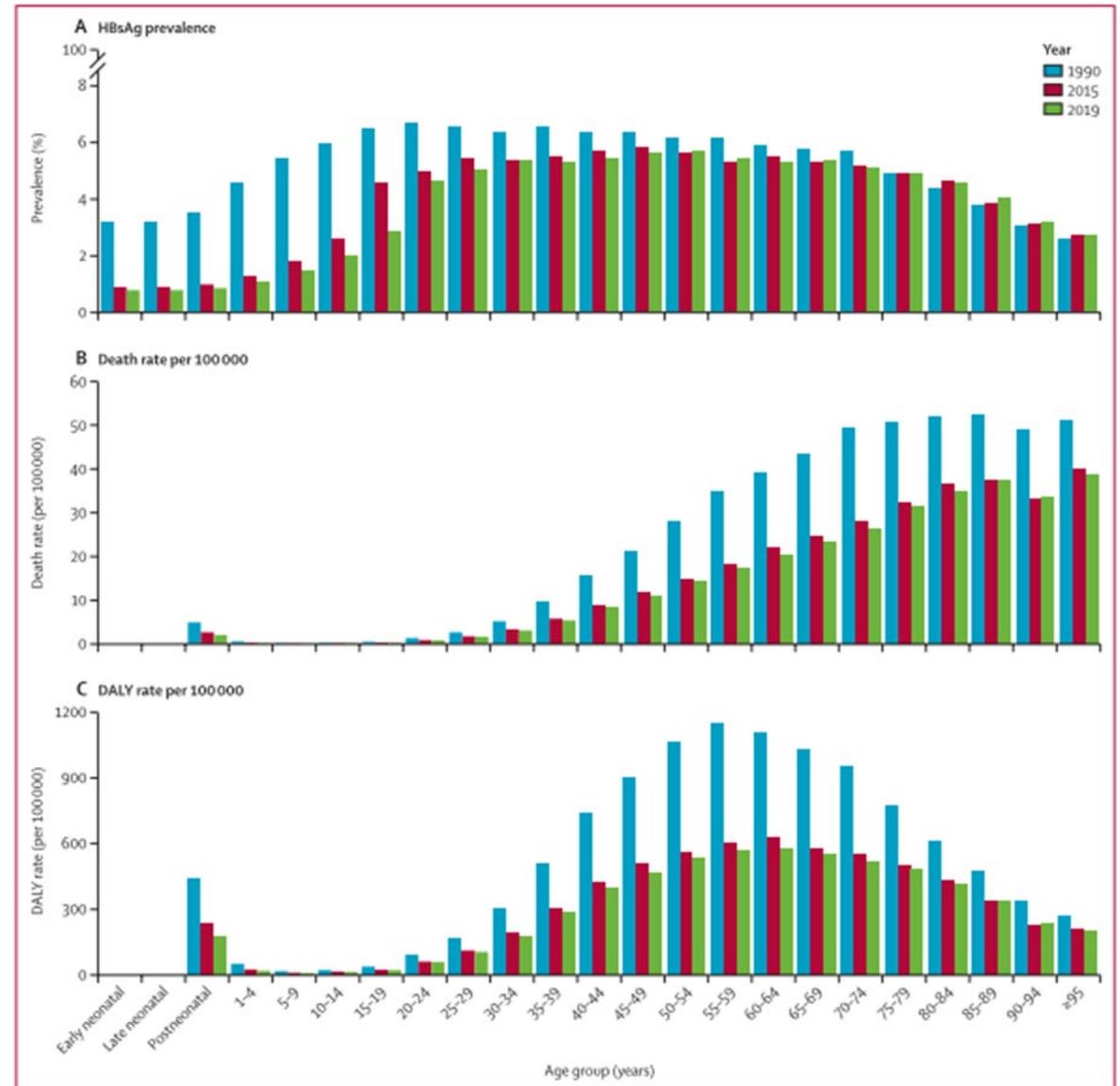
Hepatitis B sub-Saharan Africa

- Sub-Saharan Africa – second highest prevalence HBV worldwide (6.5%)
 - 80 million people living with chronic hepatitis B in the region
 - Determined early childhood infection –residual mother to child transmission
 - 90,000 people die per year from cirrhosis and hepatocellular carcinoma
 - Low awareness diagnosis rates
 - Impaired access to testing and access to antiviral treatment
 - Coinfection HIV - HBV, HBV – HDV and HBV – HCV
-

Prevalence and death rates hepatitis B



Age specific prevalence and death rates hepatitis B

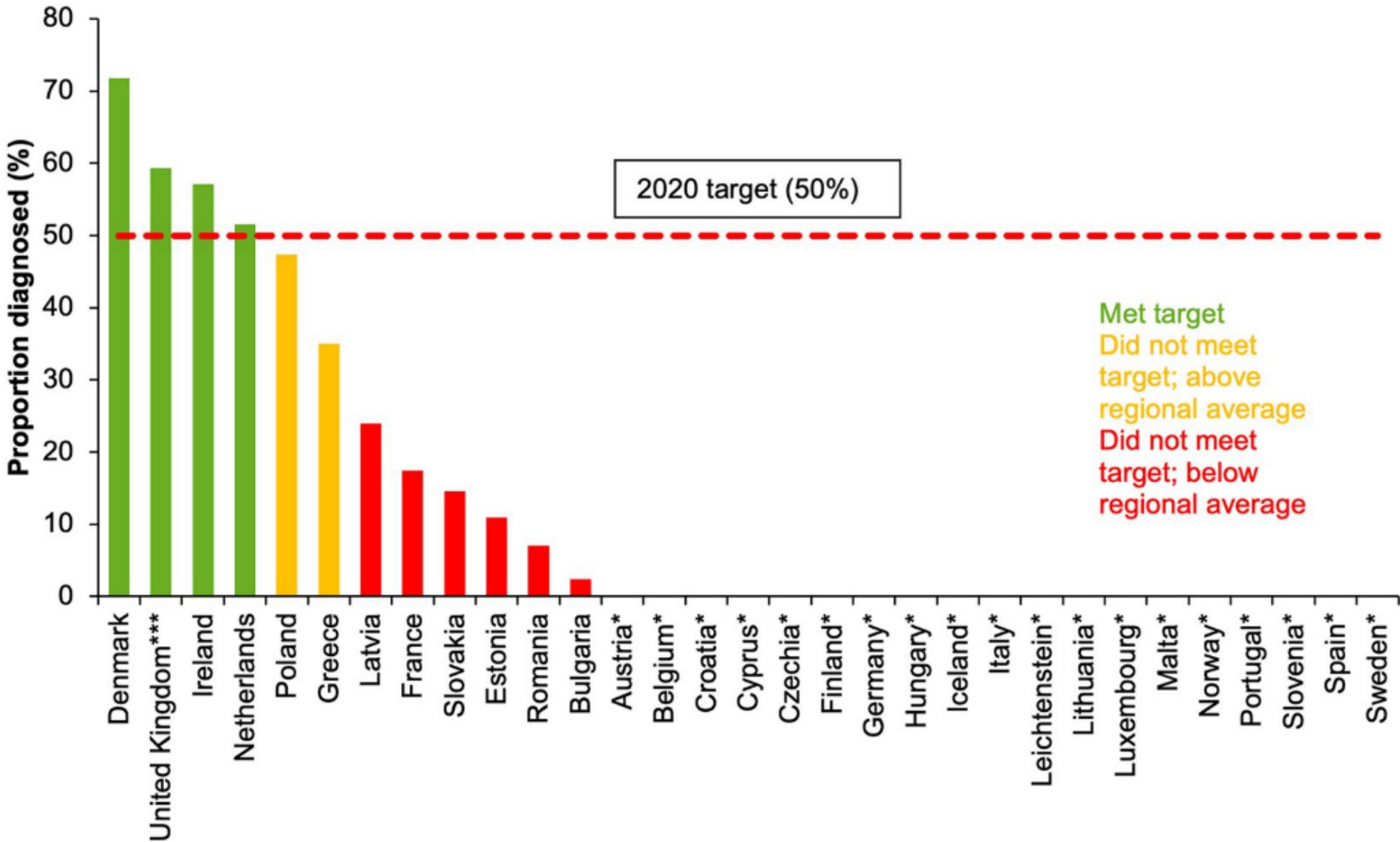


Sheena, et al. (2022). "The Lancet Gastroenterology & Hepatology.

Effects in high income countries Europe

- Hepatitis B - disproportionately affects migrant communities endemic regions
- United Kingdom:
 - Large African diaspora
 - Migrants contribute only 6% population 72% chronic hepatitis B,
- Italy HBsAg seroprevalence sub-Saharan immigrants 7.4% to 13.9%
- Spain 8% and 15%
- Routine screening immigrants not performed
- Clinical guidelines and evidence base for treatment – not based on SSA patients
- Participation in clinical trials in SSA rare (opposed to HIV)
- Challenges to engagement

Proportion of people living with chronic HBV infection who had been diagnosed in EU/EEA countries



Clinical challenges

- Engagement challenging
- Stigma associated with diagnosis
- Absence of routine screening
- Complexities navigating health care system
- Language



In Europe and other high income areas:

Many not linked to care ----- but

Live in relatively resource rich countries

Ready access to antiviral therapy

WHO 2024 guidelines updated – expect expansion of treatment eligibility

Find those living with hepatitis B: Invest testing

Several feasible solutions for high resource settings

Rapid HBV esting in a low-cost, easy-to-use point-of-care (POC) test format

Dried blood spot facilitates centralized laboratory testing of HBV DNA

Nucleoside analogue treatment

- Guidelines framed by data from Western Pacific and Caucasian cohorts
- Detailed prospective studies not performed migrant SSA populations.
- Reasonable: Base indications on guidelines derived other populations

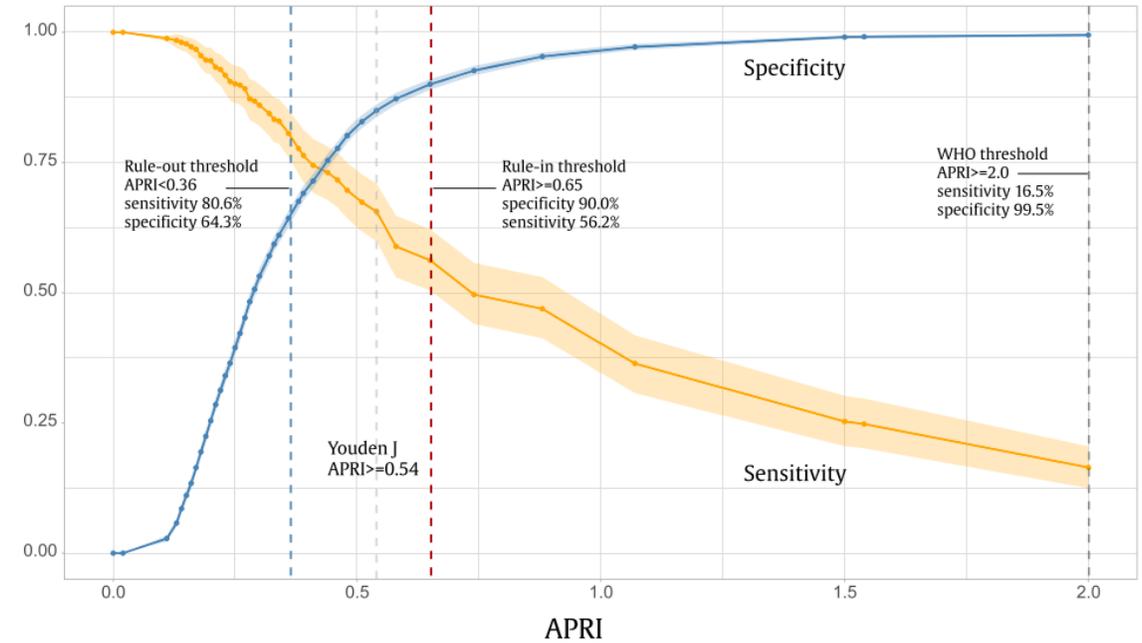
- Relatively low replicative state in anti-HBe-positive patients from SSA

- Questions in sub-Saharan Africans:
 - Staging of disease
 - Indications for treatment to prevent progression
 - Renal safety?
 - Bone safety?
 - Resistance?
 - HBV integrants and HBsAg expression
 - HCC surveillance
- Other markers serum pre-genomic RNA and hepatitis B core-related antigen
- Treat all strategy in high income countries?
- (Pegylated interferon: higher response rates in genotype A)

Relationship between sensitivity and specificity for APRI used to diagnose liver stiffness measurement >12.2 kPa (associated with cirrhosis).



A: All participants



World Health Organization-recommended aspartate aminotransferase-to-platelet ratio index threshold is inappropriately high in sub-Saharan Africa; improved rule-in and rule-out thresholds can optimise treatment recommendations in this setting.

HCC surveillance

- Sparse data in patients from SSA:
- Guidelines highlight ethnicity as important factor in HCC development
- Society recommendations listed
- Specific risk factors (aflatoxin exposure)
- Locally validated risk scores required (burden of surveillance)

Society

Recommendation

AASLD

African males. 40 years

EASL

No recommendation

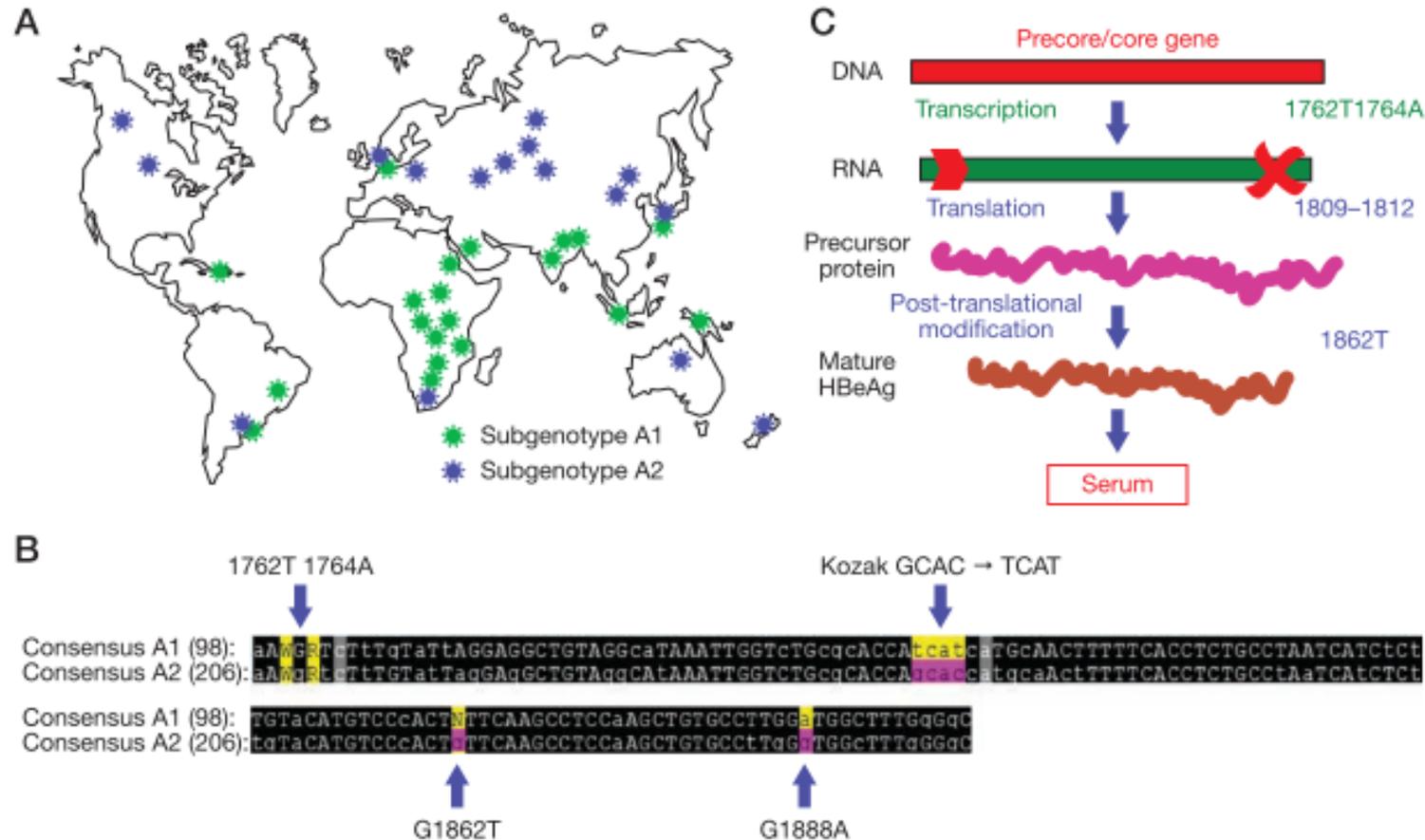
APASL

All African patients aged > 20 years

AASLD PRACTICE

Person from Africa at earlier age

Migration and parameters of HBsAg subtype A1



Mutations in the BCP/PC region can lead to hepatitis B e antigen (HBeAg)-negativity in subgenotype A1.

HBeAg loss may imply genomic change rather than immunological control

Sequence variation position 1809-1812 (Kozak sequence) pre-core-core ORF of subgenotype A1 affects transcription of pre-core mRNA, decreasing translation of HBeAg

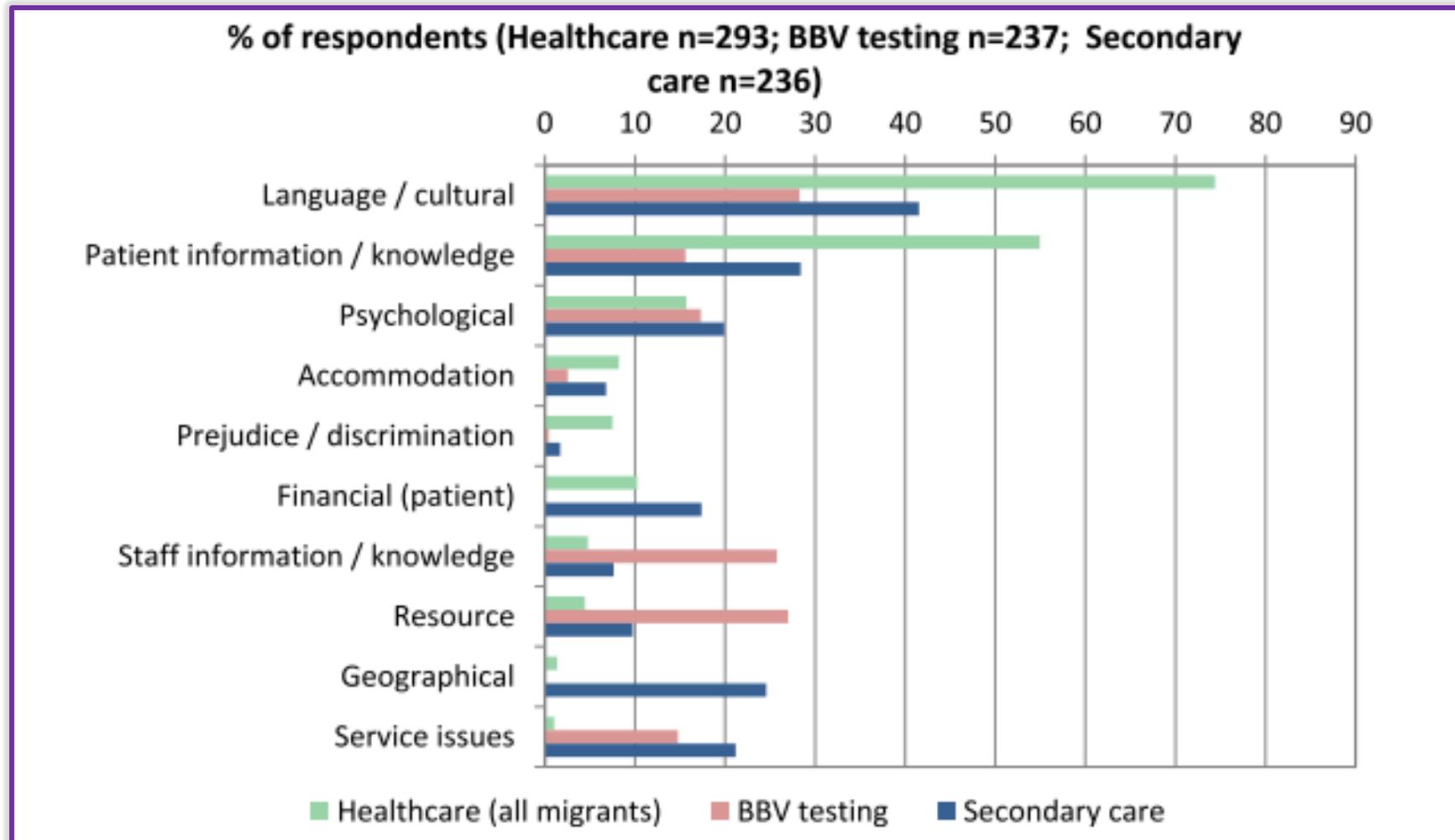
Variation by age and region may affect prevalence HBeAg

Making the case

- National investment case , cost-effectiveness, disease impact modeling
- Vital catalyze political engagement public health National health service
- Improve education and public familiarity with the disease
- Drive demand for testing and treatment
- Reduce discrimination - enhance patient willingness to be tested.
- HCC surveillance and treatment within population context

Primary care staff knowledge and action for blood borne virus testing in migrant patients

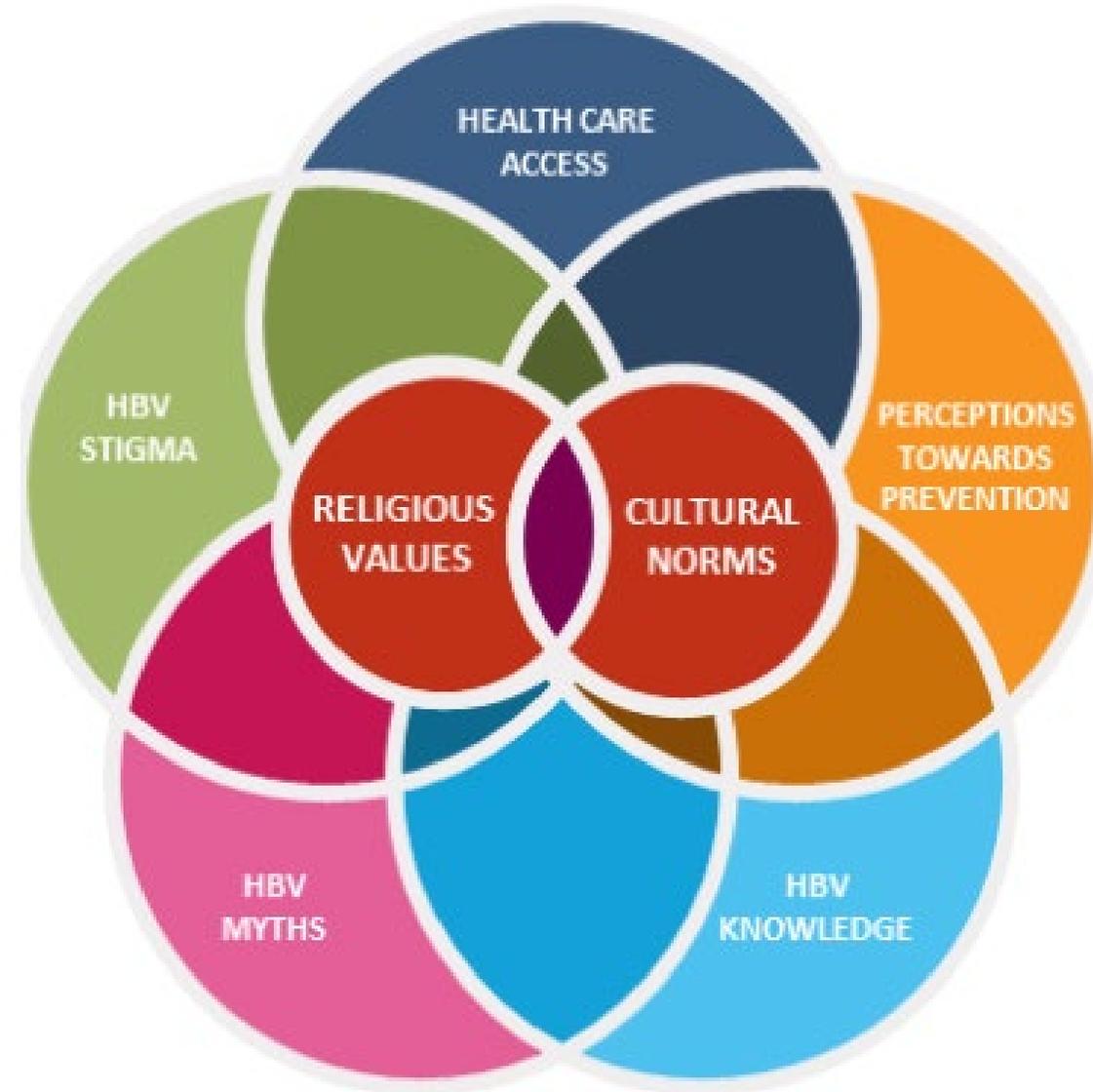
National survey of primary care professionals



Perceived barriers for migrants to access healthcare

Interconnected problems impair hepatitis B

-
- General lack of
 - Lack of trust in medical care
 - Lower socioeconomic
 - Preference for
 - Fear and misconceptions
 - Mistrust of the
-



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unication with
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ties being missed.

Emphasis required to improve management

- Recognition of epidemiology
 - Better data analysis
 - Community health education: minority groups with educational focus
 - Culturally relevant community interventions
 - Assistance of social services, voluntary operations and cultural mediators
 - Clinical psychological and legal management of vulnerable groups
 - Should be a major objective of good Government
 - Elimination targets will not be met in high-income countries
 - without an increase in awareness, diagnosis and treatment of migrant group
-

UKHSA report Hepatitis B in England 2023

- 95% of new chronic hepatitis B infections in the UK are in migrants
- NICE recommends HBV testing to anyone remaining at higher risk
- Vaccination to those testing negative to HBV.
- Migrants likely to maintain community links travel back to higher prevalence country

- Vulnerable migrants
 - Undocumented (those living in the UK with no legal status)
 - Asylum seekers and refugees
 - Unaccompanied minors
 - Low paid migrant workers

- Offered testing and vaccination commencing pre-departure or on arrival in England
- Culturally sensitive interventions to improve case-finding and retention in care of migrant
- Opt out testing emergency services

Future research opportunities: individuals from SSA chronic HBV living in high-income countries.

- Gather data on virological risk factors and the impact of biomarkers
- Identify demographic trends risk stratification in incident HCC and provide data.
- Validate surveillance for HCC in patients from SSA in high-income countries
- Collaborate with SSA centres to transfer skill sets and resources
- Using digital technologies improve multidisciplinary management of HCC
- Leverage the findings to assist improvements in home countries

Summary of Black ethnicity and genotype involvement in major chronic HBV trials.

Study (first author, year)	Phase	Study population	Number	Black ethnicity	Genotype	Exclusion criteria
Lai <i>et al.</i> 1998 ⁸⁶	III	China (HK, Taiwan, mainland China)	358	0 (0%)	Not specified	
Hadziyannis <i>et al.</i> 2003 ⁸⁷	III	Canada, Greece, Israel, France, Italy, Australia, Taiwan, Singapore	185	6 (3.2%)	Not specified	
Chang <i>et al.</i> 2006 ⁸⁸	III	Europe (41 centres), North America (40), Asia (26), Australia (12), South America (18)	715	16 (2.2%)	A – 27%, B – 20%, C – 27%, D – 12%, E – not mentioned, F – 4.5%	
Marcellin <i>et al.</i> 2008 ⁸⁹	III	Europe (59%), North America (24%), Australia/NZ (17%)	641	30 (4.7%)	A – 16%, B – 12%, C – 17%, D – 50%, E-H – 4%	
Buti <i>et al.</i> 2016 ⁹⁰	III	Canada (11 sites), USA (14), UK (2), France (2), Italy (4), Poland (4), Romania (5), Russia (10), Spain (1), Turkey (5), Australia (5), NZ (1), India (10), Japan (11), HK (4), South Korea (10), Taiwan (5)	425	8 (1.9%)	A – 5%, B – 24%, C – 38%, D – 31%, E – 2%	
Chan <i>et al.</i> 2016 ⁹¹	III	East Asia (18% of patients), Europe (18%), North America (16%), Australia (2%), NZ (2%), India (13%)	873	10 (1.1%) Nb. categorized as “other”	A – 7%, B – 17%, C – 52%, D – 23%, E – <1%, F – <1%	
Bazinet <i>et al.</i> 2020 ⁹²	II	Republic of Moldova	40	0 (0%)	A – 3 (7.5%), D – 37 (92.5%)	ANC <1,500 cells/mm ³

Adding the patients' voice

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SHORT COMMUNICATION

A declaration from people living with hepatitis B: A call for a whole person approach

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Keywords: chronic hepatitis B, hepatitis B, hepatitis B elimination, patient empowerment, patient-centred care

We are people with chronic hepatitis B, and we make the following declaration:
As persons who live with the hepatitis B virus in our body, we deserve to be heard.
We want to live healthy and long lives, and we need access to hepatitis B testing, care, medications and liver cancer screening—or our lives may be cut short.
We want to live to our fullest potential, but our personal and professional lives are often limited by stigma and discrimination—we need social support, increased awareness and removal of any discriminatory laws and practices.
We want whole person care, not care that is focused only on our liver.

We want our doctors to consider the overall impact of hepatitis B on our whole lives and consider outcomes which are important to us. We want to not worry about developing liver cancer or spreading the infection because of our inability to access care and treatment. We want flexibility in the treatment recommendations, so that we can receive care and treatment even if we are resource limited and diagnostic testing is not accessible.
We want simplified treatment strategies, so that care is available for decision making for our care with

We want to be represented anywhere about us.
We want better treatments and for continued investment into research.
We want vaccines for our protection from infection.
We want to care for our but we need our countries. We, of all people, But it will not and the many benefits are too.
We are of you, their

be represented for guidelines to meaningfully reflect optimal care. It is crucial to consider the impacts, and patient preferences, to develop practical treatment guidelines that are relevant, applicable, and realistic to the patient community.
15–40% of people with HBV will develop liver cirrhosis, liver cancer, or liver failure. Appropriate management and treatment can reduce this risk. However, there are barriers to accessing the entire care continuum of HBV. Elimination requires public health approaches to prevent morbidity and mortality. Many people could benefit from antiviral therapy, which can substantially reduce the risk of liver damage and liver cancer. Preventing liver damage before it develops

and often, medical experts will make assumptions about patient values. Such assessments must come from people with lived experience and should be formalised.¹²
To ensure that updated treatment guidelines can be adopted widely and have an impact on the people who need it most, we urge the following recommendations: 1) the patient community be meaningfully involved in guideline development through the entire development process; 2) integration of patient values and perspectives in guideline development; 3) a belief that HBV as not just a liver disease, but a holistic condition and an



Urgent need for lived experience in hepatitis B guideline development

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Globally, nearly 300 million people live with hepatitis B virus (HBV), making it the most common chronic infection.¹ Although mortality rates have remained stable for the past 20 years, two people die from HBV every minute.² WHO has called for the elimination of hepatitis B as a public health threat by 2030, setting goals to prevent new infections through birth-dose vaccination and to prevent illness and death by improving testing, clinical management, and treatment.^{3,4} However, progress towards elimination has stalled.^{5,6} Professional medical societies and WHO have developed guidelines to help facilitate the management and treatment of HBV. Currently, updates to these guidelines are in development for many societies, including the European Association for the Study of the Liver and the American Association for the Study of Liver Diseases. This is a pivotal opportunity to consider treatment expansion and align and harmonise recommendations globally. Although the goal of elimination is to treat 80% of eligible individuals by 2030, only 2% have been treated to date. HBV D but this test is inaccessible for many. The simplification of guidelines is essential to ensure non-specialists can care for people with HBV centred care, health equity, and community engagement as core elements of disease elimination with a focus on primary care and care integration. These considerations should be implemented within HBV guidelines, the involvement of people with HBV in guideline development is pivotal.
People with HBV know the direct impacts and challenges of accessing care. Research shows people with HBV face considerable stigma and discrimination and HBV is also associated with physical, psychological, emotional, social, and professional impacts.^{7–10} Many aspects of HBV management require shared decision making and both sides of this sharing process must

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Comment