EuroTEST
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chip Centre of Excellence for Health, Immunity and Infections
REGION Bispebjerg Hospital
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ORAL PRESENTATION · HEPHIV2026

Bloodborne virus (BBV) testing in Danish emergency departments: a national baseline study

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BBV situation in Denmark

HIV

2025:

5950 diagnosed

6150 estimated (ECDC 2024) – 96%

5800 on treatment – 98%

5600 virally suppressed – 97%

In 2025, 53% of newly diagnosed had CD4 < 350 cells/mm³ [1]

HBV

App. 15,000 people live with chronic hepatitis B in Denmark (<0.3% of the population); ~7% undiagnosed[2]

Annual cases: <20 acute and app. 150 chronic HBV

Risk groups: immigrants from high-prevalence regions (Asia and Africa)

HCV

2007: 10,000–16,000 people live with HCV (0.05–0.21% of grown-up population). 22–32% undiagnosed; **2022:** ~2,500 infected (0.05–0.06% of adults)[3]

Risk groups: PWID, individuals who received blood transfusions before 1991, immigrants from high-prevalence countries

Denmark has committed to the WHO goal of eliminating HCV as a public health threat by 2030

1. Statens Serum Institut. www.ssi.dk

2. Bollerup S, et al. Increasing prevalence of chronic hepatitis B virus infection and low linkage to care in Denmark on 31 December 2016 – an update based on nationwide registers. Infect Dis (Lond). 2023;55(1):17–26. doi:10.1080/23744235.2022.2125065

3. Diagnosis and treatment coverage among hepatitis C infections in Denmark, 2022: a capture-recapture study using national registers. doi:10.1080/23744235.2026.2695429

Diagnosis gaps persist. Emergency Departments (ED) reach large and diverse population

Late diagnosis

Late HIV diagnosis remains common in Denmark despite progress towards international elimination targets:

Undiagnosed hepatitis

A substantial proportion of people living with HBV and HCV remain undiagnosed

The ED opportunity

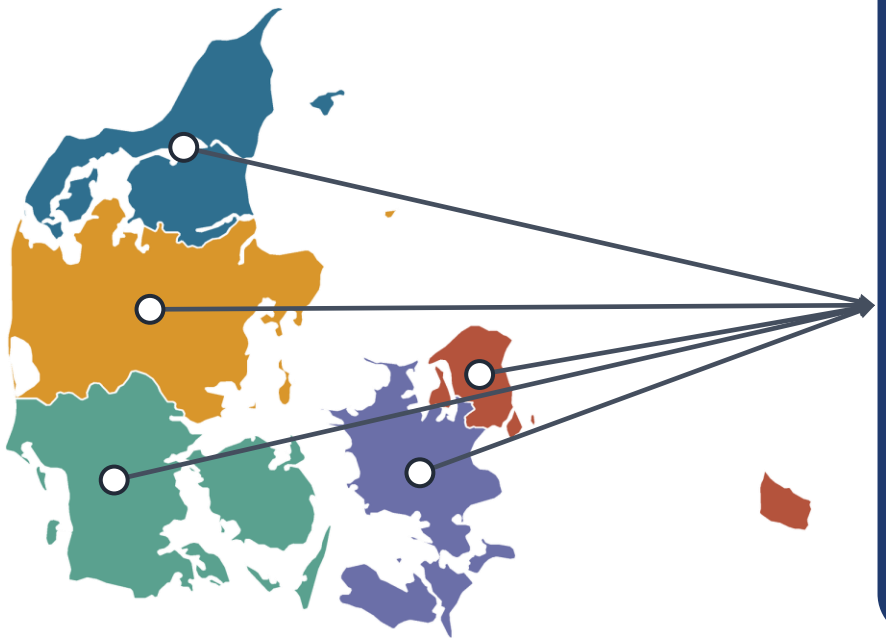
Open-access care for large, diverse populations

European studies show ED-based BBV testing is feasible and effective in urban settings[1,2]

Current Danish ED testing practice is undetermined

1. UK Health Security Agency. Public health evaluation of BBV opt-out testing in EDs in England: 24-month interim report. UKHSA; 2024.
2. Simmons R et al. Blood-borne virus testing in emergency departments – a systematic review of seroprevalence, feasibility, acceptability and linkage to care. HIV Med. 2023;24(1):6–26

Denmark: five regions, one national data source



North
Central
South
Capital
Zealand

Danmarks Statistik

Statistics Denmark · 7 linked registers

- Danish National Patient Registry (DNPR)
- Danish National Prescription Registry
- Register of Laboratory Results for Research (RLRR)
- Central Person Register (CPR)
- Income Statistics Register
- Danish Education Register
- Building and Housing Register

BAC cohort

Bispebjerg Acute Cohort

Gregersen R, et al. Clin Epidemiol 2022;14:409–424. doi:10.2147/CLEP.S338149

AIM

To establish a national baseline for BBV testing in Danish EDs and identify characteristics associated with testing offer and BBV positivity

National registry-based cohort

2024

All acute, somatic hospital contacts by adults (≥18 years)

Registry

National registry-based database at Statistics Denmark; HIV, HBV and HCV tests and results linked to the first acute contact in 2024

Characteristics assessed

Demographic and clinical factors, e.g. indicator conditions, substance use, urban/rural ED, prior BBV screening.

Analysis

Descriptive statistics

Multivariable logistic regression for factors associated with BBV testing and with BBV positivity.

RESULTS

Testing coverage was very low

937,477 acute contacts included

5,453

HIV tests (0.6%)

5,967

HBV tests (0.6%)

5,797

HCV tests (0.6%)

Coverage was also low among individuals with indicator conditions and/or risk factors, including substance use, alcohol use and migrant background.

RESULTS

Positivity among those tested

0.2%

HIV

12 positive ·

95% CI 0.11–0.38

2.1%

HBV

126 positive ·

95% CI 1.76–2.51

0.9%

HCV

52 positive ·

95% CI 0.67–1.17

Many positive results occurred in individuals with a prior positive test registered

RESULTS

Testing coverage in selected groups during 2024

Group	Total attendees n (%)	Tested HIV n (%)	Tested HBV n (%)	Tested HCV n (%)
Total	**937,477 (100%)**	**5,453 (0.6%)**	**5,967 (0.6%)**	**5,797 (0.6%)**
Drug use	8,721 (0.9%)	24 (0.3%)	36 (0.4%)	38 (0.4%)
Alcohol	5,578 (0.6%)	12 (0.2%)	32 (0.6%)	33 (0.6%)
Temporary civil reg. number(migrants)	24,235 (2.6%)	61 (0.3%)	72 (0.3%)	60 (0.2%)
Sexually transmitted infection (STI)	235 (<0.1%)	15 (6.4%)	<5	<5
Community-acquired pneumonia	18,589 (2.0%)	59 (0.3%)	n/a	n/a
Malignancy	551 (<0.1%)	8 (1.5%)	n/a	n/a
Mononucleosis-like illness	170 (<0.1%)	5 (2.9%)	n/a	n/a
Prior HIV screening	180,580 (19.3%)	2,449 (1.4%)	2,538 (1.4%)	2,477 (1.4%)
Prior HBV screening	191,846 (20.5%)	2,399 (1.3%)	2,601 (1.4%)	2,538 (1.3%)
Prior HCV screening	129,141 (13.8%)	1,844 (1.4%)	2,060 (1.6%)	2,033 (1.6%)

Tested columns: n (% of attendees in the group who were tested). Total attendees: n (% of all 937,477 acute contacts); groups are not mutually exclusive. <5: values below 5 suppressed for confidentiality; n/a: not cross-tabulated for HBV/HCV. Source: abstract Table 1.

Factors associated with BBV testing

Higher odds	aOR (95% CI)	Lower odds	aOR (95% CI)
Needlestick injury	37.5 (32.9–42.7)	Age ≥70 (vs 18–29)	0.22 (0.20–0.24)
Prior BBV screening	2.16 (2.04–2.28)	Age 50–69	0.62 (0.58–0.66)
Admission from ED	1.62 (1.54–1.72)	Male sex	0.68 (0.63–0.72)
HIV indicator condition	1.51 (1.32–1.73)	Substance use	0.74 (0.66–0.84)
Urban ED	1.26 (1.19–1.32)	≥3 ED contacts in 2023	0.69 (0.65–0.73)

Reference: age 18–29, female, rural ED, no substance use, no prior BBV screening.

Factors associated with a positive BBV test

Factor	aOR (95% CI)
Age 50–69 (vs 18–29)	4.31 (2.46–7.54)
Age 30–49	2.99 (1.75–5.14)
Admission from ED	2.94 (2.00–4.33)
Substance use	2.13 (1.21–3.76)
Prior BBV screening	1.68 (1.19–2.36)

Not significant

Male sex 1.25 (0.89–1.76)

Urban ED 1.26 (0.91–1.75)

HIV indicator condition 1.83 (0.90–3.70)

Age ≥70 2.02 (0.92–4.43)

Strengths and limitations

Strength:

- nationwide, complete data prospectively collected on all adult acute contacts and linked via the CRNs across national registers; temporary CRNs are included, so migrants, tourists and undocumented immigrants are represented

Limitations:

- administrative data with risk of misclassification and selection bias; accuracy of acute visit contacts undetermined; diagnoses coded by the discharging physician
- 2024 laboratory register lacks data from one region and may miss point-of-care tests; selection of patients tested may vary
- history-based variables (e.g. comorbidity, prior testing) missing at first contact
- GDPR: not possible to analyse data with N<5

A national baseline, and missed opportunities

First nationwide assessment of BBV testing practices in Danish emergency care

BBV testing in Danish EDs is infrequent: many individuals at increased risk, and those with indicator conditions, remain untested

Observed positivity rates among those tested suggest missed opportunities for BBV diagnosis

Supports evaluation of more systematic approaches to BBV testing in Danish emergency care

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