Background and aims Previous studies of screening attendees to urban emergency departments (ED) have indicated high detection rates of hepatitis B (HBV) and hepatitis C (HCV). The current study evaluated the feasibility and detection rates in a large urban emergency department in the United Kingdom.

Method Over a 9 month period consecutive attendees to an urban ED, who had clinically indicated blood sampling, underwent opt out testing for HBV surface antigen (HBsAg) and HCV (Antibody [Ab]) using an electronic preselected blood order set. All HCV Ab reactive results were followed by reflex HCV antigen (Ag) testing (Abbott Architect). Attendees who were identified as either HBsAg, or HCV Ag were then linked to care by the study team. Seroprevalence estimates and risk factors (age, sex, ethnicity, homelessness, and HIV) associated with seropositivity were estimated using univariable and multivariable Poisson regression.

Results 81,088 patients attended the ED, of whom 38,704 patients (49% male, median age 45 yrs [31–62 yrs]) had blood sampling. 29,240 (75.5%) underwent testing for HBV and/or HCV. Of the 28,941 patients tested for HBsAg, 244 (0.8%, 95% confidence interval [CI] 0.7%-0.9%) were positive. Of the 28,939 patients tested for HCV, 539 (1.9%, 95% CI 1.7%-2.0%) were HCV Ab positive. Of these 462 patients had HCV Ab measured, of whom 264 (adjusted seroprevalence 1.1%) were HCV Ag positive.

A high HBsAg seroprevalence was observed among patients aged 50–59 years (1.6%), with Black or Asian ethnicity (1.9%, 95% CI 1.6–2.4%), and with HIV infection (4.3%, 95% CI 2.1–8.7%). In the adjusted model, risk factors for infection were being male (relative risk [RR]: 1.6, 95% CI 1.2–2.1%), of non-White British ethnicity (RR>4), being homeless (RR: 1.9, 95% CI 1.0–3.5) or being HIV positive (RR: 4.1, 95% CI 1.9–8.9%).

A high HCV Ab seroprevalence was observed in patients aged 30–49 years (2.9%, 95% CI 2.6–3.3%), male (2.9%, 95% CI 2.6–3.2%), homeless (22.1%, 95% CI 19.2–25.3%) and HIV infection (12.3%, 95% CI 8.0–18.4%). In the adjusted model risk factors for HCV Ab positivity were being male (RR:2, 95% CI 1.6–2.5), age 30–49 years (RR:4.4, 95% CI 3.1–6.4), homeless (RR:10.1, 95% CI 8.7–13.0), and being HIV positive (RR:3.6, 95% CI 2.2–5.8).

To date 35 HCV Ag patients have been contacted, 24 were eligible for linkage, and of these 20 attended clinic.

Conclusion In this large study of opt out Hepatitis B and C testing good uptake rates are achievable, with a high detection rate of hepatitis B and C. For hepatitis B the greatest risk factor was being of non-white ethnicity, and for hepatitis C being homeless. Linkage to care remains a challenge. Integrated care pathway embracing community services are currently being developed to improve linkage rates.