Universal HIV and HCV Screening in San Diego Emergency Departments: Implications for other Settings with a High Density of free of charge HIV Screening Programs

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While HIV and HCV testing targeted to high-risk groups results in substantially higher yields of HIV diagnoses, universal HIV and HCV screening in emergency department (ED) settings is expected to reach populations who do not perceive themselves to be at risk or are otherwise less likely to participate in HIV and HCV testing.

As a consequence the CDC recommends routine HIV screening for persons 13-64 years of age, and routine HCV screening for the birth cohort (born between 1945-65).

Objective
The objective of this analysis was to evaluate the yield of universal opt-out HIV and HCV screening in the two EDs at the University of California San Diego (UCSD).

Methods
- In July 2017, electronic medical record (EMR) based universal opt-out HIV screening [Architect HIV p24 antigen / HIV antibody (Ab) combo] for persons aged 13-64 years was implemented in the two UCSD EDs. **FIGURE 1**
  - 1-4 questions during nursing triage process
  - Excluding persons known HIV+ or reporting an HIV test within the last 12 months or lack of decisional capacity or opting out
  - The EMR algorithm also identified HIV+ individuals who had been out of care for >12 months.
- In March 2018, EMR based universal HCV screening for birth cohort (1945-65) was implemented in both EDs for a 1-month pilot.
  - Linkage to care was performed by a HIV Case manager dedicated fulltime to the program.

Results
- **HIV Testing**: Over a period of 9 months 7303 HIV tests were conducted, resulting in 24 (0.3%) new HIV diagnoses, of which 21 (88%) were successfully linked to care. **FIGURE 2**
  - 20 new HIV diagnoses in Hillcrest ED, 4 in La Jolla ED.
  - In 5 individuals without HIV infection Architect HIV Ab/HBV p24 Ag testing gave repeatedly a false positive result (specificity 99.93%).
  - In addition, the EMR algorithm identified 38 out of care HIV+ individuals of which 21 (55%) were successfully relinked to care.
  - 36 in Hillcrest ED, 2 in La Jolla ED.
- **HCV Testing**: During the 1-month HCV birth cohort screening 970 HCV Ab tests were conducted, of which 90 (9%) resulted positive.
  - 489 HCV Ab tests conducted in Hillcrest ED and 481 in La Jolla ED; 71 HCV Ab positives identified in Hillcrest ED versus 19 in La Jolla ED.
  - At total of 59 seropositive individuals had HCV RNA testing, of which 29 (49%) resulted positive (3.7% of all participants).
  - 13/29 (45%) of HCV RNA positives were successfully linked to care.
- **ED Location**: The higher yield in the Hillcrest ED was expected due to the higher prevalence of HIV and HCV in the geographic location.

Conclusions
- In San Diego, a setting with a high density of free-of-charge HIV screening programs, 1,300 HIV tests in the ED yielded a new HIV diagnosis of which close to 90% were linked to care.
- Identification of HIV+ out of care individuals yielded an equivalent number of individuals (but lower proportion of 55%) relinked to care.
- The rate of newly diagnosed HCV infections exceeded the rate of newly diagnosed HIV infections by >10-fold outlining the importance of screening for HCV in the ED.

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- FOCUS funding supports HIV, HCV and HBV screening and linkage to the first medical appointment after diagnosis. FOCUS partners do not use FOCUS awards for activities beyond linkage to the first medical appointment.

**Figure 1: EMR Algorithm**

**Figure 2: HIV Tests performed in the two EDs**