

572. Cascade of HIV Care of Newly Diagnosed Citizens in Israel 2011–2015: A Population-Based Cohort Study

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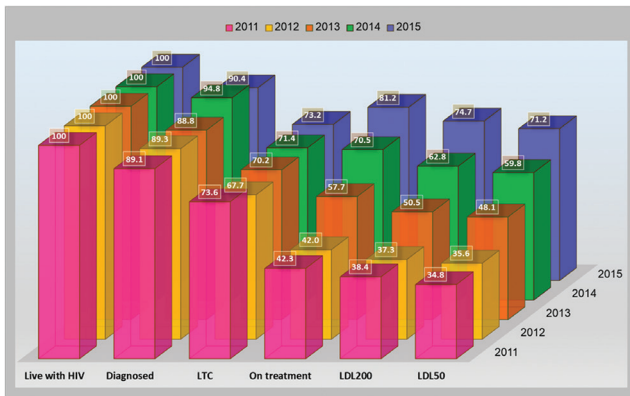
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Background. The cascade of HIV care indicates a country's progress toward optimal diagnosis and care. In Israel national health insurance covers all citizens. Treatment and follow-up are provided in specialized HIV centers. We assessed the linkage to care and treatment of Israeli citizens, newly diagnosed during 2011–2015.

Methods. Annual estimates of new Israeli cases living with HIV was calculated by the Ministry of Health, and all newly diagnosed Israeli cases confirmed by the Central Virology Laboratory were included. Excluded were tourists, Israeli patients diagnosed abroad and non-Israeli migrants. Gender, age at diagnosis and linkage to care to HIV centers within 90 days was available for all adults (>16). Risk factors for infection, first CD4 and viral load, treatment start date, number of annual visits, last CD4 cell count and viral load (VL) in each year were available for 75% of the studied population (data from one center was missing).

Results. Included were 1,538 newly diagnosed with HIV/AIDS in 2011–2015. No significant change was seen in proportions of unidentified people (~10%), link to care (~79%), or undetectability in those treated (~85% VL < 50). Proportion of patients starting treatment increased from 47.5% in 2011 to 89.9% in 2015, resulting in increase in undetectability (VL < 50) from 35% in 2011 to 71% in 2015 (figure). Median age at diagnosis was 36 (16–92); 15% were >50 years. 76.3% were men, 23.5% women and 0.2% transgender. Twenty-five patients (1.6%) died within 2 months of diagnosis, 62 (4%) were not linked to care for the entire follow-up period. Of 1,159 patients with detailed records, median CD4 at diagnosis was 342 cells/mL, (361 in men and 264 in women), CD4 below 200 cells/mL was found in 27.6%. CD4 at diagnosis did not improve over time (350, 362, 367, 331, 283 in the years 2011–2015, respectively). By the end of 2015, 77.9% of the 1,159 patients were in care, 74% were treated and 67% had VL < 50 copies/mL. In multivariate analysis risk factors for lost to follow-up were: previous incarceration OR 4.56 (95% CI 1.8–11.5), and age OR 1.02 (95% CI 1.005–1.036).

Conclusion. This is the first country-wide individual-based data cascade of care in Israel. In a small country with national health coverage, linkage to care should be improved. The low CD4 levels at diagnosis might imply for a higher rate of undiagnosed individuals.



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573. Are Facility-Based HIV Interventions in Low, Middle, and High Income Countries Achieving UNAIDS 90-90-90 Targets? Results From a Systematic Review (2007–2017)

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Background. Effective facility-based interventions could complement frontline efforts in reaching the UNAIDS 90-90-90 targets by 2020; however, a rigorous evaluation is yet to be done. We systematically reviewed evidence on all facility-based—including

provider-initiated testing and counseling (PITC)—initiatives through the lens of the UNAIDS targets (first 90, second 90, third 90).

Methods. We searched 11 databases from 2007 to 2017 and classified eligible studies by country income level (low [LIC], medium [MIC], high [HIC]), with outcomes (i.e., test attendance, linkages to care, and viral suppression/CD4 rates) stratified by UNAIDS targets. We considered interventions as highly successful at >86%, moderately successful at 71–85%, and unsuccessful at 55–70%.

Results. Of 28 studies, 12 (42%) were from MIC, 8 (29%) from HIC, and 8 (29%) from LIC. Reporting of outcomes by targets was: first 90—14/28 (50%); second 90—13/28 (46%); third 90—10/28 (36%). Interventions meeting targets were based in: MIC-4/12 (33%); LIC-2/8 (25%); HIC-3/14 (21%). Less than half of the studies (32%) reported successful initiatives. Initiatives in MIC highlighted the importance of support and care-based initiatives to test, treat, and maintain viral suppression. HIC initiatives presented poor success rates, with low attendance rates in primary and outpatient care settings. In HIC, testing and treatment services lacked adaptation to language and health literacy needs of at-risk populations. As only 2/28 (7%) studies reported data by UNAIDS targets, new interventions must report progress by UNAIDS targets for standardization and applicability.

Conclusion. Results revealed resource-level adapted interventions to test and treat at risk populations may be successful if applied innovatively. Interventions stratified by country income level show successful application of similar methods to reach target populations, and reveal gaps in the evaluated interventions to be addressed in future facility-based initiatives. Few studies (7%) reported success as per UNAIDS targets, and some care-based initiatives required context adaptations to demonstrate success. Standardized reporting as per targets will aid comparability of data from countries and facilitate scale up.

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574. Late Diagnosis of HIV in South Carolina: Prevalence, Cause, and Consequences

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Background. Late diagnosis of human immunodeficiency virus (HIV) increases the risk of new transmission, acquired immune deficiency syndrome (AIDS), and AIDS-related deaths. Late HIV diagnosis is also thought as a major impediment for the success of antiretroviral therapy (ART) outcomes. In the United States in 2014, about one-quarter of HIV infections were diagnosed late and simultaneously with AIDS. South Carolina (SC), a rural southern state, is among the nation's top in HIV incidence and also exhibits a very high rate of late HIV diagnosis. This study investigates prevalence, causes, and consequences of late HIV diagnosis in SC.

Methods. Using statewide surveillance data from patients diagnosed with HIV in the period 1997–2013, late diagnosis of HIV infection was defined as Stage 3 (AIDS) based on CD4 count 200 cells/mL and/or opportunistic illness within 3 months of HIV diagnosis. Logistic regression approach is used to identify the patient groups susceptible to late diagnosis. A Bayesian joint analysis is used to model the differentials in viral load, CD4 cell count, and death risk as consequences of late diagnosis. All statistical analyses have been performed after controlling for patient demographics and treatment information and statistical significance were reported at 5% level.

Results. The proportion of late HIV diagnosis declined from 61.6% in 1997 to 38.7% in 2013. However, the rate of late diagnosis in SC is still alarming and higher than many other states in the country. Male, non-White, and older patients exhibited higher odds of late diagnosis. After adjusting for demographic and treatment characteristics, the joint model analysis revealed that the patients diagnosed late were able to maintain lower viral loads even when compared with early diagnosed patients. However, late diagnosis made them highly vulnerable to have poor CD4 count and put them at about 70% high risk of death.

Conclusion. From early diagnosis of HIV infection, both the patient and the society can be benefited. The findings from this study can help devising policy strategies to implement targeted intervention and spread awareness to reduce late diagnosis after HIV infection in SC.

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575. Older HIV-Infected Adults Are Twice More Likely to Present Late to Care

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Background. There are 36.7 million persons living with HIV globally and 1.1 million in the United States with additional ~45,000 new diagnosis annually. One in six newly diagnosed HIV-infected persons is older than 50 years of age. It is estimated that 45% of the US HIV population is over 50 years old and more than 10% are older than 60 years. HIV is more likely to be diagnosed at an advanced stage in older adults.

Therefore there is a need to better understand the characteristics, staging of the disease, and response to treatment in older HIV-infected adults, in order to provide an effective treatment and prevention approach.

Methods. A retrospective medical record review of all newly diagnosed HIV-infected patients was conducted at a single academic center HIV ambulatory clinic from January 1, 2010 to December 31, 2015. Patients demographics, age group, HIV staging, and response to antiretroviral treatment (ART) measured by HIV viral suppression at 12 weeks (HIV RNA <50 copies), and change in CD4 count were collected. Bivariate analysis was conducted comparing two groups of HIV-infected patients: younger group (age <50 years) and older group (age 50 years and older).

Results. From 2010 to 2015, 130 newly diagnosed HIV patients were enrolled in the clinic. Thirty-one (23.8%) were 50 years or older and of those 12 (38.7%) were 60 years and older. Older patients group were more likely to have AIDS defining illness at the time of diagnosis, compared with the younger group [19 (61.3%) vs. 29 (29.3%), respectively]. Of those eight (42%) were older than 60 years. Compared with the younger group, the majority of the HIV-infected patients in the older group who were on ART (61.5%) did not achieve HIV viral suppression at 12 weeks. However, both groups accomplished immune reconstitution with an increase in CD4 cell count in older and younger groups (mean CD4 count = 132 and 200 cell/dl, respectively). More than 80% of patients in both groups were on an integrase inhibitor ART-based regimen.

Conclusion. HIV-infected patients 50 years and older are more likely to present late to care, and to have a delay in HIV viral suppression compared with younger patient group. These findings are alarming and require emphasize on early HIV diagnosis. More data are required to understand the immune response to cART.

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576. Continuing Disparities in Virologic Control for People Living with HIV (PLWH) Receiving Care at a Large, Urban, Safety-Net Clinic

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Background. The National HIV/AIDS Strategy highlights reduction of HIV-related disparities as a key goal. Despite universal access to therapy in the United States, the CDC estimates that only 58% of PLWH have achieved virologic suppression. We carried out a recent analysis of virologic suppression, examining for associated factors for PLWH receiving care at one of the nation's largest, urban, safety-net clinics in order to identify ongoing outcome disparities.

Methods. Ruth M. Rothstein CORE Center, Cook County Health and Hospital System's large, urban, safety-net HIV clinic cares for nearly 5,000 PLWH in the Chicago area. We report rates of virologic suppression for PLWH who attended at least one primary care visit between March 31, 2017 and April 1, 2018. We assessed for associations between key demographic characteristics, inclusive of zip code of residence, and virologic suppression (VL < 200 copies/mL³).

Results. A total of 4,660 patients attended at least one visit primary care visit at CORE between March 31, 2017 and April 1, 2018, of whom 84% were virologically suppressed. Sixty-six percent of our patients were African-American (AA), and 25% identified as Hispanic; 74% were male; patients' median age was 49. On multivariate analysis, AA race (OR 1.54, $P = 0.006$) correlated with ongoing viremia (VL > 200 copies/mL³), while older age (age group 30 - 49, OR 0.62, $P < 0.001$; age group > 50 OR 0.27, $P < 0.001$) and identification as Hispanic (OR 0.63, $P = 0.011$) associated with virologic suppression. Other HIV transmission categories and demographic characteristics, inclusive of a health literacy measure, did not associate with virologic control. Of the Top 10 most populated zip codes of residence for our patients, three had a significantly higher proportion of viremic patients; while one had significantly more suppressed patients.

Conclusion. Disparities in virologic suppression persist in younger and African-American PLWH who attended care at Chicago's largest, safety-net HIV clinic, with our data highlighting particular geographic areas of need. Structural interventions and quality improvement initiatives, at the health system and regional level, must continue to focus on improving outcomes for PLWH who fall into these demographic categories.

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577. Barriers to Transitions of Care in the Detroit Young HIV Population

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Background. One of the issues faced by clinics which care for young adults infected with HIV is a disruption to treatment during the transition from pediatric to adult care. Adherence to routine treatment is essential for this population to ensure

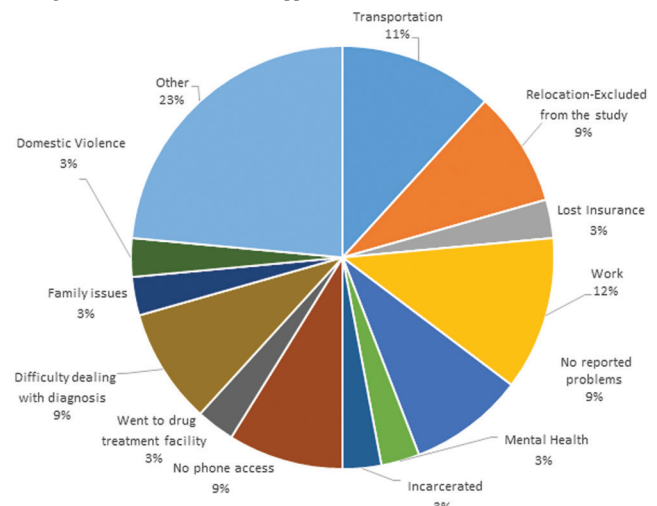
decreased rates of transmission and favorable health outcomes for the patients. The purpose of this study was to characterize the out of care transitioning patient population from pediatric to adult HIV care in an academic HIV clinic in Detroit, Michigan.

Methods. We assessed barriers to transition for youth with HIV who had not met the requirements for successful transition to the adult HIV clinic (three appointments). Patient barriers were assessed through telephone calls with three questions assessing their reasons for not coming to the adult clinic conducted by adult medical staff and by a pediatric social worker.

Results. One hundred and four youth were identified as transitioning youth. Of those, 13 were excluded due to relocation. Thirty-two (30.7%) patients did not successfully transition and 19 (18%) were accessible through telephone/text for interview. Demographic data for the 32 patients was collected and the predictors of disengagement were identified which included transportation (22.2, $n = 10$) and work (8.9%, $n = 4$). There were no statistically significant differences in the measured variables of race, HIV mode of acquisition, housing status, or employment status between those who did and did not successfully transition. In regards to reasons for missed appointments, there were eight reasons given to the adult medical staff, but the pediatric social worker was able to elicit, a much broader range of answers, 13.

Conclusion. We found that lack of phone access, transportation and work play a key role in patients transitioning to the adult clinic; however, we initially expected more socioeconomic factors to impair the transition process. In looking at the mismatched reasons for missed appointments given to the adult clinic and the pediatric social worker, it appears that the pediatric social worker could elicit a greater the variety of reasons for missed appointments. Moving forward, more pediatric social work support for the transitioning process may be beneficial.

Figure 1. Reasons for Missed Appointments Given to Pediatric Social Worker.



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578. Virtual vs. True: Identifying Out-of-Care HIV Patients at Lower Risk for Poor Health Outcomes

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Background. Engagement-in-care is a key component of the HIV care cascade. The CDC reports an engagement-in-care rate for people living with HIV (PLWH) of only 58%. Given the resource intense nature of care re-engagement efforts, it may be useful to identify sub-groups of lost-to-care (LTC) patients at lower risk for poor outcomes. We report on a group of patients whom have had no medical visit, but whom have had lab monitoring in the last year, and who may not require as intense re-engagement interventions.

Methods. At the Ruth M. Rothstein CORE Center, a large, Chicago-area, safety-net HIV clinic which cares for nearly 5,000 PLWH, between April 1, 2017 and February 1, 2018 we identified patients who had no medical visit within the prior 12 months, but at least one visit in the prior 36 months. Such LTC patients that had no lab monitoring at outside clinics, as determined via collaboration with Chicago Department of Public Health, are included in our analysis. We defined LTC patients as either "true", if they had no visits or lab monitoring city-wide or "virtual" if they had lab monitoring at the CORE Center, but no medical visits. We report on clinical and demographic differences for these "true" vs. "virtual" LTC patients, and perform logistic regression, assessing for correlation with whether patients subsequently returned to care.

Results. Five hundred patients met our LTC definition; 55 "virtual" and 445 "true." "Virtual" vs. "true" LTC patients more likely had private insurance (18% vs.