Mount Sinai Institute for Advanced Medicine

Mount Sinai Health System
Institute for Advanced Medicine
2016 HIV Treatment Cascades

Organizational Background

The Mount Sinai Health System (MSHS) is an integrated health system committed to providing distinguished care, conducting transformative research, and advancing biomedical education. Structured around seven member hospital campuses and a single medical school, the Health System has an extensive ambulatory network and a range of inpatient and outpatient services—from community-based facilities to tertiary and quaternary care.

The Institute for Advanced Medicine (IAM) is comprised of six HIV practices spread across Manhattan, NYC: Morningside Clinic at Mount Sinai St. Luke's Hospital in Morningside Heights, Samuels Clinic at Mount Sinai Roosevelt Hospital in Columbus Circle, Jack Martin Clinic at Mount Sinai Hospital in East Harlem, the Spencer Cox Clinic and Downtown Clinic in Chelsea, and Peter Krueger Clinic at Mount Sinai Beth Israel in Union Square. Together, these clinics represent the largest HIV primary care practice in New York, providing HIV primary care to over 11,000 patients. The IAM also provides primary care and prevention services to over 2,000 high-risk HIV-negative persons.

Cascade Development

While the HIV Treatment Cascades were prepared by the IAM, the facilities and practices represented in our cascades for HIVQUAL include those under the Mount Sinai Hospital (MSH), Mount Sinai Beth Israel (MSBI), Mount Sinai St. Luke's (MSSL), Mount Sinai West (MSW), Mount Sinai Queens (MSQ), and Mount Sinai Brooklyn (MSB). Other practices providing HIV care, included in this plan and the cascades, include the Mount Sinai Infectious Disease Faculty Practice Associates (FPA) and the Adolescent Health Center (AHC).

The HIV Treatment Cascades for Mount Sinai Health System were developed by extracting data using SQL from the back end of the main EMR, Epic, and combining the data with a number of other inpatient and outpatient EMRs. A variety of analyses were performed using Python and R in order to create the visualizations. This was the first system-wide cascade developed at Mount Sinai; though we have a number of cascades for our five IAM clinics, every HIV+ patient seen in each of our over 600 practices had not been examined. As such, a number of obstacles had to be overcome through design of various algorithms: deduplicating patients, allocating patients to hospitals/clinics, and determining diagnosis dates for the newly diagnosed.

We modified the original cascade guidance slightly to create stacked bars denoting the proportion of patients in each category followed at IAM or FPA clinics, which allowed analysis of where patients achieving each of the indicators receive care. Additionally, we added a section to the newly diagnosed cascade in order to track whether patients achieved viral suppression within 6 and 12 months of their diagnosis.

Quality Improvement (QI) Goals and Strategies

Based on the cascades, we identified areas for improvement and developed an action plan to address the gaps in care. We selected an improvement goal in 2017 to increase the rate of viral suppression among active patients from 81% to 85% by April 2018. IAM's QI Team collaborated with Medical Directors and discipline leadership at each IAM clinic to investigate the problem and outline strategies on how to increase viral suppression. Data was drilled down by demographics and other variables for active patients in 2016 who were unsuppressed at their last two viral loads. Disparities in viral suppression were identified for African Americans overall and specifically for African American women and men who have sex with men (MSM). Disparities also existed for youth between 18 and 29 years old.

Each IAM clinic planned and implemented uniform and tailored quality improvement projects to improve viral suppression throughout 2017. Examples of improvement strategies include the following: distributing lists of unsuppressed patients with scheduled appointments to the care team; utilizing chart reviews by providers of to identify patient barriers to viral suppression; implementing case conferencing and care teams to improve coordination of care for unsuppressed patients; and piloting the rapid treatment program though the AIDS Institute for same-day ART initiation for uninsured/underinsured newly diagnosed patients. The results of the projects are currently being evaluated in order to determine next steps for 2018.