Reaching the Goals of Routine HIV Screening Programs: Quantifying and Implementing an Effective HIV Screening System in Northern Nigeria Facilities Based on Optimal Volume Analysis

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Abstract : Objective: Routine HIV screening has been promoted as an essential component of efforts to reduce incidence, morbidity, and mortality. The objectives of this study were to identify the optimal annual volume needed to realize the public health goals of HIV screening in the AIDS Healthcare Foundation supported hospitals and establish an implementation process to realize that optimal annual volume. Methods: Starting in 2011 a program was established to routinize HIV screening within communities and government hospitals. In 2016 Five-years of HIV screening data were reviewed to identify the optimal annual proportions of age-eligible patients screened to realize the public health goals of reducing new diagnoses and ending late-stage diagnosis (tracked as concurrent HIV/AIDS diagnosis). Analysis demonstrated that rates of new diagnoses level off when 42% of age-eligible patients were screened, providing a baseline for routine screening efforts; and concurrent HIV/AIDS diagnoses reached statistical zero at screening rates of 70%. Annual facility based targets were re-structured to meet these new target volumes. Restructuring efforts focused on right-sizing HIV screening programs to align and transition programs to integrated HIV screening within standard medical care and treatment. Results: Over one million patients were screened for HIV during the five years; 16, 033 new HIV diagnoses and access to care and treatment made successfully for 82 % (13,206), and concurrent diagnosis rates went from 32.26% to 25.27%. While screening rates increased by 104.7% over the 5-years, volume analysis demonstrated that rates need to further increase by 62.52% to reach desired 20% baseline and more than double to reach optimal annual screening volume. In 2011 facility targets for HIV screening were increased to reflect volume analysis, and in that third year, 12 of the 19 facilities reached or exceeded new baseline targets. Conclusions and Recommendation: Quantifying targets against routine HIV screening goals identified optimal annual screening volume and allowed facilities to scale their program size and allocate resources accordingly. The program transitioned from utilizing non-evidence based annual volume increases to establishing annual targets based on optimal volume analysis. This has allowed efforts to be evaluated on the ability to realize quantified goals related to the public health value of HIV screening. Optimal volume analysis helps to determine the size of an HIV screening program. It is a public health tool, not a tool to determine if an individual patient should receive screening.

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