Center for Advancing
Health Policy and Practice

Boston University School of Public Health

Acuity Tool Pilot Project

Evaluation report

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Introduction

In 2014, the Massachusetts Department of Public Health Office of HIV/AIDS (MDPH) and Boston Public Health Commission HIV/AIDS Services Division (BPHC) initiated a project to pilot an acuity-based system for prioritizing the allocation of human and financial resources in a jointly-funded Medical Case Management (MCM) service system. The pilot involved testing an acuity tool designed to assess clients' level of need, document changes in acuity over time, and provide guidance regarding a responsive set of service requirements associated with each acuity level. BPHC and MDPH contracted with the Boston University School of Public Health, Health & Disability Working Group (BUSPH) to implement an evaluation of the pilot.

A committee comprised of BPHC and MDPH staff created the pilot acuity tool based on an existing form that had been piloted and utilized by MCM providers as part of a HRSA Special Projects of Significance initiative overseen by MDPH. The committee decided on areas of functioning, criteria for determining levels of service, and scoring ranges for each level of need. The tool consisted of 13 areas of functioning and 4 categories of need: self-management, basic, moderate, and intensive.

BPHC and MDPH held a statewide meeting for all funded MCM providers to learn about the pilot. While participation in the pilot was voluntary, agencies were encouraged participate in order to provide feedback on the format and content of the acuity tool, and on the process of implementation. Facilitators discussed the goals of the pilot and evaluation, the purpose of the tool, and the benefits of an acuity-based service system. Meeting participants received a toolkit containing instructions, the acuity tool and summary sheet, sample completed documents, and an FAQ.[1] Providers used case scenarios to practices implementation and were given opportunities to ask questions and raise concerns.

Agencies with client caseloads of 50 or more were asked to enroll a minimum of 20 clients into the pilot; MDPH contract managers and BPHC program coordinators negotiated smaller numbers for agencies with less than 50 clients. Agencies were given criteria for the selection of clients to be enrolled: no more than 10 clients who appear to be high-need, at least 5 clients who appear to be low-need, and if possible between 1 and 5 clients who are either newly diagnosed or new to the agency. Agencies were instructed to use the acuity tool at least twice with each selected client during the pilot period, from November 1, 2014 - April 30, 2015. In May 2015, BUSPH initiated the evaluation which involved 1) collecting, entering and summarizing the acuity data submitted by sites, 2) conducting agency file reviews to perform a validation of the acuity tool, and 3) collecting feedback from MCM staff regarding their experiences with implementation. This report provides a summary of the evaluation methodology and results.

[1] Boston Public Health Commission & Massachusetts Department of Public Health HIV/AIDS Medical Case Management Acuity System Acuity Toolkit, Updated December 16, 2014.

I. Methodology

The evaluation methodology included two phases. Phase 1 consisted of data entry and analysis of the acuity summary sheets submitted by the pilot sites. BUSPH received 825 forms for 761 unique clients and entered total and itemized scores, along with dates of completion for each client, into a spreadsheet. Double data entry was performed on 10% of each agency's forms for quality assurance purposes. BUSPH then performed analyses on two samples: 1) clients (n=564) with at least two acuity scores submitted in accordance with the pilot project protocol, 2) clients with only one acuity score (n=197) to examine any differences in acuity levels compared to those completing at least two scores.

Phase 2 consisted of agency visits to perform a validation of the acuity scores and to conduct MCM staff interviews. BUSPH generated a random list of 5-10 client IDs per agency from the database of completed acuity summary sheets and ensured adequate representation of all acuity scores. Newly diagnosed clients were not included due to low numbers of clients recruited in this category. The table below shows the methodology for sample selection:

Number of MCM clients by acuity score for validation sample

	Agencies with fewer than 20 participating clients	Agencies with 20 or more participating clients
Basic	1	2
Moderate	2	3
Intensive	2	5

The BUSPH evaluation team was trained on the pilot protocol and on the types of client documentation to be reviewed for the validation. This documentation included medical records, MCM intake and reassessment forms, MCM notes, medical notes, lab records (if on file), appointment records, and HIV Drug Assistance Program (HDAP) and MassHealth applications. Reviewers validated the first and last acuity scores submitted. For example, if an agency submitted 5 scores for a client, the reviewers selected the first and fifth scores for validation. When information available was not sufficient to assess an area of functioning, reviewers did not include that area of functioning when calculating the summary score. The evaluation team took steps to ensure reliability and consistency in scoring each client chart by conducting independent reviews of client charts and by engaging in weekly staff meetings to discuss review processes and definitions of criteria. Data analysis was restricted to 1) MCM scores and data that were validated during site visits; and 2) clients with complete data (i.e., clients with scores entered for each item on both MCM and agency site visit forms).

BUSPH staff also conducted one-hour group interviews with MCM supervisors and direct care staff. The goal of these interviews was to learn about the processes that MCM staff followed

when selecting clients and determining scores, and to collect feedback regarding strengths and limitations of the tool, the timeframe and process for implementation, and its use in informing decisions regarding service provision. Appendix 2 includes the list of interview questions and recommended probes.

BUSPH analyzed the interview data using a thematic content analysis approach. Evaluators analyzed narrative data for content across each of the main questions and for patterns across regions and agency type, and noted themes if they were mentioned by at least two agencies. The protocol was approved and given an exempt study status by Boston University Medical Center's Institutional Review Board (IRB).

II. Results

Thirty-eight (38) agencies across Massachusetts and New Hampshire participated in the pilot project: twenty-five (25) MDPH-funded and thirteen (13) BPHC-funded. Eighteen agencies (18) were medical providers (offering HIV primary medical care on-site) and twenty (20) were non-medical providers. Agencies represented all seven Health Service Regions in accordance with MDPH and BPHC guidance.[2]

Agencies submitted completed forms with at least one acuity summary score for 761 MCM clients, representing a total of 1542 scores. Approximately 74% (n=564) of clients had at least two scores submitted, with a median time between scores of 5.4 months. The range in the number of scores per client varied from 1-7 across agencies. Appendix 1 shows the distribution of clients and number of scores by funder, agency type, and region.

With respect to initial scores, the proportion of clients in each acuity group included the following: 14% intensive, 34% moderate, 51% basic and 1% self-managed. Among clients (n=564) who initially scored as intensive, approximately 60% scored in the moderate or basic categories at the final score and 40% remained intensive. Among those in the moderate category initially, 28% scored in the basic category, 70% remained a moderate score, and 2% became intensive by the final score.

The validation process indicated a fair level of agreement between the BUSPH reviewer scores and the MCM scores for both total acuity and individual areas of functioning. There were no differences in level of agreement of scores by agency type or region. Areas of functioning such as care adherence, current health status, mental health, substance use, housing, transportation and income were associated with higher levels of agreement between reviewers and medical case managers than the areas of HIV knowledge and nutrition.

[2] One agency with offices in Greater Boston and MetroWest was included with the Greater Boston agencies.

Findings from the MCM staff interviews indicated that many agencies identified strengths in the tool, stating that it was comprehensive and that it helped them focus on clients' needs. Staff also reported they liked the idea of a standardized tool. Some staff reported they used it to document outcome measures and for tracking client progress in addressing needs and obtaining services.

Limitations were also identified. Some MCMs found the tool duplicative of existing HIV MCM assessment/reassessment forms and methods for collecting outcome measures. It was also noted that MCMs felt the tool was "too focused on HIV," citing challenges experienced by clients that impact their acuity more than their HIV health status. Other MCMs expressed a desire to have the language in the tool reflect the role of cultural factors in contributing to client acuity. Some MCMs described challenges with the subjectivity of language in the tool.

Many MCMs indicated that the tool scored clients lower than anticipated and stated that these scores did not reflect the true acuity level of their clients. Agencies provided several reasons for this including inaccuracies related to client self-report, MCM confusion about whether to score the clients in the context services they are currently receiving, other health issues that impact acuity but that were not included in the tool, and the amount of time and energy required to work with clients whose scores did not categorize their need as intensive.

Agencies offered several suggestions for additional areas of functioning. The most frequently referenced areas (n=10 or more agencies) included immigration, co-morbidities, language and cultural barriers, and insurance issues. Additional areas of functioning referenced by 2-9 sites included stigma, dental issues, age, trauma history, new to care/clinic, and general literacy level (including computer literacy and access).

MCM providers also offered feedback on scoring criteria. Examples of suggestions included adding options for people who are sexually abstinent, individuals who choose not to be on antiretroviral medications (ARVs), and clients who demonstrate resistance to mental health care. Other suggestions included adding space for MCMs to write notes and creating an electronic version of the tool. Finally, several MCMs recommended that removing grammatical constructions such as "and/or" within individual criteria would clarify the tool.

Most agencies indicated that it would be reasonable to complete the tool once every 6 months and stated that completion could be coordinated with reassessment processes. Some MCMs suggested that the acuity tool be used in place of reassessments. Additional detail regarding comments provided on areas of functioning, related criteria, and scoring is available upon request from BPHC and MDPH.

Appendix 1: Number of clients and total scores by funder, agency type and region

	Number of Clients	Number of Scores
Overall	761	1542
Funder		
BPHC	255 (34%)	481 (31%)
OHA	506 (66%)	1061 (69%)
Agency Type		
Medical	381 (50%)	754 (49%)
Non-medical	380 (50%)	788 (51%)
Region		
Cape & Islands	38 (5%)	49 (3%)
Central	58 (8%)	108 (7%)
Greater Boston/Metrowest	314 (41%)	627 (41%)
New Hampshire	36 (5%)	72 (5%)
Northeast/Northshore	40 (5%)	91 (6%)
Southeast/South shore	160 (21%)	371 (24%)
West	115 (15%)	224 (14%)

Appendix 2: Question Guide for Medical Case Management Staff

Introduction (to be read at the meeting with case managers by BU staff)

Thank you for agreeing to participate in this study to assess the effectiveness of the acuity tool for HIV case management services. We are interested in learning about your experience with implementing the acuity tool with clients. The purpose of this interview is to learn about your perceptions of the strengths and weakness of the form in terms of assessing client needs and your recommendations for improving its use with clients and how it can help you improve case management services. The interview is approximately 1 hour. All of this information is confidential. We will not be sharing individual responses with your funder (either Boston Public Health Commission or MA Department of Public Health/Office of HIV/AIDS). If you are not comfortable answering a questions you do not have to answer it. Your participation is voluntary. We will be compiling the responses across agencies and sharing with BPHC, MA DPH and all providers at a future meeting in the Fall 2015. If you have any concerns about this study or choose to withdraw your responses, please call Serena Rajabiun at Boston University School of Public Health, (617) 638-1934.

Questions for case managers & supervisors

1. Describe your process on how you scored the client on each criterion. Did only one case manager complete the form? Was it reviewed by a supervisor? Did a second case manager validate the scores?
2. In general describe the strengths and limitations of the form.
    a. Is the list of areas of functioning complete? Are any areas of functioning missing?
    b. Are the criteria clear for each level of needs? Was it easy/difficult to score participants based on this criteria? In your opinion did it match the clients' needs?
3. Is the time interval (every 3 months) appropriate for managing work with clients? Would you recommend a different time frame?
4. What are your recommendations to modify the form or the process of using it in the clinic?
5. How did the acuity tool inform the work to be conducted with the client? (Probes: did you use the results to develop an ISP? Was it used to manage caseloads?)