



**Decision-Points for System Management:
*Achieving Continuous Improvement,
Adaptation, and Sustainability***



Abstract

This paper lays out a framework for improving system performance by providing targeted data for decision making at key decision points in treatment. The framework discusses the use of three types of data for improving care decisions: caseload, engagement, and outcome. The paper describes how data feedback systems can be implemented iteratively to maximize current resources and stakeholder buy-in to the performance improvement process. The resulting Outcome Management System (OMS) maximizes stakeholder buy-in and performance by providing increasingly relevant, on-demand information for decision-makers at each level of the system. This information allows for specific strategic actions leading to continuous system improvement, adaptation, and sustainability.

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Introduction

The current era in health care appears to be marked by the tightening of health care budgets, increasing emphasis on information technology to improve decision-making, and consumer empowerment to set goals and direct care. Consistent with these emphases, there is increasing focus on ensuring the real-world efficiency and effectiveness of behavioral health treatment. Now more than ever before, funders, clients, and other interest groups are looking to behavioral health professionals to be able to demonstrate that the treatments provided work to expeditiously improve the symptoms and functioning of diverse clients. So far, there is only modest evidence that psychological treatments consistently produce symptom reduction and functional improvement for clients with serious mental health concerns (Becker, Chorpita & Daleiden, 2011; Danckaerts, et al., 2010; Weisz et al, 2013).

Instead of consistency in outcomes, tremendous variability in outcomes may be the current norm (Institute of Medicine, 2013; Weisz et al., 2013). This variability may be particularly detrimental in two ways. First, when highly variable performance across providers is averaged to create a system-wide metric of performance, it obscures both risky, ineffective care practices and exceptionally effective care practices. Second, great variability in care means that clients cannot depend on a consistently effective care experience from one provider to the next, undermining trust in the profession as a whole.

Improving decision-making at key decision points has been identified as a critical pathway to addressing inappropriate variation in health care practices and costs (Institute of Medicine, 2013). Health care systems are increasingly employing electronic record-keeping systems to track care and manage client outcomes. Electronic record systems which allow for the management of client outcomes are referred to in this paper as Outcomes Management Systems (OMS). The adoption of OMS has also likely been accelerated by recent federal inducements for their adoption (H.R. 3590 Patient Protection and Affordable Care Act, 2010).

However, adopting a specific OMS is frequently a time-consuming and expensive proposition with substantial risks and unknown rewards. The extant literature includes examples of behavioral health systems in which the adoption of an OMS was met with opposition by clinicians (Batty et al., 2013; Unsworth, Cowie & Green, 2012). Clinicians may view the introduction of such a system as an intrusion on their work, or otherwise contrary to their views or values.

Furthermore, OMS may be incompatible with each other, differing in the ways data are shared or transmitted, as well in the metrics used to measure performance (Johnston & Gowers, 2005). Thus the adoption of different OMS may lead to a profusion of systems and metrics for measuring and feeding back information on performance, ultimately creating additional burden rather than efficiently directing clinician and administrator effort towards achieving a common, well-defined set of goals. Given the uncertainties in terms of the benefits of such a system, reluctance to adopt such a system may be entirely rational.

The goal of this paper is to introduce a meta-framework for creating OMS which are flexible, iterative, and have clear benefits to all users. The framework has mostly recently been applied to managing outcomes in behavioral healthcare systems, but can be extended to nearly any service system. The premises of the meta-framework are that a) information obtained to understand client experience can be distilled to measurable decision points and that b) an OMS can be implemented in a stepwise manner to capture increasingly detailed actionable information relevant to these decision points, facilitating increasingly effective individual and system decisions.

Decision Points Framework

The first assumption has some face validity: all clients and clinicians experience a series of decision points at which care can begin, continue, or end. Care rendered at each decision point can have neutral, negative, or positive effects. The general series of events occurring during a routine episode of care include the provider making care accessible, engaging the client in the care process, providing services appropriate to the client's strengths and needs, facilitating the attainment of the client's treatment goals, and providing appropriate after-care and/or linkages. In a performance matrix, these decision points become the domains of Access, Engagement, Service Appropriateness, Service Effectiveness, and Linkages (Table 1).

Table 1. Definitions of Decision Points.

Decision Point	Definition
<i>Access</i>	provision of services in a timely manner, appropriate to the client's individual needs.
<i>Engagement</i>	child and caregivers' participation and empowerment in treatment sufficient to meet the child's goals.
<i>Service Appropriateness to Need</i>	matching of services to the individual child's needs and strengths, according to system-of-care values and scientifically-derived standards of care.
<i>Service Effectiveness</i>	impact of treatment on a child's mental health symptoms and functioning at home, in school, and in the community.
<i>Linkages</i>	provision of coordinated care during and after an episode of care.

There is substantial evidence that client outcomes are affected by care decisions made at each of these decision points. Delayed access to behavioral health services, for instance, is related to poorer treatment outcomes across a range of disorders (Altamura, et al., 2010; Altamura, et al., 2008; de Diego-Adelino, et al., 2010). Engagement in care is related to treatment retention and outcomes (Bickman et al., 2012; Gopalan, et al., 2010; Staudt, 2007; Werba, Eyberg, Boggs, & Algina, 2006).

The importance of delivering appropriate services is demonstrated by the proliferation of professional competencies and practice standards by the major professional bodies in the behavioral health field (for examples, see Cohen et al., 2010; Geller & March, 2012; Hoge, et al., 2005; Kaslow, 2004; Nelson, Chenail, Alexander, Crane, Johnson & Schwalie, 2007), as well as mounting concern that inappropriate care is related to negative health and functional outcomes (Lillienfeld, 2007; Parker, Fletcher, Berk, & Paterson, 2013). Service effectiveness, as evidenced by gains throughout treatment, strongly predicts later treatment outcomes (Haas, Hill, Lambert & Morrell, 2002; Stulz, Lutz, Leach, Lucock & Barkham, 2007). Linkages, including the coordination of care within a given episode of care as well step-down services, are related

to functional and fiscal outcomes (Armstrong, et al., 2006; Lyons, Woltman, Martinovich & Hancock, 2009; Ringle, Huefner, James, Pick & Thompson, 2012).

These “decision points” are necessarily distillations of service processes (interactions between service providers and recipients) which are dynamic and potentially cyclical. For instance, though Access precedes all other decision points, it does not end once the engagement process has begun. Anyone who has experienced service rationing knows that changes in Access may abruptly affect the rest of the clinical processes essential to goal attainment. Similarly, though clients have to access treatment services before they can be engaged in the treatment process, engagement likely reciprocally influences their efforts to continue to access services, as well as the likelihood that they will experience appropriate, effective care. Thus, decision points are simply representations of the experience of these dynamic, unfolding processes at a single point in time. Examples of clinical tasks included in each process are provided in Table 2.

Table 2. *Decision Points and Examples of Associated Service Processes*

Decision Point	Service Process
Access	Screening / Initial determination of service need
	Service process psycho-education
Engagement	Collaborative Assessment
	Goal-setting
Service Appropriateness	Treatment selection
	Treatment implementation
Service Effectiveness	Goal and progress review
	Treatment continuance or modification
Linkages	Treatment coordination
	Discharge planning
	Linkage to step-up or step-down services

These service processes create patterns of outcomes across time and levels of a system. These patterns may repeat at different levels of a system. This perspective on multi-level patterns is consistent with a complexity approach to understanding multi-level performance, as advocated by an increasing number of systems thinkers, policy-makers, and researchers (Israel & Wolf-Branigin, 2010; Milstein, Homer, Hirsch, 2010; Mabry, Marcus, Clark, Leischow & Mendez, 2010; Plsek & Wilson, 2001).

In the case of behavioral health care systems, the multiple levels of the system include the client and caregivers, clinician, clinical supervisor, program and system. The same information, aggregated appropriately, can be used to understand outcomes at each level of the system. The processes underlying these patterns, however, may differ at each level of the system.

The Outcomes Management Systems framework here focuses on understanding performance at each decision point as one way to identify at which points one might need to better understand the underlying processes creating that performance. Should performance on one indicator not meet the standards set out by a scientific or best practice standard, then it may be fruitful to employ a deeper investigation (such as a root cause analysis) of the process(es) responsible for such performance. This multi-stage methodology allows system participants to efficiently identify and address performance concerns. In keeping with the idea of maximizing the efficiency of system management efforts, the second premise is that this outcomes management framework can be implemented in a step-wise fashion which maximizes the availability of actionable data while minimizing infrastructure investment costs.

Data Types in an OMS

Before describing the process of implementing an OMS, we must first describe its data elements. We describe each data type in turn: caseflow, engagement, and outcomes.

Caseflow data

At the heart of caseflow data is the ability to track who enters a system, for how long, and what services they receive while in care. Caseflow data allow one to compare whether the services received are provided with an adequate intensity and duration for an expected clinical or functional effect to occur. In systems composed of multiple intensities of care, caseflow data also allow for identification of the rate at which clients step-down or step-up (sometimes termed 'fail-up) from a particular intensity of care, as well as the rate of lateral transfers to services at the same intensity of care.

Engagement data

Engagement data are designed to monitor how fully clients are empowered in the process of meeting their health and wellness goals. Engagement measures, then, must ask about client experience at key decision points in the clinical process: in identifying needs and resources (strengths), generating health goals, choosing interventions to address such goals, actively participating in meeting such goals, evaluating progress towards meeting goals, and identifying alternative interventions if current actions are not having their intended effect.

Outcome data

The purpose of outcome data is to understand the extent to which clients experience symptom relief and functional improvement as a result of services provided. Some systems are now also including the extent to which a client develops capacities to thrive and address new challenges as they arise, typically termed 'strengths.' Outcome data must include the client's perspective on progress in these areas, in keeping with the collaborative framework.

Putting Data Together

These three types of data vary in their availability and usefulness for specific decisions. Caseflow data are typically the most readily available data; outcome data are typically the least available data. Caseflow data are often readily available because they are required to bill funders (clients, insurance companies, or federal bodies) for services rendered. Outcome data may be the least readily available because they often require substantial effort to integrate into typical care operations and because there may be real or perceived disincentives for reporting performance.

Developing a Feedback System

At the heart of a meaningful feedback system are the ideas that information provided must be useful for decision-making, and available when decisions need to be made. Demonstrating that an OMS meets these requirements likely lessens resistance to its implementation by providing stakeholders with clear value-added for its use. The former is dependent on the framework and rationale employed to develop the OMS' indicators; the latter on the technical platform used to make information available to stakeholders.

Iterative Implementation of OMS Feedback

In order to remain solvent, all systems generate claims data. Claims data have the advantage of a built-in incentive for their completion: they directly generate revenue, making all other operations of the system possible. Because of this, they likely form the most complete and the most available source of information about client contact with a service system. These data can be captured and used to inform decision-making at all of the decision points outlined above. For an example of claims-based indicators, see Table 3 below.

Table 3. *Examples of Claims-based Indicators by Service Process*

	Claims Indicator
Access	Number of Clients Entering, Exiting, Carrying over in a given time period Restrictiveness of care by cultural group
Engagement	Number of Face-to-Face Contacts in First 30 Days of Service Days since last face-to-face service
Service Appropriateness	Minutes of face-to-face contact per week Length of stay Percentage of clients with psychiatric evaluation (for whom diagnosis indicates medication is first-line treatment)
Service Effectiveness	Percentage of clients with movement to higher, lower, or lateral level of care within 60 days of episode closing
Linkages	Time to step-down services Percentage of persons receiving step-down services within given time period post-closing Primary care appointment in past 12 months

However, billing data suffer from serious limitations when used to understand service outcomes. The primary limitation is that billing data are typically focused on recording units of service billed, and do not contain data about the experience of persons for whom services are billed. Because of this, there is often substantial inference which results when they are used to make sense of service processes.

For instance, if one wanted to know whether a client was engaged in services, one could look at a proxy for engagement using the billing system. One such proxy is the frequency of sessions attended in the first month of case opening. There is some evidence that attending weekly sessions during the first month of a service episode is related to positive therapeutic outcomes (Ingoldsby, 2010). However, attendance at treatment may be motivated by numerous factors other than engagement in the process of setting and reaching treatment goals (including a sense that one 'should' attend therapy for oneself or a child, being compelled to attend by an outside body such as a court, etc) (Staudt, 2007). Hence this indicator conflates attendance with participation. Though the claims-based indicator is useful, a direct measure of the indicator reduces the level of inference made about the process.

Engagement data

Over the past twenty years, the role of the client in the therapeutic process has come into focus. The traditional hierarchical relationship between provider and client has come under increasing critical scrutiny, and a more collaborative model of goal attainment has received increasing policy and research support. Across health conditions, empowering clients to direct their care has been associated with more positive, enduring outcomes than those obtained via traditional hierarchical care models (Dunst, 2007; Johnson, 2011; Kutash, et al., 2013).

In order to capture this, measures of engagement need to provide data on the engagement experience at each of the major processes which occur during an episode of care. These include access to care, introduction to the care process, assessment, goal setting, intervention, progress review, and aftercare (Israel, 2012). Measures need to gauge the experience of the client and any other adult who has primary responsibility for day-to-day decisions about how to support her or his goal attainment. This information is crucial to bridging the gap between knowledge about clients' receipt of care and how their experience of that care led to their clinical and functional outcomes.

Engagement data can often be collected as part of existing system monitoring processes. Most health care systems are required to collect a measure of client experience with the care system. Many times these are simply measures of client satisfaction, which has only a very weak relationship with client outcomes. Engagement measures are direct measures of client experience, have a much stronger relationship with client outcomes, and can often usefully replace existing satisfaction or client experience measures. When used with claims data, they provide a clear sense of the depth of participation and engagement experienced by a service recipient.

Outcomes data

The disability rights movement in the 1970s and 1980s focused professionals' attention on insuring that persons served by the health care system were allowed to make their own choices about care and were able to achieve functional lives in the community (Chamberlin, 1978, 1984; Schalock, 2004). Subsequent policy and research have supported the idea that persons with serious health and behavioral health concerns can achieve meaningful, functionally important lives in their community (Harding, Brooks, Ashikaga, Strauss, & Breier, 1987). Measures of outcomes must include both indicators of symptoms and indicators of functioning. They may also include indicators of strengths, as mentioned previously. Studies have shown that there is substantial divergence between client and clinician rating of symptoms and functioning, and there is some evidence that clinicians are more likely than trained observers to report using therapy strategies which are effective in achieving therapeutic goals (De Los Reyes, Kundey, & Wang, 2011; Hurlburt, Garland, Nguyen, & Brookman-Frazee, 2010; Lewin, Peris, De Nadai, McCracken, & Piacentini, 2012). In order to minimize this tendency, these measures should be completed by the client, or collaboratively by the client and clinician.

Direct measures of service processes and their outcomes greatly reduce or eliminate the inference involved in interpreting outcomes management data. Direct measures of these processes, however, require several layers of infrastructure development in order to be used successfully. Measures must be selected based on clearly defined outcomes. Measures must be acceptable to diverse populations and appropriate for measuring the construct of interest with diverse populations. The measures must also minimize burden on clinicians in training and ongoing support required for their administration and scoring. Administrators also have cost constraints which prioritize the use of the least costly, fewest possible measures. In short, the use of direct measures of service processes and outcomes requires a substantial infrastructure development and maintenance cost, and administrators must choose measures which maximize the return on such investment.

Given these constraints, we propose a developmental framework for implementing an outcomes measurement system. This framework uses the same domains over time but moves to utilize increasingly direct measures and sophisticated data feedback to answer questions and provide benefits relevant to multi-level stakeholders. We describe two processes below, in turn. The first is the progression towards increasingly direct measures of service processes and outcomes. The second is how these data can demonstrate benefit by providing increasingly sophisticated decision-support feedback.

Feedback System Implementation Strategy

The implementation of an OMS can have important consequences for its acceptance, ability to draw in additional resources, and ultimate usefulness. Failure to attend to the scope, timing, and usefulness of OMS implementation can result in mis-use, under-use, or non-use of the OMS when making critical multi-level decisions. The implementation strategy we will outline is designed to make the system relevant and useful as soon as it is brought online. Based on this initial success, it is expected that stakeholders will increase their commitment to the full implementation of the OMS, and its necessary supports.

Stage 1: Caseflow Data

Caseflow data are ubiquitous. Beginning the build of an OMS with caseflow data is also aided by the fact that caseflow data are already routinely collected and entered by clinicians in order to bill for services: no additional forms or data are typically needed. Thus, without the investment of any additional time, clinicians can gain access to richer data about how their clients are moving through the system.

Caseflow data can be used to answer some care questions directly, and others by proxy. They are most useful for answering a question which perennially recurs among persons at all levels of the system: How do I manage the demand for services? Caseflow data can be used to determine the rate of system entry and exit (*access*); whether entering clients use services consistently over time or drop out (*engagement*); if services are provided with a dose and intensity expected to lead to reliable improvement (*service appropriateness*); at what rate clients step down from care or ‘fail-up’ to higher levels of care (*service effectiveness*); whether and how quickly clients are able to access aftercare following an episode of care (*linkages*).

This initial set of data must be structured so that persons at **all** levels of the system can monitor their performance and see how it relates to overall system functioning. This has three implications for the design of OMS feedback reports. First, they must be accessible in the flow of clinical decision-making – this means that they must be updated nightly and available on-demand to multi-level stakeholders. Second, they must provide information germane to users at each level of the system. For clinicians and their clients, they must provide case and caseload-level reports, for supervisors they must provide caseload-level reports, for program directors they must provide program level reports, and for administrators they must provide system-level reports. Third, at each level of increasing responsibility, users must be able to drill down to all previous levels of outcome management information. This is because management requires ongoing tracking of whether efforts at each level are having desired effects. Data which are aggregated into summary statistics only serve to obscure the very variation one is

typically trying to address. Important variation can only be uncovered (and then acted on) with these multi-level drill-downs.

Stage 2: Engagement Data

The second stage often involves only a minor change in current practice, so minor as to not even be seen as a change by many clinicians. This involves substituting a comprehensive engagement measure for existing satisfaction or client experience surveys. Responses to satisfaction surveys typically have little variability, and do not consistently predict client outcomes (Barber, Tischler & Healy, 2006; Garland, Aarons, Hawley, & Hough, 2003; Garland, Haine, Lewczyk Boxmeyer, 2007).

In contrast to client satisfaction, client engagement is clearly linked to client and clinician rated outcomes (Green, 2006; Hawley & Weisz, 2005; Kazdin, Whitley & Marciano, 2006). Measures of engagement also provide useful data on practice, and may more meaningfully orient the clinician to which of their actions currently do and do not facilitate engagement. Engagement measures, when they are appropriately administered and resulting responses are fed back to clinicians, add a powerful complement to data provided from the caseflow record. They offer concrete suggestions as to which clinical processes to target to improve client care at each decision point in the clinical care process. They also set the stage for the meaningful introduction of outcome data more broadly. They do this by orienting the clinician to the process of identifying needs in, and improving, clinical practice.

Stage 3: Outcome Data

Outcome data allow stakeholders at all levels to see the value of the investment made in service delivery and use. They answer the question of what value has been achieved for clients' participation, clinicians' practice, supervisors' monitoring and mentoring, program director's coordination and implementation, and administrators' infrastructure development. Because everyone has a stake in the outcome, it is particularly important that a) appropriate measures of outcomes are implemented and b) there is a mature technical and relational support structure in place to act on outcomes information. The latter is typically accomplished by the step-wise implementation of caseflow and engagement data, and the use of these data for multi-level quality improvement and practice change activities.

One goal of such efforts is to create a learning culture within an organization. This means that stakeholders can work collaboratively to understand what data say about current performance, identify whether the performance meets a desired standard, and then act to improve it if it does not. Once action has been taken, indicators of performance are then tracked to understand whether the implemented change had the desired effect on performance. Feedback on performance is then used to define a next course of action. This is a rational

approach and response to data, and encapsulates the activities typical of a learning culture. Failure to create the expectation and experience of this process, however, may lead to substantive pushback when new data are communicated. Without a clear process for, and experience of, working with data to improve performance, fears regarding how the data may be abused often run rampant. Using this step-wise implementation model prepares providers for addressing the potentially most impactful data of all: outcomes data.

Measures of outcome, as mentioned previously, must be able to benchmark and track symptom severity, functional status. Increasingly, there is the expectation that such measures will also benchmark and track client strengths. These measures must also, at the very least, represent the perspective of the client. Though other perspectives are important, the client is the primary arbiter of the usefulness of the intervention.

Implementation of outcomes measures must include a process by which clinicians and clients shape how the measures are used to improve practice and empower the client. Clinicians are often most concerned about disruptions to their current clinical practices. The more fully the measure is integrated into the tasks of routine practice, and facilitates clinical decision making (particularly in complex cases), the more likely clinicians are to demonstrate willingness to use the instrument. Likewise for clients, the more clearly the measure is linked to their empowerment regarding having their voice heard, defining support needs, and reaching their goals, the more likely it is to be embraced. Youth or caregivers are more likely to speak openly and experience therapeutic change when assessment is perceived as collaborative and strengths-based, rather than blaming or solely focused on problems or failures (Brenner, 2003; Harborne, Wolpert, & Clare, 2004; Israel, 2012).

At the system level the implementation of outcomes measures must take place in a context in which these measures are deployed as part of efforts to understand and improve practice. Using these measures to understand practice, and identify strengths in current practice, is one way to help insure that they are completed accurately. Additionally, triangulating direct measures of client outcome with client engagement data and relevant caseflow data (such as step-up or step-down rates) helps identify what data are discordant and require further inquiry. The step-wise implementation of data feedback loops for decision making comes to its fruition with outcomes data. At this point stakeholders can compare different facets of performance to understand in what instances the system is working as intended. Stakeholders can also identify in which instances practices need further inquiry or improvement.

As such, full implementation of an OMS with caseload, engagement, and outcomes data allows for the generation of automated, sophisticated feedback which informs questions critical to the management of a system. There are substantive synergies achieved by meaningfully combining these varied types of data. Examples of key indicators in a fully implemented OMS feedback system are presented below in Table 4. Examples of questions which can be answered by combining the data from more than one indicator are provided in the narrative below the table.

Table 4. Examples of Claims-Based and Direct Indicators of Service Processes

Indicators of Service Processes	
Access	<ul style="list-style-type: none"> Client / Caregiver Perceptions of Accessibility of services Number of Clients Entering, Exiting, Carrying over in a given time period Restrictiveness of care by cultural group
Engagement	<ul style="list-style-type: none"> Client Perception of Collaborative service delivery Number of Face-to-Face Contacts in First 30 Days of Service Days since last face-to-face service
Service Appropriateness	<ul style="list-style-type: none"> Percentage of persons receiving intensity of care appropriate to assessed level of need Percentage of clients with particular disorders receiving related psychotropic medications (e.g., ADHD) Minutes of face-to-face contact per week Length of stay Percentage of clients with psychiatric evaluation (for whom diagnosis indicates medication is first-line treatment)
Service Effectiveness	<ul style="list-style-type: none"> Percentage of clients experiencing reliable, clinically significant improvement Rates and magnitude of functional improvement due to treatment Percentage of clients with movement to higher, lower, or lateral level of care within 60 days of episode closing
Linkages	<ul style="list-style-type: none"> Client perceptions of service availability, access post-discharge Time to step-down services Percentage of persons receiving step-down services within given time period post-closing Primary care appointment in past 12 months

Questions Answered

This mature system allows stakeholders to ask and answer a number of questions which are critical to understanding and improving system performance. In terms of Access,

- Is service Access perceived by clients as timely and appropriate?
- Does Access vary by clinical need?
- Does Access vary by demographic or cultural variables?
- Is the promptness of Access associated with more rapid clinical and functional improvement?

In terms of Engagement:

- Is greater initial Engagement associated with more rapid, effective clinical and functional improvements?
- Is client-rated Engagement related to rates of graduation from or re-entry to the care system?
- Are lower rates of Engagement associated with higher rates of “failing up” to higher levels of care?

Regarding Service Appropriateness:

- Are services perceived by clients as appropriate in their intensity and duration?
- Is the dose of care received related to differential clinical or functional improvement?
- Is length of stay associated with differential clinical or functional improvement?
- Is length of stay associated with differential re-entry rates to mental health services?
- Are treatment services routinely matched to the intensity of client need?
- Are treatments provided consistent with practices identified by scientific consensus as most efficacious for the particular treatment need?

Relating to Service Effectiveness:

- What percentage of children experience significant clinical or functional improvement?
- What percentage of children experience clinical or functional deterioration?
- Are there particular client needs which programs treat more effectively than others?
- Which programs provide the fastest rates of clinical and functional improvement?
- Which programs offer the best value for public service dollars?

Regarding Linkages:

- Do youth and caregivers experience care as coordinated and seamless?
- Is failure to provide linkages to aftercare associated with greater long-run service costs?
- Are faster linkages to aftercare associated with better clinical outcomes?
- Are faster linkages to aftercare associated with better functional outcomes?
- Are faster linkages to aftercare associated with lower hospitalization re-entry rates?
- Are perceptions of care coordination related to long –run service costs?

These are just a few of the possible questions which can be answered with a fully integrated clinical and claims-based OMS. The range of information available in a fully configured system allows for clients, clinicians, clinical supervisors, program directors, and administrators to identify areas for improving care and instances in which successful practices should be celebrated and shared (see Appendix A).

Summary

Aligning the decision points framework to the client experience of care provides a clear, defensible rationale for the content of an outcomes management system applicable to any health care or human service profession. In this monograph, an application of the use of this framework is provided for the behavioral healthcare field. The implementation strategy outlined maximizes the value of this system for all stakeholders involved. The framework and implementation process are designed to allow for an organic process by which increasing investment in an outcomes management system is justified by increasingly useful, specific information for improving important care decisions and processes.

The framework and resulting system described here require that stakeholders at all levels are provided with data to inform their decision-making. These data must be provided at the speed of decision-making in clinical settings. This becomes increasingly important as the data become more clinically oriented, in particular when collecting and feeding back clinical, functional and strengths data.

The implementation of this framework allows for systems to allocate resources for improvement and development in ways which are likely to have the most impact. The information generated by the implementation of this framework allows stakeholders to identify service processes in the system which appear to be functioning as intended, and service processes which would benefit from root cause analysis and intervention. The framework has been used to identify and address delays in service access and receipt, identify cultural groups at risk for dis-engagement, improve service authorization and re-authorization procedures, and identify providers who are effective at addressing specific behavioral healthcare needs of publicly-funded clients.

In addition to its use for day-to-day system management and improvement, this framework is also consistent with national policies designed to improve healthcare service efficiency and effectiveness. Data generated from implementation of the framework has been used to inform policymakers and system stakeholders on progress towards meeting the quality aims set out in the National Strategy for Improving Healthcare Quality (2012)(see Appendix B, Table 1).

This guide lays out a clear rationale for an OMS, the indicators needing to be tracked, and an implementation plan for the iterative development of such a feedback system. Substantive additional supports are required for implementation of this framework to be successful. Such a system will not be successful if the appropriate Information Technology supports are not made available, including secure entry and processing of claims and clinical data, and instantaneous, on-demand feedback regarding the data.

Furthermore, the feedback must be constructed and communicated in ways which facilitate multi-level buy-in and engender a continuous learning culture. Implementation experts have suggested that outside implementation coaches with deep knowledge and experience in these matters may be best suited to help systems navigate and problem-solve such implementation challenges (Fixsen, Blasé, Metz & Van Dyke, 2013).

The potential rewards of implementing an Outcomes Management System and feedback cycle are enormous. Use of this framework allows for the identification of relative needs and strengths within a system, and allows for resources to be targeted to build on successes and address system needs. The feedback system is designed to help improve decision-making at every level of the system, improving decisions affecting direct clinical care, clinical supervision, program performance, and population health. This allows stakeholders at every level to be empowered and accountable for care and its outcomes. Use of the framework also returns the focus of the health care system to its central mission: to deliver value to the community members it serves. The need for such a feedback system has never been as pressing; the promise of its implementation is now well within our grasp.

Appendix A.

Table 1. Stakeholder Decision Support by Domain: Access

Stakeholder	Sample Question Answered
Client	Are services available when I need them?
Clinician	Am I able to see clients in a timely manner?
Clinical Supervisor	Are caseloads managed to allow timely access to services?
Program Director	Is my program meeting access targets?
System Administrator	Is the system meeting the treatment needs of the community?

Table 2. Stakeholder Decision Support by Domain: Engagement

Stakeholder	Sample Question Answered
Client	Is this service meaningful to me?
Clinician	Am I providing a compelling experience for the client?
Clinical Supervisor	How much do I need to focus on teaching engagement skills?
Program Director	Are clinicians at my program adequately engaging clients in meeting their goals?
System Administrator	Which programs are most effective at engaging clients?

Table 3. Stakeholder Decision Support by Domain: Service Appropriateness

Stakeholder	Sample Question Answered
Client	Am I able to see a therapist when, and for as long as, I need?
Clinician	Do I provide the right type and dose of treatment for my client to meet her/his goals?
Clinical Supervisor	Are my clinicians providing the right intensity and type of care for clients?
Program Director	Is my program providing treatment consistent with treatment protocols and best practice guidelines?
System Administrator	Does the system rationally allocate care by the intensity and type of client need?

Table 4. Stakeholder Decision Support by Domain: Service Effectiveness

Stakeholder	Sample Question Answered
Client	Is treatment reducing my suffering and increasing my ability to function?
Clinician	Am I providing treatments which are effective in helping my clients meet their treatment goals?
Clinical Supervisor	Are clinicians able to help diverse clients achieve their goals across a wide range of presenting concerns?
Program Director	Is my program as or more effective as other programs in efficiently reducing client suffering and improving client functioning?
System Administrator	Which programs are most cost-effective in alleviating suffering and improving client functioning?

Table 5. Stakeholder Decision Support by Domain: Linkages

Stakeholder	Sample Question Answered
Client	Will I be connected to appropriate services when I leave this program?
Clinician	Are my clients able to access appropriate services when they leave my care?
Clinical Supervisor	Am I insuring that clinicians are connecting clients with care in a timely manner?
Program Director	Do I need to create closer linkages with partner agencies to facilitate care coordination?
System Administrator	Are clients linked to services sufficiently quickly to maintain the clinical and functional gains seen in treatment at each program?

Appendix B.

Table 1. Crosswalk of National Quality Strategies (NQS) Priority Areas and Decision Point Indicators

NQS Priority	OMS Element
Reducing Harm in the Delivery of Care	Service Effectiveness
Ensuring each Person and Family is Engaged in Care	Engagement
Promoting Effective Communication and Coordination of Care	Linkages
Promoting the Most Effective Treatment Practices for Leading Causes of Mortality	Service Appropriateness, Service Effectiveness
Working with Communities to Promote Best Practices for Healthy Living	Access
Making Quality Care More Affordable by Developing and Spreading New Health Care Delivery Models	Service Appropriateness, Service Effectiveness

The National Quality Strategy priority areas are designed to accomplish the goals of improving care, improving population health, and decreasing the cost of care. The OMS framework described in this monograph allows one to monitor and identify whether strategies to accomplish these goals have been effective. We consider each NQS priority in turn, beginning with ‘Reducing harm in the delivery of care.’

Reducing harm in the delivery of care

Though harmful effects of care are often most apparent for physical health procedures, there has been increasing recent attention to the harmful effects of social service interventions (McLennan, Wathen, MacMillan, & Lavis, 2006). The lack of consistent, high-quality care may belie highly variable qualifications and competencies of behavioral health professionals. Within the OMS data feedback loop, viewing service effectiveness data at the client, clinician, program and system levels allows one to identify sources of potentially harmful treatment. In one large urban county the use of this system allowed for the identification of a subset of providers are clinicians whose clients reliably deteriorated in care. Addressing the causes of such care anomalies should be a high priority of system stakeholders and funders. The scope of appropriate corrective action can be identified through the use of the data provided by the decision points OMS.

Ensuring each person and family is engaged in care

The present framework provides robust indicators of engagement, consistent with the emerging multi-dimensional characterization of engagement (Staudt, 2007). Engagement per the OMS decision points framework is seen not only in participation in care but in active efforts by all parties to collaboratively achieve health and wellness goals.

Promoting effective communication and coordination of care

Coordination of care within and between an episode of care is often critical to achieving and maintaining treatment gains. The OMS decision points framework views care coordination as a continuous process involving access, linkages, and engagement. This wholistic perspective allows multiple data points to inform questions of whether communication and coordination of care are appropriate and effective. Measures of engagement, when comprehensive, include items addressing whether services were accessible, whether all providers were able to coordinate care, and whether care was provided in the best interest of the person and the family, as opposed to the providers. Linkage and access data allow for the visualization and tracking of clients across time and different intensities and types of services. Service effectiveness data allow for the ongoing tracking of whether the care provided is appropriate in scope and content to help the client meet their treatment goals. Thus the decision points OMS framework allows for a rich set of information from which to evaluate whether care-related communication and coordination are effective, or need to be addressed.

Promoting the most effective treatment practices for the leading causes of mortality

Though client deaths are uncommon in mental health treatment, disability and shortened life span are altogether too common (US Department of Health and Human Services, 1999; Murray & Lopez, 1996). Identifying the most effective treatments for the most disabling conditions is possible using multiple sources of data organized by the decision points OMS. Using claims data and diagnoses required for claiming, one can identify the service characteristics (length of stay, intensity of care) and rates of re-entry for conditions determined to be most disabling. The feedback is sharpened with the addition of service effectiveness data which allow for more fine-grained determinations of the extent to which treatment addresses specific clinical syndromes and improves client functioning. These data can be used to identify which persons and programs effectively treat these conditions; identification of the locally effective practices used to address these conditions can then be ascertained directly from these providers. Such a process has been advocated by leading scholars and policy researchers; the decision points OMS allows stakeholders to know where to look for such practice data. Should locally effective practices not be identified, outside resources may be necessary to disseminate and implement effective evidence-based practices.

Working with communities to promote best practices for healthy living

Enlisting communities in acting on the social determinants of health is a long-term strategy for reducing the prevalence and burden of chronic, preventable conditions. The DP OMS allows interested stakeholders to track how such efforts affect the ability of persons discharged from the care system to maintain functioning in the community, or to use less-intensive supports to maintain functioning. Strengthening the resources and supports for healthy community living would be expected to systematically affect the characteristics and experience of persons entering the formal service system. Effective community supports would likely simultaneously reduce the number of persons needing intensive supports, and be associated with an increased severity of need among persons who do access the formal service system. This is because many persons who would formerly require intensive formal supports would now be effectively maintained in the community. Persons who did access the formal service system, then, would likely have very high support needs. These types of changes in the profile of the service population would be able to be effectively captured in the DP OMS.

Making quality care more affordable by developing and spreading new health care delivery models

Full implementation of the DPS OMS allows for the benchmarking and tracking of the quality of health care delivered to clients. The implementation of high-quality care is associated with significant cost-efficiencies. One recent estimate of the cost savings of implementing high-quality care nationwide put the cost-savings at \$750 billion (Institute of Medicine, 2013). The DPS OMS provides feedback to stakeholders regarding whether they are providing high-quality care at each critical decision juncture. Based on that data, stakeholders can identify which processes need to be improved or brought to scale in order to achieve desired quality and cost goals. The feedback framework provided by the DPS OMS allows for the rational, iterative development of adaptations to the health care delivery system which can help programs and system realize the promise of high-quality, cost-effective care.

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