Primary Care "Catches" up with Behavioral Health

Michael Hannes Thorarinson

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Primary Care “Catches” up with Behavioral Health

By

Michael Thorarinson

A DNP project submitted to the faculty of
Gardner-Webb University Hunt School of Nursing
in partial fulfillment of the requirements for the degree of
Doctorate of Nursing Practice

Boiling Springs

2017

Submitted by: __________________________ Approved by: ________________________

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Date                      Date
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Abstract

The problems caused by the lack of care coordination between primary care and behavioral health are well documented. Patients with uncontrolled mental health issues along with chronic health problems cost two to three times the health care dollars to manage than patients who have the same chronic health problems but without uncontrolled mental health issues. Despite this, in rural North Carolina, the de facto level of care coordination is none. Mental health and primary care are completely separate, distinct systems that do not routinely communicate. One of the identified barriers to care coordination is the lack of reimbursement for the time and resources required to care coordinate. A primary care clinic and behavioral health clinic in central North Carolina agreed to implement care coordination at its most basic level, enhanced communication. An intervention was undertaken to demonstrate that this communication could happen even with the lack of any reimbursement. To facilitate this process, the two agreed to communicate regarding their shared patients via a designed an electronic “game of catch”, whereby primary care would send regular care summaries of the medical plan, and simultaneously request care summaries of the mental health plan. Then SBAR, a multi-disciplinary communication tool was used to transmit clinical concerns and requests along with these clinical summaries. This “game” ensued every two weeks. After regularly scheduled correspondence, the intervention was completed with an unannounced transmission of care summaries from primary care. During the course of the intervention, 17 care summaries were transmitted by primary care and 14 (84%) were returned by behavioral health. SBAR was used effectively to identify inappropriate therapies, requests for lab monitoring, patient deterioration and instability and others.
Provider satisfaction surveys showed a positive trend in the pattern of communication over the course of the intervention. While limited in its scale because of difficulties in identifying a large pool of shared patients, the intervention was successful in demonstrating that care coordination was possible with the simple recognition of its necessity. Also identified was the need for a dedicated champion to monitor the progression of the clinical information through each step of the cycle. This intervention had a champion at both clinics. Further study is needed. Recommendations for future interventions include the assurance of bi-directional or closed loop communication and larger samples of identified shared patients.
Acknowledgement

No one completes anything of this magnitude alone. I would first like to thank my bride, my wife, my best friend, and the one who traded her name in for the title “Momma” all those years ago, Sandy. We did it baby. To my family, who bore the absence of both my body and my sanity, I now pass the challenge on to you to be everything God meant for you to be. I love you all and this is OUR success, not mine. This goes for you too, Sonlight Baptist Church.

To my extended family at High Rock Internal Medicine, thank you for taking up all my slack and helping keep my patients happy with their provider. I love you all very much, and I am so thankful I can put it in print so you can’t stop me from saying it. Dr. Hsieh, we make a great team – I could not ask for a better friend.

To Daymark Recovery Services – I am proud to stand up and advocate for the great work you do. Jan and Jean especially, thank you for being champions and demonstrating that simply beginning to talk is a worthwhile endeavor.

Thank you, Gardner-Webb University for being a place where I can pursue academic excellence, while being able to give the credit to the God of all understanding. Thank you, Dr. Starr, sent here to mentor me.

Thanks to all my patients. You truly inspire me to be all I am called to be, for you.

Most of all, thank you Jesus. Thank you for giving this Don Quixote so many windmills to joust. Thank you for causing so many to look to me for answers – and thank you for giving me the boldness to turn them all back to you.

Now my challenge to all is this – Combat complacency in all of its forms, especially success.
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SECTION I

Primary Care and Mental Health – How Do We Improve Care Coordination

Identified Need

Evidence is mounting that poorly controlled mental illness is a tremendous burden on both the physical and financial health of a population. At the request of the American Psychiatric Association (APA), Mellek, Norris, and Paulus (2014) prepared a report to describe the anticipated economic benefits of an integrated medical-behavioral healthcare system. They estimated that the patients who have both chronic medical conditions and mental health comorbidities generate two to three times the amount of costs than patients who have similar chronic health issues but without these comorbid conditions. They further estimated that the total cost of this increase exceeded $293 billion across all commercially insured, and eligible Medicare/Medicaid recipients. In their literature review, the group estimated that between 9%-16% of these extra expenses could be saved if widespread implementation of successful integration of primary care and mental health systems could occur. One specific illustration was given for the non-complicated Medicare eligible patient. The cost of care per member per month (PMPM) was stated at $811, but simply having a comorbid mental illness diagnosis raised this cost to $1,379 PMPM.

Shortcomings have also been documented in the treatment of veterans with post-traumatic stress disorder (PTSD). The Veterans Administrations, in response, has initiated one of the largest initiatives in Primary Care/Mental Health Integration (PC/MHI) and has expressly purposed themselves to improving these outcomes (Benzer et al., 2012). Yet, gaps in care continue to be identified, such as (a) a failure to target the
at risk populations, (b) failure of the system to make timely adjustments to care in
time to patient deterioration or improvement, and (c) failure to utilize the providers
that have been tasked to intervene in these points of care (Marlowe, Hodgson, Lamson,
White, & Irons, 2012).

Croghan and Brown (2010), on behalf of the Agency of Healthcare Research and
Quality (AHRQ), conducted a similar cost analysis, and their conclusion was that $28-48
billion could be saved in annual healthcare spending if care coordination and integration
between primary care and mental health services could be accomplished. They estimated
this would save 5-10% of total annual healthcare spending in the U.S, and went on
further to propose the changes they felt would be required in order to make this
integration possible. Floyd (2016) described five different manners in which care
coordination is being attempted: (1) improved communication between primary care (PC)
and behavioral health (BH), (2) designating PC as the primary BH caregiver, (3) locating
PC and BH in the same physical space, (4) integration with specification of PC as
medical care providers only, and (5) total integration of PC/BH though the use of a multi-
disciplinary team. She went on to place these five models on a continuum with one being
the least integrative, and the fifth being the most integrative. This total integration of
PC/BH is an oft repeated goal, but the biggest hurdle is the current reimbursement system
which does not support a mixed payment model. Even though 80% of accountable care
organizations (ACOs) have contractual agreements for their member’s mental health,
only 14% of the ACOs surveyed had this level of care integration (Lewis et al., 2014).

In rural North Carolina, primary care and behavioral health are completely
separate, segregate systems, especially as it relates to the most at risk populations, the
uninsured and those eligible for Medicaid. Mental health care benefits for the NC Medicaid recipients was privatized in 2001 by the passing of the Mental Health System Reform (HB 381) (North Carolina General Assembly, 2001) moving most of the care into Local Management Entities (LME). This system prevents true integration of primary care and behavioral health because there is no mechanism for financial collaboration between the private companies that administer approved services and the primary care offices that refer patients to them. In other words, any venture whereby a private primary care office and a private behavioral health office attempt to collaborate is, by definition, going to be conducted without the promise of payment for the extra care-coordination time. Currently, no practices have been willing to forward this level of effort, and therefore care-coordination between primary care and behavioral health is essentially absent.

**Problem Statement**

To summarize, there is currently no mechanism for care-coordination between primary care and behavioral health in the rural population being explored, and based on the described studies of the problem, the inference can be made that this population is (a) not receiving the anticipated benefits of care-coordination, (b) suffering greater morbidity, and (c) placing an extra financial burden on a system that is already straining from the rising costs of health care.
SECTION II

Literature Review

A literature review was conducted on the problem using an EBSCO powered search engine, with a specific interest on who is meeting the goals of care coordination, and what the effects of meeting these goals was having. The search terms utilized were primary care, behavioral health, psychiatry, psychiatric, and care coordination or care-coordination. Inclusion criteria was any article that showed efforts to coordinate care between primary care and behavioral health/psychiatry with heavier weighting if the article referenced ongoing care-coordination. If the article addressed screening or referring, they were reviewed, but weighted much less for inclusion. The lead clinical champion’s goal with the literature review was to examine the daily working relationship between the two entities. Only articles for which the full text could be found was included, though interlibrary loan was utilized to avoid missing any potential successful intervention. Articles published before 2005 were excluded, and articles that simply commented on the challenges of care coordination, although these articles were kept as a reference for the SWOT evaluation. Other published literature reviews that demonstrated similar goals were examined to hand-select articles that might meet inclusion criteria. In all, 111 non-duplicated abstracts/articles were reviewed and 13 publications were ultimately included in the final review. Several themes that apply to best practices for care coordination between primary care and behavioral health.

Common Financial Umbrellas

The most successful interventions involved primary care and behavioral health providers who shared a common financial umbrella, often a large regional health
presence. Vickers et al. (2013) studied the effectiveness of care coordination of behavioral health services when services were co-located within the same clinic. Review of the semi-structured interviews with providers and staff pre and post intervention demonstrated increased satisfaction among both groups when studied for a year. They noted a significant limitation in that they only studied the primary care team, and they recommended future study of practice changes study, both primary care and behavioral health. Benzer et al. (2012), working within the Veterans Administration (VA) system and using similar methods, agreed noting the amount of communication that occurred between the two disciplines increased when they were co-located. The team concluded upon review of the interview themes that peer to peer communication was essential for the success of PC/MHI. They added that individual clinician skill was also impactful on outcomes. Pomeratz, Cole, Watts, and Weeks (2008) compared their one specially created clinic, the Primary Mental Health Clinic, with the rest of the VA system in regards to average waiting time, percentage of newly referred patients who appeared as scheduled and clinician productivity. The measures were observed for the first four years of the clinic’s service, and found a significant improvement in all measures immediately with sustained superiority over the period observed.

**Clinician Displacement**

Besides co-location, other successful efforts regarding care coordination involved either the behavioral health or primary care provider leaving their usual work area and traveling to the other site, most often for the purpose of case consultation. A Canadian study examined the effect of family practice providers rounding on inpatient mental health units. Random chart audits performed before the clinical practice change, and one
year later showed decreased length of stay, and decreased need for specialist referrals (Behroozi, Mazowita, & Davis, 2008). Farmer, Clark, Drewel, Swenson, and Ge (2011), in the only randomized study that was found, used onsite Family Service Specialists (FSS) to help case manage children with special health care needs (CSHCN), specifically connecting them to outside specialist services. There were two treatment arms, both of which received the intervention, but the control arm delayed initiation of the intervention by six months. During the first half of the trial, the intervention group ranked much higher in patient and parent satisfaction with overall care, and this disparity normalized as expected when the intervention was introduced to the control group.

**Models of Care Integration**

There is comparatively more literature available that proposes models of integration that have yet to be rigorously tested. Bower and Gilbody (2005) proposed four different measures that could improve the quality improvement efforts of MH/PCI: (1) train PCPs to better handle mental health concerns in their clinic, (2) improve consultation and liaison services to PCPs, (3) establish a collaborative care model, or (4) replacement/referral (which is to mean that the patient sees a specifically designated mental health provider. There was insufficient evidence for them to support one method over another. Daniels, Adams, Carroll and Beinecke (2009) proposed that Wegner’s Chronic Care Model (CCM) could be adapted and transformed into a Mental and Substance Use Care Model (SUCM). The basic premise of the CCM is that designing a health care system that supports the essential elements of productive interaction between an informed, activated patient and a prepared, proactive health care team improves outcomes. In the SUCM, there is a focus on removing negative stigma, and this is
illustrated by redefining some of the elements. For example, self-management support in the CCM is changed to social inclusion and acceptance. Knowles (2009) suggested that one of the barriers to care coordination between primary care and behavioral health is lack of a common clinical language. He recommends that behavioral health learn to articulate a patient’s psychosocial concerns in a manner that primary care understands and also suggests that psychologists be more explicit about what a primary care provider (PCP) can expect from their input. O’Donnell, Williams, Eisenberg, and Kilbourne (2013) explored the problem in reference to Accountable Care Organizations (ACOs), noting that ACOs are tasked with meeting a member’s mental health needs the same as their physical health needs; however, most ACOs leave mental health out of the discussion when the ACO is formed. They acknowledge there is little financial incentive to do so. Only primary care is directly compensated for mental health care coordination and even this is limited to screening. Regardless, they stressed that ACOs must find a way to meet these mental health needs or risk losing the shared savings that are expected when a population is treated in aggregate. They agree with Knowles regarding the adoption of the Chronic Care Model for behavioral health, but add that the current split reimbursement model (meaning that reimbursement for behavioral health and primary care uses two completely distinct scales) is a barrier to accomplishing this. Finally, they argued that the all-inclusiveness of an ACO’s financial structure makes them uniquely suited to address the barrier of this split reimbursement model.

Mauer and Druss (2010) drew a similar conclusion when they reviewed the literature. They noted that large health insurance systems seem to be the best at MH/PCI because of a single financial stream. Manderscheid and Kathol (2014) proposed that a
co-located MH/PCI would meet the needs of 90% of all serious mental health concerns and also recommended that financing of health care be set along one common scale.

**Research among the Unaffiliated**

Very little literature was found that directly related to successful examples of care coordination between primary care and mental health. A project between pediatric primary care providers (PPCP) and specially designated mental health clinics, dubbed Enhanced Care Clinics showed that PPCPs and their staff had greater satisfaction with these clinics than those that did not have the designation. However, the quality of the care coordination between mental health and primary care was neither studied nor described (Pidano, Marcaly, Ihde, Kurowski, & Whitcomb, 2011). A pilot study for a scripted communication protocol (BRIDGE or BRinging Inter-Disciplinary Guidelines to Elders) between home-based mental health providers and PCPs, showed improvements in both depression scores and patient satisfaction. The response rates to requests made by the mental health providers was also tracked and showed improvement. However, as a pilot study, the sample was quite small (7) and even then response rates by the PCPs did not reach 100% (Gum, Dautovich, Greene, Hirsch, & Schonfeld, 2015).
SECTION III

Needs Assessment

Identified Population and Community

The community and population of interest is primary care patients in this rural practice area who are Medicaid recipients or uninsured and are shared between two entities, one primary care and the other behavioral health, who have no shared financial umbrella. As stated, the circumstances as they exist for this population make corporate mandated integration non-viable as the large regional health organizations that cover this area specifically do not offer behavioral health services to this population.

PICOT Construction

Population

This is stated above, a clinical intervention is necessary to create care coordination between primary care and behavioral health as it does not exist currently.

Intervention

To begin to consider what an intervention would look like between these two entities, the 5-point scale given by Floyd (2016), was considered. As there is currently no effective care coordination, then establishing improved communication between PC and MH is a worthy pursuit. In addition, it is presumed that a successful, ongoing communication effort between two entities who lack a financial incentive to do so will make the intervention inherently more duplicative. After consideration regarding what information might be useful to transmit between the two entities, it was decided that simple care summaries will suffice to open lines of communication that do not currently exist. Further, a mechanism to elicit questions, concerns, or feedback was needed to
avoid simple fax transmissions that may or may not be reviewed by the intended recipients. SBAR is a tool used successfully by acute clinical areas to quickly transmit this type of information between multi-disciplinary team members (Coley, 2015; Dunsford, 2009). The letters represent the four steps in the process:

S – Situation: A brief statement of the question or concern.

B – Background: The contextual information need to frame the concern

A – Assessment: Objective findings that further support the situations importance

R – Request/Recommendation: What specific action/information is sought to help resolve the situation?

Comparison

Two measures are intended to be explored. The degree to which primary care and behavioral health are each aware of the patients medical/behavioral plan of care, as evidenced by chart reviews will be the initial measure. Clinical perception of the quality of interdisciplinary communication will be the second. To establish the comparison, chart audits will be performed at three weeks, five weeks, seven weeks, nine weeks, 11 weeks and 15 weeks after initiation of the intervention. The intervention will last 11 weeks. The week 15 chart reviews are intended to reflect whether collaboration efforts continued after the end of the intervention. Baseline measurements will not be taken, as it is recognized that no care coordination takes place. Obviously, the difference between no care coordination and some effort will be statistically significant. Of greater interest is seeing if the quality of the care coordination improves over time, including after the official intervention is concluded.
**Outcome**

The anticipated outcome is an improvement in chart audit scores and perceived quality in interdisciplinary communication.

**Time Frame**

Sixteen weeks of study will be needed to complete all steps of the proposed intervention, and is broken down into one week of training of both offices regarding the intervention, 11 weeks of care communication cycles with scheduled chart audits, and one post-intervention chart audit on week 15.

**Sponsor and Stakeholders**

The intervention sponsor will be the primary care practice. Most immediately the two practices that are seeking to establish care coordination are stakeholders, but there are other stakeholders that have been identified, such as the Medicaid Local Management Entity (LME) that both practices are part of. The behavioral health provider is part of a multi-location organization that serves as the safety net provider for its coverage area, which includes the intervention locations. The Institute of Medicine (IOM) defines a safety net provider as “Those providers that organize and deliver a significant level of health care and other related services to uninsured, Medicaid, and other vulnerable populations” (Ein Lewin, & Aleman, 2000). Therefore, each location of this organization could be considered a separate stakeholder. Administrators of North Carolina Medicaid are considered stakeholders given they are mandated with delivering this level of care state wide. It is assumed, based on the literature, that the problem of poor/no care coordination between primary care and behavioral health in this rural population is pervasive; and therefore, a successful intervention, however limited would have
immediate ramifications to other practices that also serve this at-risk population. Therefore, the patients of both these primary care and behavioral health clinics are also stakeholders.

**Organizational Analysis**

A preliminary SWOT analysis was completed to determine the feasibility of an intervention between the two practices. From a strength standpoint, in the primary care practice, there are no administrative barriers to an intervention as it is an independent practice, and the clinical lead has full authority to make whatever practice changes are required by the intervention. Both sides have made unilateral efforts to initiate communication in the past, but lack of direct clinician to clinician communication has stalled the previous efforts. Another relative strength is that there is preliminary buy in from both practices to work together to form this intervention, and both practices are enthusiastic about the prospect of a successful intervention and improvements in both the mutual working relationship and hopefully patient care/outcomes, though this is not a direct target of the intervention. There is also mutual recognition of the flaws in the current status quo by all stakeholders.

Looking at the potential weaknesses, the most obvious is the lack of a current process to effectively improve. There are potential organizational barriers within the behavioral health practice because it is part of a larger organization and there will need to be administrative approval for the intervention. This is being actively mitigated by early recruitment of a regional practice manager.

From an opportunity perspective, both sides have pledged support for the formation of an Accountable Care Organization (ACO), of which they have also pledged
themselves as future members. A successful intervention could generate secondary buy-in from other stakeholders to either repeat the intervention at other practices or to create a more robust intervention. Because this intervention is targeted at an at-risk population, success could harness more resources to meeting the needs of this group.

Threats include the fact that current federal laws regarding the sharing of specific private health information (PHI) make even identifying shared patients a challenge (O'Donnell, Willick, & Gordon, 2012). There is no prospective of outside financial assistance identified in the event that the intervention creates unforeseen financial burdens to either site.
SECTION IV

Goals, Objectives, and Mission Statement

Goals

1. Establish permanent meaningful communication.
2. Establish specific communication patterns for changes in patient status.
3. Improve provider and staff satisfaction with care coordination.

Objectives

1. Generate a brief clinical summary from each practice on five shared patients every other week.
2. Use SBAR to open peer to peer communication when patients experience a significant change in plan of care, or when clinical recommendations are required by either clinic.
3. Measure both provider and staff satisfaction with process prior to intervention, at completion of intervention, and one-month post-intervention.

Mission Statement

The mission of this project is to demonstrate that two entities, lacking any financial incentive for doing so, can establish meaningful communication regarding their shared patients by the shared recognition that failing to do so is causing both practices to deliver fragmented care. Through the establishment of this communication, the two practices hope to set an example that others will not only be able to follow, but also compelled to follow. True integration of mental health and primary care can only happen if both sides can establish lines of communication that are simple, intentional, and not heavily reliant on compatible infrastructure.
SECTION V

Theoretical Underpinning

Imogene King’s Theory of Goal Attainment has been utilized for the underpinning of the collaboration between behavioral health and primary care. Given that the two participating practices are attempting to meet an elusive goal not consistently met by even larger organizations with significantly more resources, the value of each successful transaction is going to be magnified. King proposed that goal attainment was the product of success in critical transactions, and that meaningful interaction was the basis of success therein. While ultimately, the shared patients are considered clients, for the purpose of the intervention, the behavioral health clinic is considered the “client” because of the degree with which the two entities can establish collaborative practice that will determine what future interventions can be created targeting the shared patients more directly, and more measurably. The major concepts of goal attainment, as it relates to the intervention include perception, role, interaction, growth and development, stress, time, and transaction. From these concepts, several of King’s relevant propositions as it relates to this intervention are being adopted, and relabeling them to highlight primary care and behavioral health’s roles:

1. If perceptual accuracy is present in the primary care-behavioral health interaction, transaction will occur.

2. If primary care and behavioral health make successful transactions, goals will be attained.

3. If goals are attained, satisfaction will occur.
4. If transactions are made in the primary care-behavioral health interaction, growth and development will be enhanced.

5. If role expectations and role performance as perceived by primary care and behavioral health are congruent, transaction will occur.

6. If role conflict is experienced by primary care, behavioral health, or both, stress in primary care-behavioral health will occur.
SECTION VI

Work Planning

Project Proposal

The primary goal of the intervention is to establish permanent meaningful communication between the two practices, one behavioral health, and the other primary care that will create a foundation on which to build future collaborations. The specific types of patient information that we seek to share is meaningful, actionable, and informative, with a secondary goal of facilitating the delivery of holistic care as separately defined by both entities.

The core expectation of the intervention is the exchange of clinical updates on shared patients on a two-week cycle. A list of shared patients will be generated at the beginning of the intervention. From this larger list, a small sample will be pulled at the beginning of each communication cycle so that both the primary care and behavioral health practitioners will be notified in a timely manner to generate the clinical updates for submission. The total number of readily identifiable shared patients is expected to be less than 40. Therefore, the plan is to proceed alphabetically 5-10 patients per cycle, and recycle through the list if time permits. These updates will occur regardless of the presence or absence of acute clinical issues as it pertains to a specific shared patient. It is proposed that communication of the patient’s current status is relevant even if, and perhaps especially if, there are not acute clinical issues.

Communication will take place via secure fax locations at each clinical site. Consent for the exchange of information between the two entities already exists as it is part of the intake with mental health, and only patients that the two share will be included.
in this study. The primary care office (PCO) will generate a chronic medical problem summary note that will contain a current medication list and a summary of the status of all medical problems. This is automatically stored in the practice’s electronic health record EHR. Once received by the behavioral health office (BHO), it will be reviewed and a quick return summary will be generated regarding the patient’s current mental health plan of care. This process itself will be identified as the Care Coordination Cycle (CCC). When communication is received by the primary care office, it will be scanned into the EHR immediately, and a printed copy will be placed in a folder that is color coded by that patient’s primary care provider. The first measure of this will be the consistency with which these updates happen. If the goal is meaningful, actionable, and informative communication, the clinicians involved will need to resist the temptation of simply reproducing previously generated information. The EHR at the PCO already has labels for specific specialties assigned at the fax server to ease in data retrieval. At the BHO, the summary will be scanned in and should be retrievable based on date of transmission by PCO.

In support of the primary goal, a mechanism by which to communicate specific acute clinical requests will also be created. If either practice has a clinical question regarding a specific patient, they will complete a templated SBAR tool. SBAR, which stands for Situation, Background, Assessment and Request/Recommendation, has been found to be an effective tool for increasing interdisciplinary communication (Boaro, Fancott, Baker, Velji, & Andreoli, 2010; Coley, 2015; Dunsford, 2009; Haig, Sutton, & Whittington, 2006; Rholetter, 2013). The format allows a clinician to formulate and deliver a concise, yet complete request for information, recommendation for treatment, or
response to a specific request. The general rule of thumb for response on most acute clinical requests is one week.

Another secondary goal will be to determine if meeting the above clinical objectives improves clinician satisfaction with care coordination between primary care and behavioral health. Lack of satisfaction with current communication practices was voiced by both the primary care and behavioral health teams when the initial needs assessment was undertaken.

As stated above, measurement of the primary goal will be in the form of chart audits that will look for evidence of each team being aware of the other disciplines’ care plan for shared patients. Measurement of clinician self-assessment and satisfaction will be in the form of surveys given to each clinical team at the midpoint and endpoint of the intervention.

**Timeline**

Table 1

*Weeks of Intervention*

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a. In the table above (Table 1) the numbers correspond to the week of the intervention.
b. Weeks with a “S” are designated weeks where PCO initiates the CCC, and BHO responds.
c. The “T” in week one describes the initial training of both the PCO and the BHO.
d. “SV” indicates a self-assessment/survey by clinicians on each team.
e. “A” indicates a scheduled chart audit.
Budget

There is not anticipated to be extra expenditure on the part of either the PHO, or the BHO. Indeed, it is important to the overall reach of the project that an intervention be styled that does not require financial support or place a financial burden on either entity. The cost of paper, printing, toner, and percent of full-time employees dedicated to the intervention has been determined to be negligible and inseparable from the normal cost of doing business for either entity. The tasks that are being asked of each are similar or identical to tasks each staff is already performing. The only time intensive aspects of the intervention will be the chart audits and survey distribution and collection. This time will be absorbed by the clinical champion from the PCO.
### SECTION VII

**Evaluation Planning**

**Logic Model Development**

Below in Figure 1 is an illustration of the final logic model detailing each step of each cycle.

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<th>Cycle Finish</th>
<th>Cycle Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC receives fax and signals end of cycle</td>
<td>PC Champion selects sample of shared patients.</td>
</tr>
<tr>
<td>BH champion collects BH care summaries and faxes to PC</td>
<td>PC Champion notifies PC providers—care summary generated.</td>
</tr>
<tr>
<td>BH providers review PC notes and generate BH care summary</td>
<td>PC Champion collects care summaries</td>
</tr>
<tr>
<td>BH Champion distributes care summaries to BH providers</td>
<td>PC care summaries are faxed to BH in batch</td>
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</table>

*Figure 1. Logic Model Development*
To narrate the cycle further, at the start of each cycle, two or three patients are chosen from a newly generated list of shared patients. It is necessary to regenerate the shared list each cycle because behavioral health had identified that the shared patients are frequently disconnecting and reconnecting with their services. Therefore, every two weeks, the list can be vastly different, and their ability to provide feedback is consequentially affected. The patients are selected by choosing one of two criteria. First priority is given to patients with an acute communication need regardless of previous cycle selection. Then, only patients not previously exchanged are available for selection, unless the list of shared patients is exhausted. In the event of a need to recycle patients during the intervention, patients will be selected based on the longest interval since the last exchange.

Once patient selection has occurred, the PC champion will notify the respective PC provider of the selected patients. The provider will generate a care summary on their assigned patient and route the summary back to the PC champion, who will then bundle the care summaries and fax them to the behavioral health clinic at the attention of the BH champion. The BH champion will acknowledge receipt of the faxes, forwarding the PC care summaries to the appropriate BH provider. Once distributed, the BH provider will review the PC care summary, and complete BH care summary, answering SBAR requests if present. BH will also have the opportunity at this point to generate a SBAR communication to the PC provider.

Upon generation of the BH summary with SBAR responses, the BH champion will gather them and fax them back to the PC clinic at the attention of the PC champion. Once these returned forms are received and acknowledged, the PC champion will signal
the end of the communication signal.

**Development of Tools**

There are two primary evaluation tools that have been created. The first is a simple combination Primary Care/Behavioral Health chart audit tool designed to track the successful progress of the shared summaries through the logic model. It is labeled “Chart Audit Tool – PCO/BCO” (Appendix A.). Given the primary goal of establishing meaningful communication, the tool is designed to capture the progress of the communication through each cycle. The second tool is a self-assessment survey that will be administered to participating clinicians at the mid-point and end-point of the intervention. It is labeled “Primary Care – Behavioral Health Clinician Self-Assessment and Satisfaction Survey” (Appendix B). Each of the four questions elicits a response to indicate the level with which the participant agrees with the statement, from “1”, which is disagree, to “5” which is agree. A five point scale is used to create a broader range of subjective agreement, and increase sensitivity of any potential changes in agreement over time. The goal is simply to determine if satisfaction with communication improves during the course of the intervention.

**Quality Improvement Method**

This intervention is essentially a Plan, Do, Study, Act after the Deming Model. The PDSA is a four-step approach to problem-solving or project improvement that allows identification of problems and effective solution testing before implementation. Moen and Norman (2006) credit Deming and Shewhart for the origin of PDSA cycle. The first step in the cycle was plan. Plan is a change or test, aimed at improvement of a problem or project. The second step, Do, is the actual “carry out” of the change or test. Study, the
third step, refers to analysis of the results, and asked the questions, “what did we learn” and “what went wrong?” The final step, Act, is the adoption or abandonment of the change, and determines the need if the cycle is needed to be repeated (Moen & Norma, 2016).

Each intervention cycle will essentially be a scaled down version of the complete PDSA. The plan step will occur when the appropriate queries are completed at the beginning of each cycle to determine shared patients, and the patients are selected for the designated cycle. The do phase will include the generation and transmission of all patient communication, both from primary care to behavioral health and back to primary care. Study will occur during the chart reviews between cycles. Act will occur just prior to the beginning of the next cycle, and will include any modifications that may be required to the logic cycle to meet identified deficiencies. The respective champions on the primary care and behavioral health side will essentially be tasked for identifying when the care summaries are not progressing through the cycle and redirect them as necessary.
SECTION VIII

Implementation

Approval from the sponsoring university’s Institutional Review Board was obtained. The primary care champion is also a partner at the primary care office, and completed the necessary site approval letter.

Threats and Barriers

Much of the anticipated threats and barriers to the project were addressed during the creation of the project itself. To address the barrier of federal guidelines for confidentiality in regards to mental health care, no therapy specific information regarding the shared patients was requested. As an additional precaution, and at the request of the behavioral health office, a secure paper trail process was created to assure non-essential staff at either clinical site was excluded from viewing patient care summaries. To address clinician engagement, several meetings were held to assess the level of interest for participation in an intervention, and in fact, the selection of the particular partnering behavioral health office was due to failure of the original site to express the appropriate level of willingness to participate.

One threat encountered during the pre-implementation phase was an inability to define a shared patient population. However, using Structured Query Language (SQL), a method of accessing and managing specific data fields in a database, both sides were able to identify a set of shared patients. The behavioral health office was able to generate a list based on one common insurer, and the primary care office was able to generate a similar list based on previous communication received from the behavioral health office. This issue continued to be a threat during all phases of the intervention. To deal with
this, the original logic cycle was amended, giving the PCP responsibility for officially signaling the end of a cycle. This step was created to stimulate the generation of new SQL queries and thereby initiate the next cycle.

Another threat that was identified during implementation was that the number of patients shared was significantly lower than anticipated pre-implementation. There was concern that it would affect the ability to apply any findings from this intervention to future clinical sites. The original plan was to exchange five to ten care summaries per cycle, but given the overall small number, this had to be scaled back to only two to three patients as described earlier. This did affect the ability to draw conclusions about applicability to other clinical settings, and this is discussed further under conclusions.

Still, the largest threat to the intervention was the lack of any formalized care coordination efforts prior to the project. Indeed, had there not been a champion identified at both practice sites with a sufficient level of personal engagement to see the process through, this intervention would have been untenable. This was illustrated effectively but unfortunately in the post intervention cycle. The behavioral health champion became ill and was placed on indeterminate medical leave after the cycle initiated. A secondary contact person had to be identified to complete the cycle. While the paperwork was ultimately returned, it took four weeks instead of two and only two post intervention surveys were returned completed by behavioral health.

**Monitoring of Implementation**

The primary care champion had sole responsibility of initiating each cycle of the PDSA project. While the behavioral health champion actively participated in tracking of the care summaries at the behavioral health site and also assisted in chart audits, the
actual tracking of the documents through the logic model was performed by primary care champion.

**Project Closure**

The project was closed 19 weeks after commencement. There were several delays in the completion of the respective cycles and the post-intervention care summary exchange. The first delay was caused by an EHR upgrade at the primary care office that disrupted normal business flow to the extent that the PC champion was requested by the site to delay cycle two by two weeks. In addition, the Christmas holiday season extended cycle three by more than a week. It was by the end of the second cycle that the logic cycle was modified to create a hard stop at the end of each cycle. The fourth cycle was delayed while the care summaries from behavioral health were being unsuccessfully tracked. The post intervention care summary exchange happened two weeks early due to a clinical need and this is discussed further under conclusions.
SECTION IX

Interpretation of Data

Chart Audit Results

A total of 17 care summaries were exchanged from PC to BH. 100% of all required PC care summaries were submitted to the BH clinic. Nine care summaries from PC included SBAR requests. Of the PC SBAR requests, 100% were responded to from BH. Fourteen care summaries were returned by BH, or 82.4% of the 17 PC care summaries. Three of the BH care summaries contained SBAR requests, 100% which received an answer from primary care. It should be noted that the three missing BH care summaries were all from the same cycle and are attributed to a clinician being on vacation at the same time the BH champion was also not available to redirect the care summaries. In this cycle, an email response was received giving a summary of the BH plan of care and current patient engagement, but these were not included in the chart audit results because the protocol was not able to be followed.

Survey Results

A total of four mid-intervention satisfaction surveys were returned from the primary care team, and two from the behavioral health team (Table 2). Post intervention, a total of four surveys were returned from the primary care team and two from the behavioral health team. It is relevant to state that patient updates were returned by four different behavioral health providers during the intervention, so there was greater participation in the intervention itself, rather than the evaluation of the intervention.

Although free comments were solicited from both teams during the surveys, only primary care chose to submit any. This may be due to the intervention being sponsored
by the primary care champion, and therefore positive peer pressure might have affected the fellow providers to be more forthcoming with their critique.

Table 2

*Intervention Surveys*

<table>
<thead>
<tr>
<th></th>
<th>Raw Scores</th>
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<tr>
<td></td>
<td>5-point scale where 1= Disagree, and 5=Agree</td>
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<table>
<thead>
<tr>
<th></th>
<th><strong>Mid-intervention Survey</strong></th>
<th><strong>Post-Intervention Survey</strong></th>
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<tbody>
<tr>
<td>Primary Care</td>
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<td>Question 1: 4.75</td>
</tr>
<tr>
<td></td>
<td>Question 2: 3.25</td>
<td>Question 2: 5</td>
</tr>
<tr>
<td></td>
<td>Question 3: 3.5</td>
<td>Question 3: 4.75</td>
</tr>
<tr>
<td></td>
<td>Question 4: 2.5</td>
<td>Question 4: 4.75</td>
</tr>
<tr>
<td>Behavioral Health</td>
<td>Question 1: 5</td>
<td>Question 1: 5</td>
</tr>
<tr>
<td></td>
<td>Question 2: 5</td>
<td>Question 2: 5</td>
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<td>Question 3: 5</td>
<td>Question 3: 5</td>
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<tr>
<td></td>
<td>Question 4: 4.5</td>
<td>Question 4: 5</td>
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</table>

Behavioral health scored the communication process so high on both surveys that it is not possible to trend their satisfaction over time. However, primary care was found to be more initially critical of the care coordination than behavioral health initially. This may be secondary to higher expectations, as primary care has to coordinate with other specialties as part of the normal course of business. Historically, this has not been the
case for behavioral health. The overall average score with primary care rose from 3.1875 to 4.75.

The open comments offered by primary care both at the mid-point and post-intervention surveys are consistent with the positive trend demonstrated by the average question scores. Two comments from primary care were submitted at the mid-intervention survey. One comment was made expressing, “…waiting to see how communication occurs” and another provider stated, “the turn-around time is too slow”. But in the post intervention surveys, two comments were received that were supportive of expanding the efforts to other behavioral health providers. Specifically, one provider stated, “I wish we had this same agreement with all of our referral sources”, and another stated, “we need to try this with <another behavioral health provider>.”

**Conclusions**

Even given the relative small scale of this intervention, several important findings are relevant to future implementation considerations. The intervention did show that care coordination is possible between primary care and behavioral health, even without there being a financial incentive to do so. However, it does require a high level of commitment between the two entities, and a practice champion is essential. In this instance, having a champion on both ends was found to have been essential for the sustainability of the intervention. There were many instances in which paperwork was delayed at one point of the intervention cycle or another and specific action was needed by either champion to move the forms through the logic model. In this intervention, the primary care champion was ultimately responsible, with the behavioral health champion only acting when an issue was identified by the primary care champion.
The use of the illustrated logic model itself was also thought to be of a large benefit to the sustainability of the intervention. Giving primary care the onus to initiate each cycle removed any concerns regarding either behavioral health or primary care mistakenly believing that they were waiting for communiqué from the other team. The clearly defined stops in the logic model made tracking any missing forms easier. A specific example is that missing forms were able to be tracked to a specific clinician on the behavioral health team who had been out of the office. Even though these forms never completed the cycle, return communication regarding these shared patients was still received from behavioral health due to the logic cycle identifying the issue.

The system for care coordination, if non-existing, can be created from existing workflows with the existence of this champion. In this intervention – the primary care champion had intimate knowledge of the construct of the EHR, allowing him to generate both care summary outlines at the same time. The generation of a care summary with request for feedback, even when SBAR was utilized, took less than an estimated five minutes per patient, and many estimated less than three minutes. This is not believed to be a benefit of this particular EHR – though there will be efforts in the future to test this on larger proprietary systems.

The exchange of care summaries allowed the identification of six patients who had fallen out of contact with behavioral health and one patient who had never established contact with primary care. During the intervention, three patients resumed care with behavioral health. One of these patients is believed to have reconnected due to SBAR communication between the two clinics, but as this was not actively studied, it is
only certain that the regularly updated shared patient lists made identifying this trend possible.

SBAR was highly effective in eliciting feedback from both primary care and behavioral health. Examples of clinical issues that were discussed include: Inappropriate drug therapies, patient deterioration and medical instability, requests for lab monitoring, identification of patients who could decrease utilization, and requests for drug recommendations.

Being in regular communication over the course of the intervention did cause the lines of communication to become stronger. One evidence of this is found in the last cycle, which was planned for four weeks after cycle five. It was to be an unannounced cycle by intervention design. One primary care clinician had issues with three patients that she was aware she shared with the behavioral health clinic. Therefore, unprompted, this clinician generated clinical summaries per the intervention protocol and presented them for transmission to the primary care champion. At her request, these were transmitted immediately and therefore the unannounced cycle occurred two weeks after cycle five. This was felt to be a positive outcome of the intervention given the primary care provider was self-motivated to initiate this communication.

The establishment of even this rudimentary form of care coordination has already generated interest in future interventions and discussions on improving the functionality of the care coordination have already begun.

There are, however, limitations as well. The small number of identified shared patients limits direct applicability to other clinical settings, and prevents making real
statistical conclusions about the results. Further PDSA projects with higher volumes of shared patients are needed to verify the conclusions of this project.

Referring to the five levels of care coordination as delineated by Floyd (2006), this project only represents the lowest level of care coordination, that being increased communication. There was no attempt in this intervention to assign multidisciplinary roles, or formulate a single integrated plan of care.

**Summary**

Care coordination between primary care and behavioral health needs to be more than mandated by legislative bodies and large health care systems. Real care coordination is likely going to be a grass roots effort and therefore more individuals are needed to be passionate about establishing these communication bridges, however small they may seem. Even with an intervention this small, one of the post-intervention survey comments from primary care was, “we need to do this with every referral source, not just ‘this clinic’”.

**Suggestions**

Further study is needed of course. There are a few recommendations that can be given for future sustainability as well as to address some of the barriers experienced in this effort. As part of some of the behavioral health integration efforts in this state, nurse case managers are being assigned by Medicaid to function as a physical bridge between primary care and behavioral health. If one has access to this type of resource, they may be well suited to be the type of champion that proved itself so useful in implementation of this intervention. Regarding barriers, focus on a closed loop communication style. Insist on, at a minimum, acknowledgement of receipt of communication. Bi-directional
communication at some level is essential, and to make this possible, great attention needs to be given pre-intervention at educating each side of the normal communication patterns of the clinics that are partnering. It is believed that this same intervention could be more effective if greater discovery was accomplished prior to its design. For example, it was not revealed until the second cycle that behavioral health clinicians do not routinely complete any outside facility paperwork, but rather, the nurses assigned to them do. If this had been known prior, initial recruitment efforts would have appropriately targeted them as primary stakeholders. Behavioral health should recognize that they are the hub when it comes to care coordination, as there are significantly less providers for behavioral health. Therefore, any intervention that involves a large enough sample of shared patients will likely have to be centered on the behavioral health provider.

Taken all of this into consideration, it should be noted that none of the implementation team had participated in an intervention of this scope. The one barrier that should not be considered when designing care-coordination efforts is a lack of personal experience. As flawed as this intervention is acknowledged to be, it is singular in its scope, and in the information that it has brought to light. Future interventions are being planned between the behavioral health organization and other primary care offices. Some possible future permutations that are being considered including establishing care pathways between behavioral health and primary care, assisting other primary care office to discover how to extract similar care summaries from their existing EHRs, and improving the initial patient treatment consents to allow freer communication of status changes between primary care and behavioral health.
Care coordination, at this stage of research, does not require great experts in multidisciplinary communication. Rather, it requires large numbers of people who understand that talking is in everyone’s best interest. The key to fostering future meaningful care-coordination efforts is for both sides to begin sharing information out of expediency rather than waiting for necessity.
References


## Chart Audit Tool - PCO/BHO

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<tr>
<th>HRIM Chart ID</th>
<th>PCO Summary Sent</th>
<th>BHO Summary Sent</th>
<th>BHO Summary in EHR?</th>
<th>PCO Summary in BHO HER?</th>
<th>BHO Responded?</th>
<th>SBAR From PCO?</th>
<th>SBAR From BHO?</th>
<th>PCO Responded?</th>
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Mark each entry as either Y (YES), N (No) or (N/A Not Applicable)

Compliance "C" as a percentage is calculated as follows:

\[ C = \frac{Y}{\text{total charts reviewed} - \text{N/A responses}} \]

For example, 14 charts total reviewed. 8 responses of "Y", 3 of "N" and 3 of "N/A"

8/14 - 3, or 11. Percent compliance is 72.7272.
Appendix B

Primary Care – Behavioral Health Clinician Self-Assessment and Satisfaction Survey

Thank you for participating in this limited intervention to implement a rudimentary program of regular care-coordination between Primary Care and Behavioral Health. As part of this intervention – we will administer this survey at the beginning, middle and end of the intervention. If you work in primary care, “other team” refers to behavioral health and vice versa.

For each question/statement – provide an answer on the following 5-point scale.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Agree</th>
<th>5</th>
</tr>
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1. Getting information from the other team is straightforward.

   1   2   3   4   5

2. If I have a question or concern about my shared patient – I feel confident in my ability to contact the other team.

   1   2   3   4   5

3. The other team has updated me on a general plan of care for our shared patients.

   1   2   3   4   5

4. I am satisfied with the level of communication between primary care and behavioral health.

   1   2   3   4   5

Do you have any suggestions or concerns that might improve this or future interventions?