Community Mental Health Journal (2018) 54:1116–1126
https://doi.org/10.1007/s10597-018-0251-y

ORIGINAL PAPER

Integrating Behavioral Health and Primary Care Services for People with Serious Mental Illness: A Qualitative Systems Analysis of Integration in New York

Parashar Pravin Ramanuj[1,2] · Rachel Talley[2] · Joshua Breslau[3] · Scarlett Sijia Wang[4] · Harold Alan Pincus[2]

Received: 31 August 2017 / Accepted: 22 February 2018 / Published online: 27 February 2018

Abstract
People with co-occurring behavioral and physical conditions receive poorer care through traditional health care services. One solution has been to integrate behavioral and physical care services. This study assesses efforts to integrate behavioral health and primary care services in New York. Semi-structured interviews were conducted with 52 professionals in either group or individual settings. We aimed to identify factors which facilitate or hinder integration for people with serious mental illness and how these factors inter-relate. Content analysis identified structural, process, organizational ("internal") and contextual ("external") themes that were relevant to integration of care. Network analysis delineated the interactions between these. We show that effective integration does not advance along a single continuum from minimally to fully integrated care but along several, parallel pathways reliant upon consequential factors that aid or hinder one another.

Keywords Integration of care · Primary care · Service delivery · Qualitative analysis

Introduction

The National Comorbidity Survey Replication in America found that 68% of adults with behavioral health disorders (mental and/or substance use disorders) have physical health conditions (Scott et al. 2007) Similar studies in the UK have replicated these findings in people with serious mental illnesses like schizophrenia and bipolar affective disorder (Reilly et al. 2015). Consequently, people with mental disorders die 8–10 years earlier than the general population; typically, of physical causes like heart attacks, cancers and strokes (Druss et al. 2011).

Treating these patients requires systems that cross traditional health care boundaries. But the care that people with co-morbid physical and behavioral health problems receive is often disjointed and fragmentary (McGinty et al. 2015). One solution has been to try to integrate this care. Integration in this sense is defined as: 'the care that results from a practice team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health and substance abuse conditions, health behaviors (including their contribution to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of health care utilization.' (Peek 2013).

To date most integration efforts have focused on people with long-term physical health conditions complicated by mental disorders (typically depressive and anxiety disorders) with relatively fewer efforts for people with serious mental illnesses and co-occurring physical health conditions (Alakeson et al. 2010). In the US, the main mechanism to integrate care for this population has been the Primary and Behavioral Health Care Integration (PBHCI) program. Set up in 2009, this is a federal grant program administered by the Substance Abuse and Mental Health Services Administration (SAMHSA). It

✉ Parashar Pravin Ramanuj
p.ramanuj@doctors.org.uk

1 London Spinal Cord Injury Centre, Royal National Orthopaedic Hospital, Stanmore, Middlesex HA7 4LP, UK

2 New York State Psychiatric Institute, 1051 Riverside Drive, New York, NY 10032, USA

3 RAND Corporation, 4570 Fifth Avenue #600, Pittsburgh, PA 15213, USA

4 Mailman School of Public Health, Columbia University, 722 West 168th Street, New York, NY 10032, USA

provides $400,000 per year to behavioral health clinics to provide physical health and wellness services for 4 years.

Recognizing the need, some US states have also started investing in additional initiatives to integrate care for people with serious mental illness. One such state has been New York which has implemented mechanisms in addition to the PBHCI grant. This includes the Delivery System Reform Incentive Program (DSRIP) and Health Homes (Scharf et al. 2014a):

- DSRIP aims to reduce avoidable hospital use. The program in New York has a particular focus on behavioral health and provides funds to integrate care in primary or specialist behavioral health settings.
- Health Homes target three particular patient populations: those with HIV, those with two or more co-morbid long-term conditions or those with serious mental illness with the aim to provide comprehensive mental and physical care to these.

These initiatives complement established mechanisms such as federally qualified health centers (FQHC): primary care centers that receive cost-based reimbursement to serve socially disadvantaged populations with low access to health care (e.g. low income, uninsured/underinsured or homeless individuals) who often have high behavioral health need. Despite the investment, implementation of these services has not been examined in detail.

Research on the implementation of these programs has focused on either specific groups of professionals within the integrated delivery system such as peer-support workers (Smith-Merry et al. 2015) or care coordinators (Siantz et al. 2017), specific disorders, (typically depression) (Knowles SE et al. 2015) or one aspect of care delivery such as organizational leadership (Aarons et al. 2016). We sought to identify systems-wide factors that influenced integrated care. Building on previous research by the RAND Corporation we aimed to find the structural, process and contextual factors that helped or hindered integration of behavioral health and primary care through initiatives implemented in New York City (NYC) (Scharf et al. 2014a). In particular, we sought to describe interactions between factors and identify key components which modulated implementation.

Methods

Sample

We used purposive sampling to capture the views of a diverse range of providers and ensure wide breadth of data collection. Due to the complexity of the US healthcare environment in which states may implement reforms or interpret policy initiatives in different ways, we fixed the sampling frame to one major urban conurbation to allow interactions between factors to be explored in sufficient depth. We selected New York as this has the largest publicly funded behavioral health system in America (expenditure topping $8.5 billion annually) and half of all Medicaid expenditure for people with serious mental illness here is on the treatment of physical health conditions (Scharf et al. 2014a). We decided to concentrate our search strategy on New York City, focusing on implementation issues in urban areas with complex health care systems serving large numbers of low-income patients rather than rural or suburban areas which we postulated would have different needs.

We used the Integration Academy website, maintained by the Agency for Healthcare Research and Quality (AHRQ) to identify sites in January 2016 that were regarded as innovative exemplars of behavioral health-primary care integration in NYC. 14 sites were identified. We contacted the individuals within each organization responsible for the integration program ("primary contact") and sought consent to participate in the study. 11 sites agreed to participate. Of the three that did not agree, two cited lack of time and resources and one did not respond to three requests to be included in the study. No incentives were given to individuals or organizations that agreed to participate.

We provided the primary contacts with a brief description of the research and its purpose and asked them to recruit further individuals from within their organization that were either in a senior role providing or administering the integration of behavioral health and primary care, or were individuals involved in delivering integrated care at the frontline. We also asked them to provide us with organizational characteristics and demographic and clinical characteristics of the populations they served in their integration programs. We verified these figures with the New York State Office of Mental Health.

Data Collection

Semi-structured interviews were conducted by PR (a male psychiatrist with experience in health services research) with the senior clinicians and administrators in a group setting and individually with the frontline staff at each site. The interviews covered organizational, implementation, individual and sustainability factors (see Appendix A). The interview was piloted at two clinics that had graduated from PBHCI in a different state (identified through the SAMHSA website). Revisions to the interview were made based on these interviews. Group interviews were conducted with 36 senior clinicians and administrators across ten sites. This was followed up with 16 individual interviews with frontline staff at seven sites (Table 1).

Each group interview ranged from 60 to 90 min in length and each individual interview between 45 and 60 min. All group interviews were conducted in person at the participating clinics and individual interviews were conducted either in person at the clinic or by phone.

Analysis

The interviews were audiotaped and professionally transcribed. Transcripts were analyzed using directed and summative content analysis approaches through the software package Atlas.ti.

The initial codebook was generated from a previous analysis of the PBHCI program conducted by the RAND Corporation (Scharf et al. 2014a). This had used a web-based survey to identify key descriptors of the early PBHCI program based on Donabendian's structure-process-outcomes framework of factors affecting quality of care (Donabendian 2005). To this the researchers had added a fourth category: administrative/environmental context.

We advanced the initial codebook through an iterative process to understand new phenomena and dynamics. Theoretical memoing, a process for recording the ideas of the researcher as they evolve throughout the study (Chapman and Francis 2008) was used during coding to refine codes, identify themes and document emergent theories. In line with directed content analysis, data that could not be coded was discussed in relation to the initial codebook to determine if any definitions needed to be modified (Hsieh and Shannon 2005). If this was not appropriate then consensus was reached on the name, definition, inclusion and exclusion criteria for the new code.

In the final codebook very few codes could be categorized as outcomes. In contrast, several codes appeared to relate to the context within which integration, through whichever mechanism, was being implemented. The importance of context has gained prominence in implementation science but is poorly defined (Edwards and Barker 2014; May et al. 2016). We used Damschroder's inner-outer context definition to categories economic, political and regulatory themes "within which an organization resides" as external contexts, and cultural themes "through which implementation proceeds" as internal contexts as a conceptual model to guide analysis (Damschroder et al. 2009).

Six transcripts were repeat-coded by two separate analysts (a British psychiatrist and health services researcher (PR) and an American psychiatry resident (RT)) to establish inter-rater reliability. Disagreements were resolved by consensus with the third analyst (a social work and epidemiology student (SW)). An inter-rater reliability of 0.71 was established.

We used summative exploration of themes to identify common themes and compare factors affecting integration in behavioral health and primary care settings. Themes were broken down into subthemes e.g. the theme of 'Communication between providers' constituted sub-themes such as 'formal meetings', 'informal meetings' and 'warm handovers'. If these sub-themes clearly arose in response to questions about factors that had helped integration and/or were reported as largely positive they were classified as 'facilitators'. Conversely, sub-themes that arose from questions on obstructive factors or if they were reported as largely negative, they were called 'barriers'.

Interactions between codes were analyzed using the network analysis co-occurrence tool within Atlas.ti. This identifies the most common co-occurrences between codes and provides a measure of the strength of interaction called a c-coefficient (where 0 signifies the two codes are never juxtaposed or overlap and 1 signifies the codes always occur together). A c-coefficient of 0.5 or more was taken to signify that a factor was "necessary" for another. Deeper analysis of the quotations attached to the codes and the theoretical memoing was used to identify whether one code facilitated, inhibited or co-existed with another. Using this schematic (i.e. that certain codes could either facilitate/improve, necessitate, inhibit/hinder or co-occur with other codes) network maps were drafted for each of the major themes: structures, processes, internal factors and external contexts. These were then combined into a single systemic map.

Participants were invited to provide comments and feedback to the findings to ensure face validity. The findings were all agreed to by participating organizations.

Results

Participants

Sites varied in size from 3000 to 70,000 annual visits in 2015 (Table 1). Patients tended to be in the 35–50 year age group and predominantly female. All but two sites served a majority black and Hispanic population. As expected, behavioral health settings tended to manage mainly serious mental illnesses such as bipolar affective disorder and schizophrenia, while the mental health conditions most frequently treated in the primary care organizations were common mental illnesses, such as depression and anxiety disorders. Similar patterns of common physical health conditions were seen in each of the two types of organizations, e.g. obesity, asthma, hypertension.

Table 1 Descriptive characteristics of sites visited

		Behavioral health organizations								Primary care organizations		
		Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 9	Site 11	Site 1	Site 8	Site 10
Type of site		MH OPC	MH OPC	MH OPC	MH OPC	Comm SUP	CDS, ACTT	MH OPC	MH OPC	FQHC	FQHC	FQHC
Borough		Bronx	Bronx	Brooklyn	Bronx	Bronx	Harlem	Brooklyn	Bronx	Harlem	Brooklyn	Harlem
Principal integration mechanism		HH	DSRIP, PBHCI	PBHCI	PBHCI	PBHCI	PBHCI	PBHCI	PBHCI	DSRIP, PBHCI	DSRIP	DSRIP
Number of annual visits (2015)		24,000	25,000	70,000	22,000	4000	16,000	26,000	21,000	39,000	29,000	3000
Interviewees	Group	Clinical Dir CCo Program manager	President Program lead Project coordinator Admin. Dir	Assoc. CMO Dir., Integrated Care Assoc. Dir		VP, Infrastructure Dir., Integration Dir., Care coordination	Clinic Dir Project Dir. CCo Integrated Care Manager	Project Dir Sen Dir., Operations Clinical Dir Clinical Coordinator	Exec Clinical Dir Assoc. Clin. Dir	Senior VP Project manager Senior nurses PCP	Chairman CMO Dep. CMO Director Deputy Dir	CEO CIO COO Director
	Individual	PCNP	Program manager CCo	PCNP CCo	Project Dir	Program Manager CCo		PCNP CCo PSW Counselling psychologist		Regional Director Project manager CCo LCSW		
Population characteristics												
Proportion male (%)		38	65	77	32	48	55	39	38	42	42	42
Median age of adult patients (y)		42	40	41	52	31	36	46	33	43	51	50
Proportion Hispanic or Black American (%)		79	89	85	96	72	94	3	70	79	43	80
Proportion on Medicaid or Medicaid Managed Care (%)		66	85	100	93	99	92	81	80	60	64	NA
Clinical characteristics												
Most common mental health diagnoses (in order of commonality)		MDD GAD Scz	MDD BpAD Scz	ScAD Scz BpAD	PDD MDD PTSD	SUD GAD BpAD	Scz BpAD PTSD	MDD GAD BpAD	MDD Scz BpAD	GAD MDD PTSD	MDD GAD BpAD	GAD MDD PTSD
Most common physical health diagnoses (in order of commonality)		Obesity DM Asthma	HTN DM Asthma	Obesity HTN DM	Asthma Obesity HPLpd	HTN Asthma HepC	Obesity HPLpd Asthma	HTN DM Obesity	HPLpd DM Asthma	DM HTN HIV	HPLpd Obesity DM	DM HTN Asthma
Proportion with schizophrenia (%)		26	25	74	8	14	82	5	22	3	< 1	< 1
Proportion with diabetes (%)		27	24	15	24	16	24	13	19	13	15	28

Note that the population and clinical characteristics refer to the full patient population cared for by each service. The interviewees were asked specifically to focus on those patients their organization served with serious mental illnesses like schizophrenia (see Appendix)

ACTT assertive community treatment team, *BpAD* bipolar affective disorder, *CCo* care coordinator, *CDS* court diversionary service, *CEO* Chief Executive Officer, *CMO* Chief Medical Officer, *Dir*. director, *DM* diabetes mellitus, *DSRIP* Delivery System Reform Incentive Program, *FQHC* Federally Qualified Health Center; *GAD* generalized anxiety disorder, *HepC* Hepatitis C, *HH* health home, *HIV* human immunodeficiency virus infection, *HPLpd* Hyperlipidemia, *HTN* hypertension, *LCSW* licensed clinical social worker, *MDD* major depressive disorder, *MH OPC* mental health outpatient clinic, *NA* not available, *PBHCI* primary care and behavioral health organization grant, *PCP* primary care physician, *PCNP* primary care nurse practitioner, *PDD* persistent developmental disorder, *PTSD* post-traumatic stress disorder, *PSW* peer support worker, *ScAD* schizoaffective disorder, *Scz* schizophrenia, *SUD* substance use disorder, *Comm SUP* community substance use program, *VP* vice-president

Themes

The most common themes and sub-themes reported from the implementation of integration initiatives are shown in Fig. 1. The most common themes were teamworking, reimbursement mechanisms and service arrangements (such as co-location or affiliation between providers). There was a roughly even split between structural, procedural and external contextual factors; but only one internal factor (shared mission as part of an organizational culture) was in the top ten.

Behavioral health organizations were more likely to emphasize external contexts such as licensing, reimbursement and regulatory factors, whereas primary care organizations spoke about a broader remit of factors (Table 2a). PBHCI Grantees, whether active or graduated were concerned with sustainability, care coordination and other processes of care, whereas non-grantees spoke more about contextual factors such as caseload and integration as a mission within the organization (Table 2b).

Facilitators

The most common facilitators reported were process and structural (Fig. 1). These were: team working (particularly collaborative care and roles & responsibilities), service arrangements (particularly co-location of care) and integrated practices (particularly care coordination).

Multiple health providers from different professions working together to provide comprehensive care (collaborative care) was seen as essential for meeting complex needs, including helping team members to manage issues outside of their usual realm of expertise:

> In our medical clinics now, we're trying to have the doctors treat some of the mood disorders, the depression, in consultation with the psychiatrists… they wouldn't do the IM medications for the schizophrenia, but… to feel comfortable enough to prescribe that medication, and then always have the ability to consult with the psychiatrists when needed.—Program Manager, Site 3

Having clear roles and responsibilities within a team was perceived as facilitating many of the functions and processes within integrated care delivery, including care coordination, collaboration and effective communication:

> each of us could be working with the same client on different goals and different areas and, depending on where our expertise or our training is or our focus, we would touch a client in a different way—Peer Support Worker, Site 6

However there were differences in the way roles were managed between primary care and behavioral health organizations. In primary care organizations, behavioral health professionals tended to work towards a collaborative care model in which they provided consultation and training to a range of primary care providers. On the other hand, in behavioral health settings, primary care professionals tended to provide direct patient care but often required ancillary support (from peer support workers or care coordinators) to engage with patients productively:

> At the center I'm the only psychiatrist… so I provide, I will be the one who can provide consultation to the primary care doctors who will be main treater of that patient.—Psychiatrist, Site 10 (a large primary care FQHC) compared to:

> We have to have a team to sit down with the patient so they can understand why we're doing it [asking them to see a primary care physician]. Usually they want to meet our doctor first and she has to be extremely user-friendly—Executive Director, Site 11 (a specialist behavioral health organization)

Co-location of primary care and behavioral health providers was almost universally seen as positive, mainly for creating a "one-stop-shop" and aiding communication between providers, particularly warm hand-overs.

> if the patient currently has to go to another clinic to get their medical care, there could be a lot of obstacles to getting them there. Wait times sometimes in the medical clinic is long. If the psychiatrist and the doctor are housed in the same clinic it's much easier communication. Yes, I just think it would make it so much easier for the patients—Primary Care Nurse Practitioner, Site 2

Care coordination, which we defined as a formal process of communicating, sharing information and collaborating between different staff undertaken by a specifically appointed person, was used extensively by both behavioral health and primary care organizations. Indeed, it was seen as one of the major interventions implemented with a PBHCI grant. The range of people appointed to the care-coordinator role varied from peer support workers to extensively qualified nurse practitioners. The sample was too small to identify differences between the different experience of care coordinators, but virtually all care coordinators helped link patients to primary care organizations (or vice versa) and ensured appropriate follow-up.

> I have a discussion with the therapist and let them know that the client states that they've been feeling hopeless most of the time, and I let the client know that you need to discuss this with your therapist, you

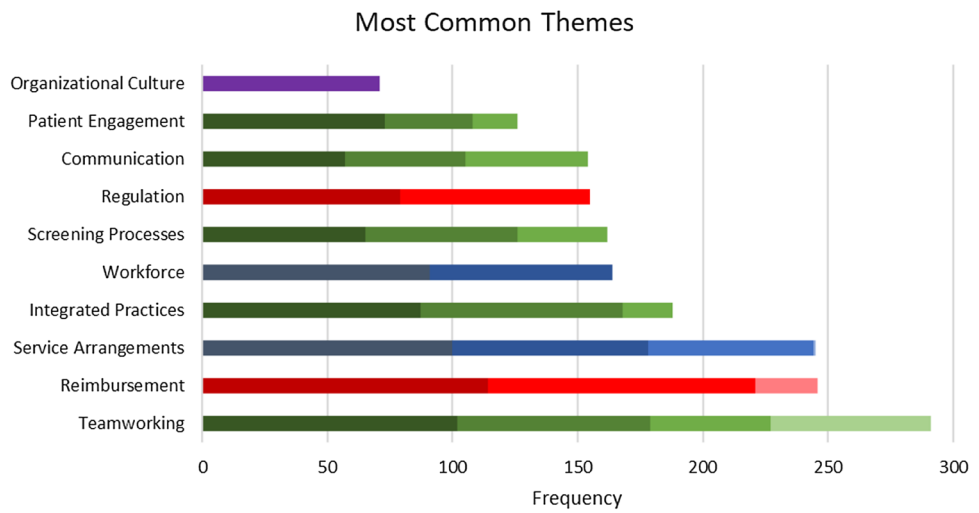

Fig. 1 Most common themes. Structural factors are shown in blue, process factors in green, external contexts in red and internal contexts in purple. Each theme is shown with the relative breakdown of the most common sub-themes. These were (in order of frequency): Teamworking—roles & responsibilities, collaborative care, professional regard; Reimbursement—grant funding, billing; Service arrangements—co-location of care, implementation models, affiliation; Integrated practices—care coordination, health promotion; Workforce—workforce adequacy, implementation champions; Screening processes—referral processes, screening, risk stratification; Regulation—licensing, regulatory authority; Communication—informal communication, formal meetings; Patient engagement—intrinsic patient factors, patient motivation; Organizational culture—shared mission. (Color figure online)

Table 2 Relative emphasis placed on themes by: (a) behavioral health compared to primary care practices; (b) current PBHCI grantees compared to previous grantees and non-PBHCI grantees. (Color table online)

(a) Type of Practice

BH	N = 1729	PC	N = 819
Grant funding	94	Co-location of care	38
Roles & Responsibilities	75	Billing	35
Billing	72	Caseload	32
Care coordination	67	Workforce adequacy	31
Health promotion	63	Shared Mission	31
Co-location of care	62	Expectations	29
Workforce adequacy	60	Roles & Responsibilities	27
Licensing	56	Intrinsic patient factors	27
Regulatory authority	54	Integrated EHR	27
Sustainability	48	Collaborative care	26

(b) PBHCI Program

Active Grant	N = 1301	Grant Graduate	N = 823	Not in Program	N = 424
Roles & Responsibilities	62	Grant funding	56	Billing	32
Co-location of care	61	**Care coordination**	49	Regulatory authority	22
Health promotion	52	**Implementation models**	39	Implementation models	21
Grant funding	50	**Roles & Responsibilities**	31	**Licensing**	21
Intrinsic patient factors	50	Workforce adequacy	30	**Shared mission**	18
Billing	46	Regulatory authority	30	**Access to care**	16
Workforce adequacy	46	Billing	29	Workforce Adequacy	15
Collaborative care	41	**Sustainability**	29	Intrinsic patient factors	14
Integrated EHR	41	Co-location of care	28	Collaborative care	13
Expectations	41	**Referral processes**	27	**Caseload**	12

The top ten themes are identified by frequency (numbers of quotations). Differences in the most quoted themes are highlighted in color: blue for structural factors, green for process factors, red for external contexts, purple for internal factors

need to have this discussion with that person, but I'll still notify the therapist about that, when the client reported it to me.—Primary Care Nurse, Site 4

Barriers

The most common barriers reported were external contexts principally regulation, licensing, and reimbursement mechanisms.

Regulation and licensing structures were almost universally seen as barriers. In New York State three inter-related authorities provide separate licenses for the delivery of care within their jurisdictions: the Office of Mental Health (OMH), the Office of Alcoholism and Substance Abuse Services (OASAS) and the Department of Health (DOH). Meeting the regulatory needs of all three agencies was reportedly arduous and time-consuming.

> The difficulty with when you want to do real integration, you want to have one team, you want to have one medical record, you want to have one leadership, and it's always tricky when you have two licenses, two teams, two sets of regulations to really make that work.—Associate Chief Medical Officer, Site 4

Billing structures were seen as outdated and overly concerned with single disease models, making it particularly difficult to bill for integrated care.

> managed care has its challenges, you know, because now they want, like, preauthorization for some of the medications that the clients were using all the time; that the doctor would just prescribe over and over, but now you… they want a preauthorization for it, it has to be authorized first by the insurance company, and then a doctor has to call them and tell them why, and just justify a whole set of things, which is more work for them.—Nurse Practitioner, Site 4

Grant funding was viewed more favorably because it allowed an increase in workforce capacity. Hiring new staff was the principal way that grants were used. However this had a large impact on sustainability because processes that were set up relied heavily on new personnel which were difficult to maintain beyond the life of the grant.

> It was grant funded… it's the reason it's not sustainable…one of the things that [we] used to do was to just get a bunch of grants and provide those services… and eventually all those grants are to go away, and these clients had very disrupted services, and so they would just start moving them into new grants…. And it would start all over again

Themes that were predominantly seen as barriers were not considered universally negative. For example, regulatory authorities often provided technical assistance and training that was beneficial and grant funding was seen by many as a valuable means of initiating integration efforts.

Systems Dynamics (Fig. 2)

Internal contexts such as organizational culture and leadership were major mediators of integrated care and connected the other three major themes (structures, processes and external context). Process factors, particularly screening and communication methods (both formal and informal) co-occurred with many other process (such as collaborative care working) and structural factors. Collaborative care, referral processes, co-location of care and provider affiliation were nodes on which many themes converged, suggesting that they required many factors to exert an influence.

As expected, the external context factors (regulation, licensing, reimbursement) were perceived as significant barriers, although in some cases their inhibitory function was indirect; for example regulation inhibited care coordination by increasing administrative burden which had an impact on workforce capacity, diverting resources away from integrative practices such as care co-ordination.

Discussion

We identified several facilitators to integration of care. These included effective team-working as defined by team members having clear roles and responsibilities, positive professional regard for the contributions of other members of the team and collaboration built upon effective communication. Communication techniques such as warm hand-overs and structured meetings were used to foster collaboration. Another key facilitator was integrative practices aimed at helping patients navigate the system such as care coordination, and self-management techniques (through peer-support or counselling) to help the patient manage their illness to the best of his or her ability.

However these factors could rarely facilitate integration in isolation. For example, co-location of care was seen as a fundamental facilitator by many respondents. However, other factors including workforce issues (e.g., primary care professionals willing to work in behavioral health settings) and intrinsic patient factors (e.g. patients becoming suspicious of a new provider) were perceived to modulate this effect. Common facilitators had complex interconnections and were underpinned by internal factors like effective leadership and an organizational culture that fostered integration. These internal factors influences many of the other key components of care. For example, facilitators were perceived to be more easily implemented and have a greater impact where there was an organizational culture

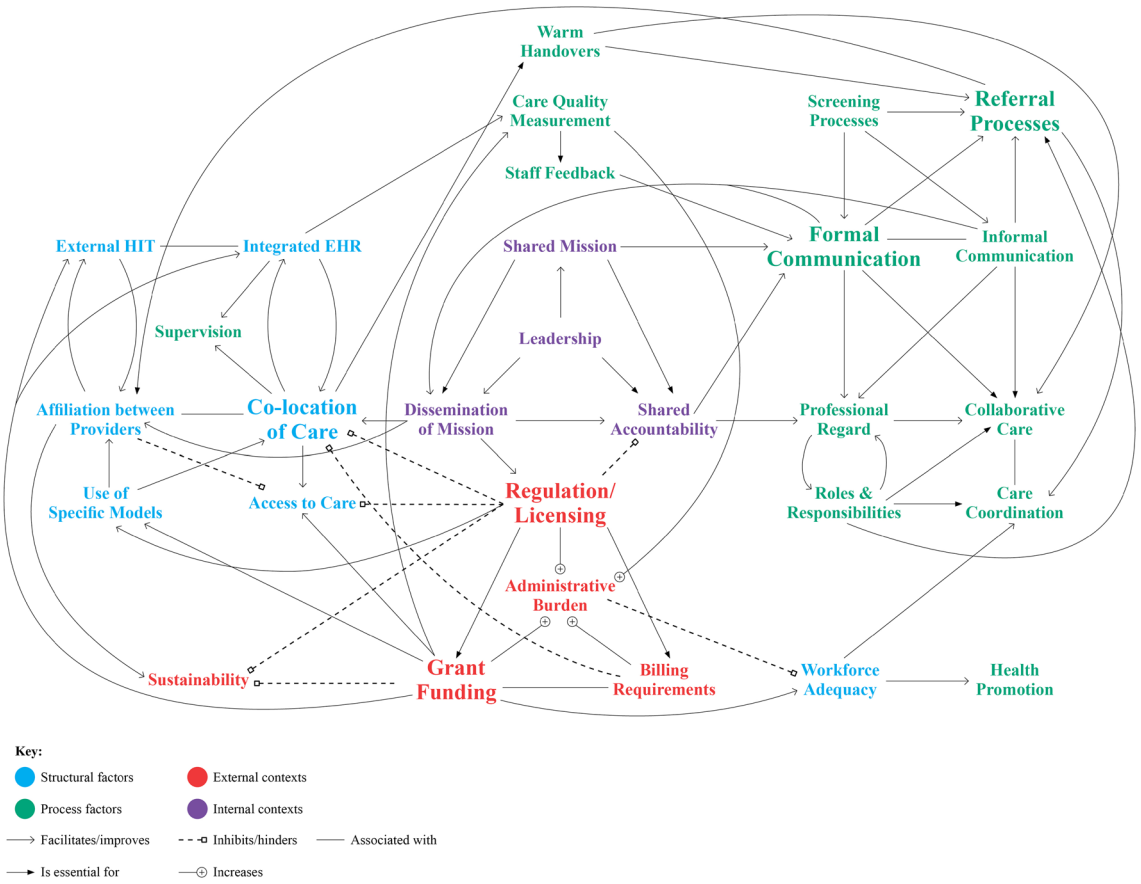

Fig. 2 Network map of factors that influence the integration of behavioral and primary health care in New York. Factors were identified through qualitative content and network analysis, informed by theoretical memoing during the process of coding. The analysis revealed a high degree of inter-relatedness between factors. Particular nodes which influenced a large number of other factors are highlighted in the map. These were co-location of care (structural), formal communication and referral processes (process factors) and regulation/licensing and grant funding (external contexts). Internal factors were found to be integral to how the different themes interacted and mediated many of the interactions. (Color figure online)

that enabled integration. Components of a collaborative organizational culture included a vision in which integration is seen as the mission of the organization; dissemination of that mission such that all staff are engaged in achieving the mission; and accountability such that all staff feel responsible for all aspects of patient care. Where these cultural factors were lacking, organizations needed to put in more effort around processes and structures to stimulate collaborative working, lending support to the idea that integration requires whole system change and is stimulated by a range of factors operating in concert rather than an isolated group of strong facilitators.

The most commonly cited barriers were regulatory and funding difficulties. Regulatory fragmentation (i.e. the need for separate licenses to provide comprehensive care to people with behavioral health problems) was mentioned by almost every organization visited. Whereas organizations could find solutions to circumnavigate clinical and organizational barriers (e.g. peer support to help difficult-to-engage patients, or task-shifting where there was difficulty in recruiting clinicians) they found it understandably difficult to resolve external barriers.

The principal mechanism for integrating care for behavioral health organizations was the PBHCI grant. Whilst this had a number of advantages, it was very difficult to sustain integration beyond the life of the grant. Improvements could only be maintained by successfully applying for another grant or applying for a unique license from the New York State Department of Health to continue providing integrated care. Primary care organizations had a wider range of options available to them and in particular, being accredited as an FQHC provided a long-term solution that was not available to behavioral health organizations.

Most behavioral health organizations had to use overlapping grants to sustain care; however, the need for constant horizon scanning for new funding opportunities distracted from the work of actually implementing integration. Structures and process improvements (e.g. strengthening

electronic infrastructure and then using it for improved care quality monitoring and/or screening processes) as opposed to workforce expansion were more likely to be sustained.

Strengths and Weaknesses

Our study is limited in the generalizability of its findings. All our sites were within New York City and subject to the unique regulatory system within NYS, raising questions about the interplay of factors in non-urban communities or other health systems. However, our analysis reveals the complexity of trying to integrate care in one health system and arguably, broadening the sampling frame would have led to unmanageable complexity.

Another limitation was that we were unable to include patients in our analysis because of the ethical parameters and the remit of this study. This is a factor that should be explored in further studies.

Despite these limitations, our findings add depth to the understanding of the key components of integration, particularly for people with serious mental illness who are often neglected in research studies. Various frameworks and models have been developed to direct the implementation of integration. The vast majority of models postulate the idea that integration occurs on a continuum from none/minimal to full integration (Heath et al. 2013). Our study suggests however that integration does not advance along a linear continuum but rather as a network of components that are subject to several internal and external influences, most importantly leadership and culture unique to each organization and policy-driven barriers.

In conclusion, considering integration as a network of components that operate across a whole health system could help guide payers, providers and policy makers in implementation efforts. Policy makers should incentivize long-term integration initiatives in specialist behavioral health settings, akin to federally qualified health centers, or else expand the remit and ability of primary care to holistically meet the needs of people with serious mental illness. Providers in turn should realize the central importance of effective leadership and an organizational culture that views integration as part of its mission. Payers should evaluate these factors within services as correlates of success. Future research should consider integration from the perspective of patients to identify commonalities and divergent views.

Acknowledgements We would like to thank Dr. Carolyn Nowels for advice on the development of the questionnaire and Dr. Sarah Piscitelli on the development of the codebook. We would also like to thank all the individuals and organizations who gave of their time to participate in the study and their candor in their responses.

Funding This work was supported through a grant from the Commonwealth Fund of New York and as part of its Harkness Fellowship in Health Care Policy and Practice. The views expressed here are those of the authors and not necessarily those of the Commonwealth Fund. Research reported in this publication was supported by the National Institute of Mental Health of the National Institutes of Health under Award Numbers R25MH086466 and R01 MH102379. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. Dr Ramanuj has received honoraria from the Institute for Healthcare Improvement. Professor Pincus reports grants from the Commonwealth Fund, during the conduct of the study; grants from the New York State Health Foundation, grants from the United Hospital Fund and personal fees from National Academy for State Health Policy outside the submitted work.

Compliance with Ethical Standards

Ethical Approval The Institutional Review Board of the New York State Psychiatric Institute granted ethical approval for the study.

Appendix A

Semi-structured Interview

PREAMBLE TO BE READ BY RESEARCHER: My name is Dr. X and I'm from the New York State Psychiatric Institute (NYSPI). I am here today to learn about your day-to-day clinic operations so that we can understand how integrated services are implemented. I am particularly interested in how you integrate care for your population with severe mental illness; by that I mean people with debilitating mental illnesses *or* people with diagnoses like schizophrenia or bipolar affective disorder.

You have all individually been asked to participate because you either help deliver or administer the integrated care project. Any information that you share with me today will be used for research purposes only, and the NYSPI will not disclose your identity like your name or any other identifying information outside of the project. This interview will not be made available to the OMH or to anyone within your organization. Your participation in this discussion is entirely voluntary and you may skip any questions that you prefer not to answer. I'll be happy to answer any of your questions now or at the end of the interview. I expect the interview to take about 60 min and if we don't finish today or there is more you would like to tell me we can continue it at a later time.

Are you happy to proceed?

Is there anything you'd like to ask me?

Ok can we begin by…

Factors Specific to Participant

1. GRP: Can you tell me a little bit about your organization?

Article 28 or 31 or both? FQHC?
Affiliated with a hospital site or standalone?
Structure of organization?
Mechanisms of integration they're using e.g. *DSRIP, PBHCI, Health Homes, OMH-CQI*
How long have they been integrating for

2. IND: Let's start by having you describe what you do here.

Provide a comfortable, non-threatening way into the interview; begin to establish a relationship; locate the person within the organization from his or her own perspective; gain a sense of his or her role in the larger process of providing care

Organizational Factors

3. ALL: Can you walk me through the process of identifying a person who has both a behavioral and physical health problem who is seen here?

How are people with co-morbid physical and mental illnesses identified? Is there a formal process or is it ad-hoc; is everyone screened or those considered to be "high-risk", how is that process determined? How is baseline assessed (assessment tools?)

4. And then what kinds of services are those people offered?

Elicit descriptions of clinic processes for physical health care. Give the interviewer the opportunity to explore a broad range of factors that the interviewee considers relevant to physical health care in their setting, not necessarily mandated through either the PBHCI or OMH-CEI programs.

Prompts

How effective do you think this process for identifying/assessing/treating people is?

What influences the kinds of services people with both physical and mental health problems get? How was that decision made?

Integration Factors

5. ALL: What have you found as an organization has helped you integrate care?

Explore integration efforts, both formal and informal. How does the process of integration work within the organization:

- are there regular team meetings with physical health providers?
- care coordination,
- what role does the leadership play? Is integration part of the vision and mission? If so how is this message disseminated through the organization?
- How is the EHR used? Is it searchable? Is it shared throughout network? Is there feedback to different teams or individual clinicians?

6. ALL: What has needed to be ironed out along the way?

Elicits difficulties but with the presumption that the organization has been proactive in finding solutions for these
Co-location versus affiliation; Data burden; Work intensity; Maintaining relationships; Achieving buy-in

7. ALL: Have there been any difficulties which have been more difficult to resolve? (*Reimbursement, regulation, insurance)*
8. ALL: Where do you think the physical health needs of people with serious mental illness should be met? *If they ask for clarification: in primary care, in mental health settings, somewhere else or it doesn't matter? Why? If different to where they're providing it: would there be any problems with doing it like that?*

Implementation Factors

9. ALL: There has been a move to integrate care in healthcare policy for a while now. Would you say, in your experience, that you have noticed an impact in how you deliver care from the different ways that the state or government have been trying to achieve integration?

If ask for clarification mention: PBHCI, DSRIP, different ways to bring funding together (TO FRONTLINE STAFF: have you heard of these things?)

10. GRP: What changes could be made to the system to allow you to implement integration better?

If they ask for clarification: I'm thinking about the difficulties you've spoken about. If you were running the system, would you make any changes?

Sustainability

11. ALL: What do you think has happened or needs to happen to maintain the changes you have implemented?

Workforce training; task shifting; using other PCPs e.g. *not just physicians; use of peer-support specialists; emphasizing shared decision-making; how have*

care managers been used (care manager buy-in is essential)

12. GRP: Has the organization thought about how the improvements you have made could be maintained beyond the life of [insert mechanism here e.g. PBHCI, DSRIP, etc]

Are they looking for different opportunities? When did they start looking? What is the impact on regularly having to find new opportunities? What would they do differently?

Have they used any tools or algorithms to sustain care e.g. *the CIHS sustainability tool (did they think it was useful)? Have they been able to identify the total costs of providing integrated care (do they plan to, if not)?*

13. Is there anything else you would like to share about the process of integrating physical health and mental health services?

References

Aarons, G. A., Green, A. E., Trott, E., Willging, C. E., Torres, E. M., Ehrhart, M. G., et al. (2016). The roles of system and organizational leadership in system-wide evidence-based intervention sustainment: A mixed-method study. *Administration and Policy in Mental Health and Mental Health Services Research, 43*, 991.

Agency for Healthcare Research and Quality. Where Integration is Happening. Retrieved from: https://integrationacademy.ahrq.gov/collaboration/integration-map.

Alakeson, V., Frank, R. G., & Katz, R. E. (2010). Specialty care medical homes for people with severe, persistent mental disorders. *Health Affairs, 29*, 867–873.

Chapman, Y., & Francis, K. (2008). Memoing in qualitative research: Probing data and processes. *Journal of Research in Nursing, 13*, 68–75.

Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science, 4*, 50.

Donabendian, A. (2005). Evaluating the quality of medical care. *Milbank Memorial Fund Quarterly, 83*, 691–729.

Druss, B. G., Zhao, L., Von Esenwein, S., Morrato, E. H., & Marcus, S. C. (2011). Understanding excess mortality in persons with mental illness 17-year follow up of a nationally representative US survey. *Medical Care, 49*, 599–604.

Edwards, N., & Barker, P. M. (2014). The importance of context in implementation research. *Journal of Acquired Immune Deficiency Syndrome, 67*(*Suppl*. 2), S157–S162.

Heath, B., Romero, W. P., & Reynolds, K. A. (2013). *Review and proposed standard framework for levels of integrated healthcare*. Washington D.C.: SAMHSA-HRSA Center for Integrated Health Solutions.

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*, 1277–1288.

Knowles, S. E., Chew-Graham, C., Adeyemi, I., Coupe, N., & Coventry, P. A. (2015). Managing depression in people with multimorbidity: A qualitative evaluation of an integrated collaborative care model. *BMC Family Practice, 16*, 32.

May, C. R., Johnson, M., & Finch, T. (2016). Implementation, context and complexity. *Implementation Science, 11*, 141. https://doi.org/10.1186/s130120016-0506-3.

McGinty, E. E., Baller, J., Azrin, S. T., Juliano-Bult, D., & Daumit, G. L. (2015). Quality of medical care for persons with serious mental illness: A comprehensive review. *Schizophrenia Research, 165*, 227–235.

Peek, C. J. & the National Integration Academy Council (2013). *Lexicon for behavioral health and primary care integration: Concepts and definitions developed by expert consensus*. AHRQ Publication No.13-IP001-EF. Rockville, MD: Agency for Healthcare Research and Quality. Available at: http://integrationacademy.ahrq.gov/sites/default/files/Lexicon.pdf.

Reilly, S., Olier, I., Planner, C., Doran, T., Reeves, D., Ashcroft, D. M., et al. (2015). Inequalities in physical comorbidity: A longitudinal comparative cohort study of people with severe mental illness in the UK. *British Medical Journal Open*. https://doi.org/10.1136/bmjopen-2015-009010.

Scharf, D. M., Breslau, J., Hackbarth, N. S., Kusuke, D., Staplefoote, B. L., & Pincus, H. A. (2014a). An examination of New York State's integrated primary and mental health care services for adults with serious mental illness. *RAND Health Quarterly, 4*, 13.

Scharf, D. M., Eberhart, N. K., Hackbarth, N. S., Horvitz-Lennon, M., Beckman, R., Han, B., et al (2014b). Evaluation of the SAMHSA Primary and Behavioral Health Care Integration (PBHCI) grant program. *RAND Health Quarterly, 4*, 6.

Scott, K. M., Bruffaerts, R., Tsang, A., Ormel, J., Alonso, J., Angermeyer, M. C., et al. (2007). Depression–anxiety relationships with chronic physical conditions: Results from the World Mental Health surveys. *Journal of Affective Disorders, 103*, 113–120.

Siantz, E., Rice, E., Henwood, B., & Palinkas, L. (2017). Where do peer providers fit into newly integrated mental health and primary care teams? A mixed methods study. *Administration and Policy in Mental Health and Mental Health Services Research*. https://doi.org/10.1007/s10488-017-0843-9.

Smith-Merry, J., Gillespie, J., Hancock, N., & Yen, I. (2015). Doing mental health care integration: A qualitative study of a new work role. *International Journal of Mental Health Systems, 9*, 32.