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Organizing Mental Health Services: An Evidence-Based Approach

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Abstract

Background and Aims. Health policy makers and program developers seek evidence-based guidance on how to organize and finance mental health services. The Swedish Council on Technology Assessment in Health Care (SBU) commissioned a conceptual framework for thinking about health care services as a medical technology. The following framework was developed, citing empirical research from mental health services research as the case example.

Framework. Historically, mental health services have focused on the organization and locus of care. Health care settings have been conceptualized as medical technologies, treatments in themselves. For example, the field speaks of an era of 'asylum treatment' and 'community care'. Hospitals and community mental health centers are viewed as treatments with indications and 'dosages', such as length of stay criteria. Assessment of mental health services often has focused on organizations and on administrative science.

There are two principal perspectives for assessing the contribution of the organization of services on health. One perspective is derived from clinical services research, in which the focus is on the impact of organized treatments (and their most common settings) on health status of individuals. The other perspective is based in service systems research, in which the focus is on the impact of organizational strategies on intermediate service patterns, such as continuity of care or integration, as well as health status.

Methods. Examples of empirical investigations from clinical services research and service systems research are presented to demonstrate potential sources of evidence to support specific decisions for organizing mental health services.

Results. Evidence on organizing mental health services may be found in both types of services research. In clinical services research studies, service settings are viewed as treatments (e.g. 'partial hospitalization'), some treatments are always embedded in a service matrix (e.g. assertive community treatment), and, where some treatments are organizationally combined (e.g. 'integrated treatment' for co-occurring mental disorder and substance abuse), sometimes into a continuum of care. In service system research, integration of services and of the service system are the main focus of investigation. Studies focus on horizontal and vertical integration, primary care or specialty care and local mental health authorities—each of which may be conceptualized as a health care technology with a body of evidence assessing its effectiveness.

Implications. A conceptual framework for assessing the organization of services as a health care technology focuses attention on evidence to guide program design and policy development. Mental health services research holds promise for such decision-making guidance.

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Health policy makers and program developers seek guidance on how to finance and organize mental health services. Mental health services research can provide some recommendations to them based on studies of the organization and financing of services, although the evidence is incomplete and in some cases inconclusive. Driven by the immediate need to make policy decisions and design service programs, policy makers and program developers have proceeded with their work without a clear set of decision rules. In fact the mental health service system typically is shaped by historical tradition, political decisions and conventions of practice, financing and organization and *not* by a body of research evidence about effectiveness and efficiency. Uncertainty is the norm.

Historically, mental health services have focused on the organization and locus of treatment. In some eras treatment has been defined by the location of treatment services. The field speaks of an era of 'asylum treatment' and 'community mental health' services. Much of the science of mental health treatment has been focused on the locus and administration of services. For this reason mental health services are a good place to initiate a study of evidence-based practice and the organization of care.

This paper provides a conceptual framework to guide the process of developing an evidence-based approach to organizing mental health services. It was commissioned by the SBU—Statens beredning for medicinsk utvardering—the Swedish Council on Technology Assessment in Health Care. The SBU has begun a process to develop an evidence-based set of recommendations on the organization of mental health services, particularly focusing on the 'continuum of care'. The first step in the process was to develop a conceptual framework for thinking about the issue.

The conceptual framework begins with a broad overview of the field of mental health services research and then examines mental health services as a medical technology. It encompasses concepts such as the continuum of care and services integration.

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Services as Medical Technology

For this 'technology assessment' project it is important to keep in mind that the evidence sought concerns the impact of the organization of services on *health*. From this perspective various approaches to organizing and financing services are 'technologies' intended to improve the health status of individuals and populations. The framework suggests a series of terminal health status outcomes, measured at the level of the individual patient or population, as well as a series of intermediate level outcomes, measured in terms of qualities of the health care system, such as continuity of care or integrated services, which are thought to be indicators of effective care. The model identifies a set of connections among a series of organizational and financing technologies and treatment technologies and intermediate organizational and health care outcomes—and a set of impacts on health status and social welfare for individuals and populations.

Using Mental Health Services Research

Conceptually, it is convenient to distinguish between two major types of mental health services research: *clinical services research* and *service systems research*. This distinction was introduced by the NIMH in its *National Plan of Research to Improve Services for Individuals with Severe Mental Illness*. Clinical services research deals mostly with the individual as the unit of analysis in an investigation of the effectiveness and cost of mental health services. Service systems research deals with the organization and financing of the service system.

An evidence-based approach to organizing mental health services ought to depend predominantly upon the findings from the service system research area. Theoretically, the mental health service system organizes effective treatments into service arrangements of known effectiveness and efficiency. Having completed the assessments of treatments applied at the individual patient or client level (clinical services research), investigators would proceed to establish the effectiveness of various organizational strategies (service systems research). In some important cases, however, it is not possible to distinguish completely the treatment intervention from the organizational strategy. The 'treatment' is embedded in an organization or identified with a particular organizational arrangement, such as in case management, assertive community treatment or residential treatment. For these service interventions, the clinical services research literature serves as an important source of guidance, along with the service systems research literature.

In actual fact, the evidence base for clinical services research is more extensive than that for service systems research. Just as it is difficult to assess the effectiveness of treatments and services (i.e. programmatic organization of services, such as family interventions and assertive community treatment), it is difficult to assess the effectiveness of specific organizational arrangements (e.g. local mental health authorities) or financing mechanisms (e.g. prospective payment). As complex as randomized trials may be in 'real world' settings, systems experiments are even more complex, more expensive to mount and require collaborations among many organized settings. The ability to control service systems is limited, and it often is difficult to find appropriate comparison sites for rigorous research.

As the reviews of the literature suggest from the Schizophrenia PORT,[1] there is a body of evidence from which treatment recommendations may be derived.[2] Those recommendations are more detailed for psychopharmacological interventions, but there is sufficient evidence to make recommendations for family interventions and assertive community treatment—and even some recommendations for the psychotherapies. There is a literature on the effectiveness of certain systems strategies (e.g. vocational rehabilitation), as well, but the evidence is taken from fewer, less well controlled studies.

The clinical services research area offers a pretty extensive evidence base for case management and assertive community treatment, as well as for family interventions. The evidence is somewhat weaker for the effectiveness of the hospital and of alternatives to 24-hour (hospital) care, for various housing and special support services and for work-related interventions (e.g., rehabilitation and supported work arrangements). There is also a limited evidence base for systems integration and local mental health authorities'[3,4] single-stream funding arrangements, managed care and prospective payment arrangements. Weaker still is evidence about whether to 'make' or 'buy' services (provide them directly or contract for them) or what level of government is best for what services.[5,6] There is only limited evidence to guide decisions about how to organize a local mental health service, how to manage and finance the care and about whether a national or regional mental health authority should operate hospitals or contract with private services. When are these decisions a matter of current political and administrative fashion and when are they a matter of evidence from replicated studies?

The balance of this paper explores several areas of mental health services research which might provide evidence on the effectiveness of different strategies for organizing services.

Clinical Services Research

Although it is service systems research that focuses principally on the organization of services, clinical services research provides evidence on the effectiveness of those treatments that are defined by their organizational or service structure. For example, research evidence on the effectiveness of different approaches to hospitalization or of case management at the level of the individual patient is more extensive than the empirical mental health service systems research literature focused on the impact of organizational strategies on mental health services.

Organizational strategies may be built up from a clinical research base. Findings about the effectiveness of specific treatments or other interventions suggest organizational strategies. For example, evidence that early treatment of

depression improves outcomes and reduces disability would suggest that the service system provide outreach services for early case identification and treatment.

As noted above, some treatments *are* services; other treatments are hard to separate from their organizational matrix. Some treatments appear to be more effective when combined; some services are improved when offered together. It is these possibilities that make the study of service systems of particular import for questions of effectiveness. Further, a 'continuum of care' has been offered as the optimal approach to serving mentally ill individuals.

Services Viewed as Treatments

The hospital conventionally is viewed as a locus of treatment, but it is also viewed as a 'treatment' itself. We speak of 'indications' for hospitalization (e.g. danger of violent behavior) and 'dose' (e.g. length of stay or intensity of the psychiatric unit), as if hospitalization were actually a treatment in and of itself. The same may be said of residential treatment, community mental health centers or community support systems. Each of these treatment organizations has been evaluated as if it were itself a treatment. The lessons of these evaluations may be instructive about the organization of mental health services. What treatment objectives can be achieved only in certain organizational forms (e.g. protection of society from 'harm' in the hospital) or might be accomplished through the use of alternatives (e.g. 'crisis beds' in non-hospital settings)? What service approaches (e.g. a community support system) might substitute for an institution (e.g. a residential treatment center for children)? To what extent do the clients of a particular approach to organizing care (e.g. a community mental health center) actually receive and benefit from the multiple services offered? There is an extensive literature on different approaches to hospital treatment and alternatives to the hospital (cf. a review by Hargreaves and Shumway[7]). There also are evaluations of various aspects of community mental health services (cf. references 3,4,8–13).

Treatments Embedded in a Service Matrix

Some treatments are so identified with a particular organizational approach that they are defined by their service arrangement. When mental health services extended beyond the walls of the mental hospital a range of ambulatory services emerged. Several of these services emulated the multidisciplinary team structure typical of the psychiatric ward of the hospital. Various teams were developed to provide intensive community treatment and ongoing support for patients and their families (cf. references 10,13).

The best example of such a treatment/service complex is case management, particularly the best evaluated form of case management, assertive community treatment. This example is especially instructive because it clarifies the importance of understanding what treatment, if any, is embedded in a service arrangement. The empirical evidence on case management offers a picture of variable effectiveness, depending on its structure and content. Not all forms of case management are equally effective for all populations. Some case management is intentionally *devoid* of clinical content and suffers from a lack of clinical effects, perhaps as a result. In contrast, assertive community treatment, defined by its intensive team structure and its clinical content, is extremely effective, particularly for individuals with severe and persistent mental disorders who have a pattern of extensive service use. Several review articles detail this analysis.[14,15]

Other examples include the less well studied approaches to emergency treatment, such as mobile crisis teams. These treatment/service complexes resemble case management teams, although they focus on specific emergency episodes rather than ongoing relationships with patients. Unlike case management programs, where there is a growing body of evidence to recommend specific ingredients and a particular structure, mobile treatment approaches lack a literature on fidelity to a theoretical model or an empirically assessed approach (cf. reference 12).

Family supportive interventions, incorporating family psychoeducation, differ from traditional family therapy in a number of important ways, including their emphasis on organizational issues.[16] Currently, the organizational approach to such interventions is a major focus of investigation. For example, there is an important emphasis on individual family versus multi-family group strategies. The effectiveness literature is beginning to tease out the advantages and disadvantages of each approach. Groups may be less costly to run but they may be more difficult to implement. Another service dimension of interest in family interventions is the organizational sponsor of such services. Are they professional and service system based or are they sponsored under the auspices of family support and advocacy organizations? (McFarlane's 'multifamily group' is an example of the former; 'Journey of Hope', supported by the National Alliance for the Mentally I11 (NAMI) in the US, illustrates the latter approach.)

Combined Services

Service combinations may be conceptualized in a number of ways: treatment services typically offered by various organizations may be combined within one service; multiple service organizations may provide varied services to the patient with complex problems and treatment services may be provided sequentially by different organizational combinations. As discussed in the next section of this paper, service systems research examines economic and organizational strategies designed to promote service combinations, such as cooperation, collaboration or integration. Clinical services research asks different questions about combined services, investigating the impact of service combinations on individual level outcomes.

A case in point of contemporary concern is the combination of mental health and substance abuse services. For several decades in the US these services have been offered by separate service systems, although increasingly high rates

of comorbidity for mental disorder and substance misuse have been recognized. There are barriers to treatment services in one system for clients of the other system, in spite of combined treatment needs. Recent clinical services research has asked about the merits of collaborative care involving the two systems in parallel compared to providing both types of treatment within the same system, often called 'integrated treatment' (cf. reference 17).

'Aftercare' or 'follow-up' services are another form of combined services—in this case provided sequentially. What sequential combination of services produces the best results? These service arrangements are designed to promote 'continuity of care' on the basis that such continuity results in superior outcomes for patients. Evaluation of the clinical merits of this type of service arrangement has been difficult. It is problematic to disentangle the effects of patient needs from the effects of receipt of services.

Seemingly paradoxically, in cross-sectional studies, patients who receive aftercare services often have poorer health and mental health status than individuals who do not receive such services. Selection effects rather than treatment effects provide an interpretation of the paradox: patients with higher health and mental health status often do not enter aftercare services at all, leaving those with poorer status under care. Experimental studies have produced somewhat clearer evidence of the merits of continuity of care. The failure to detect positive clinical outcomes in the presence of continuity of care has been linked to the lack of state-of-the-art services[18,19] or the lack of effective treatment services.[9] The Robert Wood Johnson Foundation Program on Chronic Mental Illness (RWJ/PCMI) demonstrated improved continuity of care but individual outcomes were no better in a late cohort, when compared to an early (nearly baseline) cohort.[18] The lack of effect was attributed, in part, to the failure of case management services in the demonstration sites to adhere to an assertive community treatment model.[18,19] In the Fort Bragg demonstration Bickman[9] drew a broad and quite controversial conclusion that perhaps the clinical services themselves were lacking effectiveness. These conclusions may overstate the case. Subjects in all cohorts in both demonstrations did improve over the period of their observation, but there was no differential effect clearly associated with continuity of care.

A Continuum of Care

Over the years the construct of the 'continuum of care' has emerged to characterize the array of mental health and related supportive services designed to meet the multiple, complex needs of psychiatric patients and their families. The 'continuum' refers to the concept that the services are linked to one another in a graded fashion to address the changing needs of patients, as they recover or experience exacerbations and remissions in their conditions.

Supporters of this concept point to the benefits of combined treatment services and the putative benefits of continuity of care afforded by a system of services arranged in a 'continuum of care'. Typically, the continuum of care includes hospitals and other providers of 24-hour care and residential arrangements, partial hospital services, emergency and crisis intervention services, an array of non-hospital alternative services, numerous ambulatory services and a range of supportive and integrative services, such as case management. In some service systems it is expected that individual patients will move through the continuum of care from one service (or residential) setting to the next, as their condition dictates. Effective matching of patients with appropriate treatments is a critical objective for the mental health service system. If choice of treatments is restricted, then access will be restricted.

Critics of the continuum of care approach argue that it is unnecessary and disruptive to individuals for them to move through the system from setting to setting. Instead they propose a system of supportive services provided to individuals living in natural residential settings in the community. They disapprove of the idea of an array of residential 'settings' or 'services' offering 'beds' for individuals for whom the goal is normalized life in the community as 'normal' citizens. They advocate for homes and supports rather than facilities and formal services. This approach, called 'supported' or 'supportive housing', depends on an array of residential accommodations and support services available for community dwelling individuals with mental disorders. There is a growing body of evidence indicating the effectiveness of this approach (cf. reference 20). The most effective source of residential support is assertive community treatment, which provides treatment and support services within the service team, bringing care to patients or clients *in vivo*, where they live. In a sense, though, this array of services is just a variant (although an important advance) on the continuum of care.

Several specific approaches to the continuum of care have been introduced over the past two decades. The most important of these, the balanced service system and the community support system (cf. reference 21), have expanded the range of services beyond traditional mental health services to a full array of human services, including housing, transportation, employment and income maintenance, advocacy, outreach, general health and dental services, as well as education and criminal justice services. Recognizing the social welfare as well as the health care needs of individuals with mental disorders has been a major advance in thinking about mental health services, but it also has added tremendous complexity to the conceptual framework for thinking about services. Research on these forms of the continuum of care concept has focused principally on the organization and financing of the system of care, especially on the integration of services. Importantly, however, this body of research also has underscored the need to attend to the content and quality of clinical treatments and social services embedded within the continuum. Thus, it has been imperative to learn the lessons of clinical services research before approaching the difficult lessons of service systems research.

Service Systems Research

As suggested by the previous discussion of the continuum of care, there is a growing recognition of the complexity of the medical and social problems associated with mental disorder. The service system required to manage and care for individuals with multiple problems is complex and often fragmented, disorganized and inefficient. The result may be poor quality care and unnecessary costs. A range of organizational and financing strategies have been proposed and implemented over the years to address the joint problems of fragmentation and inefficiency. Efforts to overcome these structural barriers have focused on approaches to better cooperation, collaboration and coordination of services under a rubric of *services integration*.

The construct of 'services integration' is useful but it is also quite broad and occasionally vague in its meaning. A potentially important distinction has been made between *services* integration and service *systems* integration. In nomenclature developed for the evaluation of the US Center for Mental Health Services ACCESS demonstration, *services* integration refers to efforts to meet the multiple needs of patients by bringing together services to meet these needs through a coordinated service (treatment) approach at the level of the individual.[22,23] Following this definition, interventions such as case management or assertive community treatment are services integration strategies. Other service elements within the continuum of care may be brought together by other services integrative strategies such as crisis teams or rehabilitation programs.

In contrast there are *systems* integration strategies designed to reduce fragmentation and improve coordination of organizations capable of providing services to meet the complex needs of patients. These strategies work at the organizational level, often employing financial incentives or regulatory efforts, attempting to alter programs and policies to support improved care for *groups* of patients. Systems integration is an organizational and population-based approach; services integration works at the level of a service intervention for individual patients.

Clinical services research is used most often to assess the effectiveness of services integration. Service systems research would be used to assess the processes and impact of systems integration. The former has been discussed in the section above; the latter is discussed in the paragraphs below. Research on service systems is expanding beyond considerations of organizational integration to focus on methods of changing the *content* of services so that they conform to patterns of cost-effective practice.

Systems Integration

There are several important dimensions of systems integration, including the type of integration, the sectors and organizations to be integrated and the financing and organizational strategies employed to facilitate integration. Organizational relationships involve the flow of individuals (e.g. patients), resources and information. The general concept of 'integration' includes constructs such as 'cooperation', 'coordination' and 'collaboration', but the terminology has no agreed upon usage. Inter-relationships may be characterized as loosely or tightly connected; formally or informally linked. Cooperation usually connotes the attitude of participants more loosely and informally connected. Coordination refers to the joint actions of organizations and sectors in somewhat tighter and more formal relation to each other, but not so formal or tight as implied by collaboration. Integration usually is the tightest and most formal form of organizational linkage, often involving the merger of once-separate organizational elements into a unitary organization.

Integration is characterized as vertical when it combines various aspects of production or service delivery, such as merging hospitals, clinics and specialized residential accommodations into a single system. Horizontal integration involves the merger or other linkage of organizations which all perform the same function or deliver the same service, as in a 'chain' of nursing homes or a system of local mental health units joined in a regional organization. Organizational integration may take place at various levels of government (e.g. in Sweden at the level of the municipality, the county or the national government) or among various service systems (e.g. primary care or social services) or on the basis of geography (e.g. sectors) or specialized services.

These concepts are discussed at length in the organizational literature and are referenced, but not discussed in detail, here. Frank and Morlock[24] provide an excellent review of the evidence for integration of services in mental health.

There is no agreed upon basis for deciding that a particular organizational arrangement is always (or even generally) superior to another *without* consideration of other characteristics of the organizational environment. For example, an assertive community treatment team is recommended for any community, but the population must be large enough to yield 50–100 severely ill patients or the team approach is not economical. Geographic unitization (following sectorization) at the level of the county may be preferred to achieve continuity of care between hospital and ambulatory service, but other economies of scale may dictate the use of specialized units (e.g. for Alzheimer's disease and related dementia) cutting across geopolitical sector boundaries. Some nations favor the use of primary care providers to deliver mental health services, while others use both primary and specialty care. Finally, the evaluation of the RWJ/PCMI concluded that local mental health authorities were feasible and recommended practice, but that their form could be dictated by local practice and special political and community 'cultural' considerations.[4]

Horizontal and Vertical Integration

Horizontal and vertical integration have a somewhat different connotation in a very mixed economy and fragmented system, such as found in the US, when compared to a more centralized economy and health care system, such as found in Sweden. In both cases the goal of integration is promoting

efficiency and optimizing the use of scarce resources. In a profit-based economy, however, some degree of regulation frequently is needed to prevent monopolies from resulting from high degrees of integration. Centralized systems with socialized health care focus on what service organizations to link together at what level of government and with what departments.

In the US horizontal integration has been experienced and studied in health care since the boom in hospital and nursing home chains in the 1980s. More recently, managed care continues to be characterized by horizontal and vertical mergers. Vertical mergers have been characterized by the creation of large integrated delivery systems—'cradle-to-grave' services, including facilities, physician practices, home care services, insurance-like administrative services and information systems. In more centrally planned mental health care systems, concerns about horizontal and vertical integration take the form of concerns about sectorization and intergovernmental relationships.

Primary Care or Specialty Care?

One of the most common service system questions in mental health services focuses on the appropriate roles for primary health care providers and specialty providers in the care and treatment of individuals with mental disorders. Treatment of those who are most impaired most often occurs in specialty care, where it exists at all. Primary care settings provide treatment to more individuals with less severe impairment, even in places such as the US, which has an extensive specialty care sector.[25] In many countries specialized resources are limited. Even where they are plentiful, specialty care services may be avoided as undesirable or stigmatizing in favor of care from primary care providers. A wide range of mental health interventions directed at primary care practice have been evaluated over the past several decades (cf. references 26 and 27). There is concern that care from primary care providers is less effective than specialty care, characterized by under-recognition, inadequate diagnosis and inappropriate treatment. These limitations notwithstanding, primary care settings are where the patients present for care and treatment—and so public mental health policies and planning must focus attention on improving diagnosis and treatment of mental disorders in primary care settings.

There is an extensive literature on mental health services in primary care settings, based on research conducted throughout the world. Important review articles include pioneering work in the UK[26] and the US.[27–30] Swedish studies include the work of Rutz and his collaborators in Gotland.[31] Primary care interventions to be included in an evidence-based review would include training for primary care practitioners, the use of physician extenders and disease management (cf. reference 32), as well as psychiatric nurse specialists, social workers and consultation-liaison psychiatrists.

Local Mental Health Authorities

Proposed by Aiken and her colleagues[33] and refined by Shore and Cohen[34] for the RWJ/PCMI, local mental health authorities were designed to centralize administrative, fiscal and clinical responsibility for the care and treatment of individuals with chronic mental illness at the local geopolitical level (i.e. the city or county). No particular organizational form was mandated by the demonstration program in nine large US cities. Some local mental health authorities were governmental and others were private (with boards of directors appointed by public officials to maintain public accountability). The various models were implemented in almost all of the cities and promoted continuity of care. Numerous other jurisdictions in the US decided to implement and adapt the concept of the local authority in their community. As with several of the topics discussed above, there is no experimental evidence available to guide program development. (Nor is it likely to emerge, given the near-impossibility of constructing an experiment within large communities.) Furthermore, the Program on Chronic Mental Illness showed no clinical or social care gains *except* for clients who received specialized services.[4,20]

Two important conclusions were drawn from the findings of the evaluation. Systems integration may be necessary but it is not sufficient to produce improved individual level outcomes. Although the demonstration indicated that local mental health authorities were feasible, desired by the public and associated with increased systems integration and continuity of care, it also indicated the need to further assess the central hypothesis that systems integration promotes better social, clinical and quality of life outcomes. The findings suggested that the hypothesis could only be tested in the presence of specialized services of high quality, such as assertive community treatment and supported housing.

The ACCESS demonstration in 18 US urban settings provides a better test of the hypothesis, and preliminary evidence supports a positive association between systems integration and residential stability for previously homeless individuals. ACCESS may provide additional lessons on systems integration.[23] Both the PCMI and ACCESS have reinforced the need to focus on the *content* of care as well as the organization and financing of care. Research on quality of care is needed to focus on the content of care so that the outcomes for individuals with mental illness might be improved in better integrated systems.

Summary

This framework brings us full circle from the consideration of treatments as services in clinical services research through the multifaceted domain of services systems research on services integration back again to clinical considerations in the content of practice and the development of a cadre of practitioners to deliver high quality services. Several of the areas included in this review are ready for meta-analysis and some summary conclusions (e.g. integrated treatment for co-occurring mental disorder and substance abuse;

primary care management of depression); others are just in their infancy and only suggest areas for further research development (e.g. supported housing).

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