ECONOMIC ANALYSIS IN PEER SUPPORT

Breadth of Approaches and Implications for Peer Support Programs

There is strong evidence that peer support helps individuals prevent disease, manage chronic conditions, cope with emotional and psychological challenges, and become more engaged in health care systems (1-3). Research studies also indicate that peer support may be a cost-effective and cost-saving strategy for providing person-centered care; according to a literature review of economic evaluations of peer support between 2000 and 2014, 15 cost-effectiveness studies and 12 other economic analyses of peer support interventions highlight the economic value of peer support using a variety of approaches (4-24). These evaluations focus on peer support in the context of diabetes, mental health and substance abuse, breastfeeding and postnatal care, and primary care. The table on the right summarizes key findings from seven of these studies.

Rigorous economic evaluation is critical in securing immediate buy-in and long-term investment in peer support programs. Decision-makers and policy-makers need concrete evidence of the financial benefits, sustainability and value added of peer support programs. Thus, Peers for Progress funded five projects to develop systematic evidence for the economic value of peer support and to address methodological challenges in the field. In October 2014, Peers for Progress convened these grantees and health care leaders to discuss approaches to economic analyses in the evaluation of peer support programs and the development of a robust business case for peer support.

1 “Peer support” is used generically to include community health worker (CHW), lay health advisor, health coach, promotor de salud and similar interventions.

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### Economic Analysis Studies for Peer Support Programs

1. **Encourage – Diabetes Peer Advisor Program in rural Alabama** (4)
   - 59% probability of cost-saving
   - 55% to 93% probability of being cost-effective, depending on those included (e.g., higher likelihood of being cost-effective for those with greater need, those with depression or poorer baseline clinical status)

2. **CHWs outreach in Federally Qualified Health Center in Denver** (5)
   - Shifted costs from urgent care, inpatient care, and outpatient behavioral health care
   - Increased utilization of primary & specialty care visits
   - Return on investment (ROI) = $2.28 for every dollar spent

3. **Diabetes Initiative of Robert Wood Johnson Foundation** (7)
   - Cost per Quality Adjusted Life Year (QALY) = $39,563 (well within $50,000 criterion for good value)

4. **Asthma Community Health Worker Project with Medicaid Covered Children in Chicago** (15)
   - 3-4 home visits over 6 months, liaison with care team
   - ROI = $5.58 for every dollar spent

5. **Lifestyle Modification for Low-Income Latino Adults with Diabetes in South Texas** (6)
   - CHWs and nurse educators: home visits, self-management education, individual counseling
   - $10,995 to $33,319 per QALY
   - Especially cost-effective among those with high initial blood sugar levels

6. **Preventing Re-hospitalization in Schizophrenia, Depression, Bipolar Disorder** (23)
   - Recovery Mentors provided individualized support
   - Over 9 months: 0.89 vs. 1.53 hospitalizations, 10.08 vs. 19.08 days in hospital (p < 0.05)

7. **Reducing Depression/Anxiety Disorders in India** (18)
   - Provided education about psychological problems, ways of coping, and interpersonal therapy delivered by lay health counselors with primary care and psychiatric back-up
   - 30% decrease in prevalence, 36% decrease in suicide attempts, 4.43 fewer days no work/reduced work in previous 30 days
   - Intervention was cost-effective and cost-saving
APPROACHES TO ECONOMIC ANALYSIS IN PEER SUPPORT

As illustrated in the five projects supported by Peers for Progress, a variety of approaches may be taken to examine the economic impact of peer support. Cost-effective analysis, business case analysis, comparison of organizational settings and related financial structures, and payment models are four methodologies that were implemented in the grantee projects.

1. Cost-effectiveness analysis

By comparing the relative cost and outcomes of diabetes management programs with and without peer support, cost-effectiveness analysis helps to identify strategies that optimize health outcomes with limited resources (25). This approach can redirect resources from ineffective to effective programs and also allocate resources from less cost-effective to more cost-effective care models (25, 26). The two projects below focused on analyzing the cost-effectiveness of peer support interventions for people with type 2 diabetes in different national and international locations.

<table>
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<tr>
<th>Comparing Peer Support Interventions with Usual Care</th>
<th>Cost Effectiveness of Group-Based and One-on-One Peer Support</th>
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<tr>
<td>Investigators: Dr. Maria Pisu and her colleagues from the University of Alabama at Birmingham</td>
<td>Investigators: A team of British and American researchers led by Dr. David Simmons of Cambridge University.</td>
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<td>Focus: Cost-effectiveness of peer support intervention among rural, low income African Americans in Alabama and in other projects funded by Peers for Progress.</td>
<td>Focus: Cost-effectiveness of group-based and one-on-one peer support using self-reported data from the Peers for Progress-funded project RAPSID (randomized controlled trial of peer support in type 2 diabetes in Cambridgeshire, England).(29)</td>
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<td>Following guidelines of Panel on Cost-Effectiveness Analysis in Health and Medicine, the research team determined cost-effectiveness by calculating the incremental cost-effectiveness ratio (27).</td>
<td>Evaluation included the incremental cost per incremental point reduction in HbA1c, blood pressure, and QALY gained per patient, which can be used to predict the incremental cost-effectiveness over a time horizon of one year.</td>
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<td>Results: Peer support had a 55% probability of being cost-saving and from a societal perspective, a 55%–93% probability of being cost-effective using threshold values ranging from $50,000–$100,000/QALY (Quality Adjusted Life Year). Probability of being cost effective was greater in sub-populations with higher needs – depressed or in poor metabolic control. Preliminary analysis from a project supported by Peers for Progress in San Francisco (28) suggests that the peer support intervention is cost-effective when compared to usual care from a payer’s perspective.</td>
<td>The data were incorporated into the UK Prospective Diabetes Study risk engine to extend analysis to a lifetime horizon. Preliminary analyses indicate savings of over £100 (approximately $150) per participant after including implementation costs.</td>
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2. Business case analysis

A business case provides comprehensive information on health outcomes and financial analysis to assist organizational decision-makers to justify investments in specific peer support programs. The broad perspective of a business case is especially pertinent to decision makers because quality improvement initiatives like peer support are typically not reimbursed under fee-for-service systems and do not generate direct revenue. Thus, a business case for peer support may guide organizational support for programs with new payment models such as bundled payment, per-member-per-month (PMPM), capitation and pay for performance, all of which pay providers based on clinical outcomes and value rather than volume.

A business case is distinct from cost-effectiveness and other economic analytic models in taking into consideration a wide range of financial and non-financial costs and benefits of a program. In making a business case for peer support, it is important to emphasize how peer support contributes to the quality improvement in patient care and positive return on investment (ROI) (30). Drawing attention to these benefits may cause decision-makers to change their perceptions of peer supporters from “non-essential personnel” to critical members of a team that help improve the quality of care and reduce overall health care costs (31-33).

Dr. Paula Song, along with her colleagues Drs. Kristin Reiter, Christopher Shea and Charles Belden at the University of North Carolina at Chapel Hill, are currently examining whether existing models and tools to evaluate business cases may be applied to developing business cases for peer support programs. The team will identify both direct and incidental costs and benefits as well as non-financial considerations for peer support programs from the perspective of the organization that will be paying for the program. Specifically,

- **Direct costs and benefits** may include the expenditures invested in developing and implementing peer support programs, the continuing costs of operating the intervention over time, and the savings (i.e., increases in revenues or other quantifiable financial benefits that go to the organization investing in the intervention) (30, 34);
- **Non-financial factors** may include conditions of participation, alignment of performance incentives, organizational image, relevance to organization’s mission, and impact on organizational culture.

### Major Takeaways from Building the Business Case

1. **The perspectives and objectives of the target audience(s) shape the design of a business case.**
   As the business case considers only the perspective of investing entities of the peer support programs (e.g., providers, funders, payers and policy makers), the choice of evaluation indicators will depend on their pertinence to the specific investing entity. Particularly, different investing entities hold different objectives. For example, the objectives for a payer who wants to reduce emergency room visits will differ from a provider who tries to improve service quality but still ensure profits. Not all common measures (e.g., emergency visits, hospitalizations, quality of life, lost days of work) should be included in every business case. Instead, the design of a business case needs to be tailored to the investing entity for whom the benefits and costs will accrue.

2. **ROI within a reasonable timeframe is a powerful tool.**
   The calculation of ROI is usually based on the net present value, using a risk-adjusted cost of capital as a discount rate. In addition, different than cost-effectiveness analysis, a business case often considers the ROI within a reasonable time frame with a maximum time horizon of five years.
Comparing organizational and financial structure of two contrasting models

Dr. Richard Crespo and his team from Marshall University School of Medicine in West Virginia compared organizational and financing structures of two contrasting peer support models: a clinic-based model and a social service model. Analysis of key informant interviews, costs, and clinical outcomes over six months suggests that peer supporters from each organization contributed to improving community health in different ways based on their populations. The table below summarizes the findings from both projects.

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<th>Clinic-Based Model: Mingo County Diabetes Coalition</th>
<th>Social Service Model: Northwest Georgia Healthcare Partnership</th>
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<td>Community health workers (CHWs) targeted high-risk diabetes patients for intensive care management and in-home follow-up.</td>
<td>CHWs were recruited from local hospitals and community-based organizations and connected uninsured patients to needed medical and social services including diabetes self-management education.</td>
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<td>Each CHW worked directly for the clinic and provided support to up to 30 high-risk diabetic patients through weekly home visits. CHWs were able to form strong partnerships with their patients.</td>
<td>Each CHW worked for a local non-profit and served up to 100 clients. CHWs worked to eliminate a language barrier, improve access to the health system and advocate for the Hispanic population.</td>
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<td>Substantial reductions in HbA1c were reached among high-risk patients. Of 73 patients, 77% achieved a decrease of at least 1-percentage point that is generally considered clinically significant.</td>
<td>Impacts were less pronounced in individual patients, but there was improved access to health care across the large population reached.</td>
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<td>Patients were ensured access to medications, which allowed the intervention to meet qualifications for adherence. There was a total annual projected cost-saving of $474,500 for 73 patients (adherence was defined as the percentage of days for which the patient had a supply of one or more maintenance medications).</td>
<td>Using reduced hospitalization and diabetic foot care as measurement indicators, annual cost saving from diabetes case management was projected to be $400,300. Specifically, projected total cost savings from preventing hospitalization for 20 clients was $198,100, and savings from diabetes foot care for 84 clients was $202,200.</td>
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In sum, results indicate that the intervention in a clinical setting achieved substantial individual clinical improvement in HbA1c for a small group of high-risk patients. On the other hand, the intervention based in the community reached more individuals but with less pronounced individual impacts. It is striking that the estimated cost savings ($400 to $500 thousand) were similar. Analyses also suggest the complementarity of the two approaches and the advisability of their combination, both promoting care and self management among community members and improving clinical status among high-risk individuals.
3. Developing an innovative payment model for CHWs: A case study

As Medicaid expands under the Affordable Care Act and fee-for-service is shifting to capitation, there is a need for Managed Care Organizations (MCOs) to develop, design and institutionalize procedures, mechanisms and infrastructure appropriate for the new care environment. This initiative may occur through the expansion of the role of CHWs in reducing cost and improving health. With the launch of the Centennial Care initiative in New Mexico, Medicaid enrollees were stratified into: **Level I** (individuals with good to excellent health), **Level II** (those with long-term chronic disease or high cost conditions), and **Level III** (those with very complex health needs such as multiple chronic conditions, high hospitalization rates, high prescription drug use rates, and high emergency department usage) (35).

Researchers at the University of New Mexico (UNM) and Hidalgo Medical Services (HMS) collaborated with MCOs to develop identification strategies for each level within Centennial Care. At each level, they developed a realistic caseload for CHWs working with patients and identified activities and interventions that work best. Each CHW was assigned to provide services to 25–30 enrollees over a period of three to six months. Services included health literacy (e.g., navigating the healthcare system, understanding the importance of medication adherence) and other non-clinical support (e.g., assistance with transportation, obtaining food stamps). The highest-need individuals received intensive individualized patient support services, whereas those with lesser needs generally received interventions that addressed community health barriers with a focus on system navigation and non-clinical social services.

In estimating the overall costs to MCOs (i.e., the cost of the investment in the “upstream” CHW model and any decreased treatment costs):

- CHW payment model for the highest-risk patients (Level III) remained the same, outside of the Level I and II combined PMPM rate. Not all Level III members were referred for services but were chosen by MCO case managers at a monthly fee of $321 per month for each member referred for CHW intensive intervention.
- A population management approach was taken for Levels I and II. An initial estimate of the necessary PMPM rate to provide CHW services to all Level I and II members, based on a cohort of 5,000 members in a neighborhood or cluster of neighborhoods, was $5.75 PMPM. For a 12 month period, the total cost was $345,000 equivalent to the total revenue generated by this PMPM approach.

Linear regression was used to estimate overall savings to fully allocate the CHWs’ salaried costs for Levels I and II. Reimbursed care was assessed through billing records to estimate MCO costs. The return from cost savings was higher for Level III beneficiaries, smaller but substantial for Level II, and low for Level I beneficiaries. However, the long-term savings were significant because this expansion of CHW services prevents members from becoming complex, high cost, and high utilizers. The conservative estimated ROI for a 3-year program is 1.5:1.
IMPLICATIONS FOR RESEARCH AND ECONOMIC ANALYSIS OF PEER SUPPORT PROGRAMS

Consider a variety of approaches to economic evaluation in the agenda of research projects.

Similar to the range of peer support models, there are numerous approaches to economic evaluation that reflect diverse analytic perspectives on varied programs in unique settings and populations.

Address challenges and gaps in research methodology.

1. **Generalizability.** To enhance the generalizability of outcomes, it is important to address methodological issues such as analytic model selection, data availability, lack of comparison groups, small sample sizes, time horizon, and proper discount rates.

2. **Comparisons.** Not all cost-effectiveness assessments are comparable as the measurement of costs varies across peer support programs. Each program has a different function, operation model, and focus on disease(s) or health condition(s), and different techniques used to measure costs hinder the ability to compare findings across studies and in general literature.

3. **Organizational Infrastructure and Data Management.** Sustainable financing requires attention to organizational infrastructure as well as data collection. It is important to consider: clarification of the role of peer support in health care, establishment of common payment and reimbursement policies, adequate and appropriate quality assurance, and increased quality of data collection for analysis and evaluation of cost-effectiveness and ROI of peer support.

Think locally.

From a research perspective, rigorous economic analysis must address aspects of peer support programs that may have tangible and/or intangible value. Whether the considerations are tangible, intangible or combine both elements will vary from site to site. Site-specific considerations include socio-economic status, culture, personnel, organizational structure, infrastructure and technology. Ultimately, a business case combines the tangibles and intangibles as it considers monetary, non-monetary and other intangible values.

From a payer perspective, representatives of health care enterprises emphasize the role of local community to scale up and sustain their business model. The emphasis on local appraisal is congruent with an emphasis on developing of health services within the context of local settings. For example, the perspective of the business case focuses on local resources and strength and must be developed within a specific site. On the other hand, Centene Corporation has collaborated with local communities (e.g., churches, civil rights organizations) to develop their service network because they believe that their model is “to make it a community solution instead of just giving a dollar for a shot.” This decentralized approach has been described as an effective way to ensure sustainability by engaging knowledgeable community members about local culture, people, and language, which is crucial to the success of any business model.
IMPLICATIONS FOR IMPLEMENTATION AND QUALITY ASSURANCE

Peer support has the potential to greatly increase in value as it gains widespread recognition as an effective and cost-effective strategy to improve quality of care and expand access to health care.

When shifting from reimbursing instances of care to developing innovative financial models, one should consider the following implications for peer support programs:

Establishing a business case model for peer support is a high priority.

It is important to understand how to make a business case for peer support in general before creating a business case for a specific peer support program. Preliminary results from a comprehensive literature review indicate that despite a growing focus on the business case for quality improvement, there is limited information on how the existing models and tools to evaluate a business case can be applied to peer support programs (30, 36, 37). The establishment of a business case for peer support can only go forward once these information gaps are filled.

Consider more innovative payment models for peer support/CHW programs and evaluate costs under those payment models.

Because grant funding inherently limits the sustainability of peer support programs, researchers should explore more innovative payment models that finance the entire system as opposed to services delivered. New opportunities through the Affordable Care Act may provide funding for peer supporters/CHWs as part of health management teams, as patient navigators, and as behavioral health specialists. One avenue that can be explored is a business model that is owned and operated by peer supporters.

Commercial opportunities for peer support may open doors to sustainability.

Representatives from health care enterprises encourage researchers and program managers to envision peer support as a commercial model that can serve larger populations and generate positive investment returns. Academic researchers and decision-makers of health programs are encouraged to view peer support more in economic and profit-making terms. To address these differences in perspective, the following questions should be considered: How peer support intervention can fit into the niche of the health care business? How we can make peer support profitable? How we can develop peer support into a business model?

Conclusion

Substantial emerging evidence indicates that peer support programs in a variety of areas of health care and prevention are cost-effective. Additionally, payment models are emerging that point the way toward financial stability of peer support programs reaching individuals with a wide range of needs as well as clear value for payors. Different settings and audiences of peer support programs will lead to different business cases of costs, strengths and added value. As in the example here, a community based program may reach more people but with less dramatic impacts with each individual reached than a program aimed at patients at high risk for unnecessary and costly intensive or hospital care.

A challenge for all of health care is economic feasibility. Clearly, peer support is well on its way to establishing the economic feasibility of many of its applications.
REFERENCES


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