

1: The role of case managers in controlling hospital costs | FierceHealthcare

The Impact on Case Management States are introducing managed care into the public mental health system, often through a contract with a private behavioral health company that "carves out" this piece of business from other health care for which the state may contract.

Introduction The economic pressures of ever-increasing healthcare costs and suboptimal health outcomes are driving the search for new approaches to health management. Policymakers and the President now speak of the National Health Information Network and interoperable electronic health records as important and necessary instruments of health care for the entire population Bush, a ; NCVHS, ; Thompson and Brailer, The President has also called for universal, affordable access to broadband technology by Bush, b. These emerging systems signify the growing momentum of the consumer e-health phenomenon, in which consumer engagement, decisionmaking, and tools come together to support and enhance health Tang and Lansky, Although many, if not most, consumers already do much of their own coordination to cope with a fragmented healthcare system, the underlying assumption of personal health management is that individuals both want and will have to take even more responsibility for and control of their own health and health care. Personal health management implies that everyone has at least some capacity, no matter how limited, that can be applied to decisions and actions about health. Less activated persons might perform these tasks less frequently, less systematically, or with less precision; or they might ask someone else to do it on their behalf. This report focuses on the electronic tools that offer many consumers a broad range of integrated, interactive functions to enable personal health management. For those consumers who are least able to cope with the volume of health information, decisions, and care coordination, these toolsâ€”if designed and disseminated appropriatelyâ€”could potentially ease the burden. The functions include the following: Virtually all e-health tools provide access to health information, either a spectrum of searchable information or more narrowly defined content. Providing information is the main or sole purpose of some tools. Some e-health tools are designed to support a specific behavior change, such as stopping smoking or binge drinking, starting regular exercise, or getting a mammogram. Most prevention-related tools are developed through research with defined target audiences under controlled conditions. Consumers use health self-management tools to achieve and maintain healthy behavior in various lifestyle areas such as diet and fitness. Some are marketed online directly to consumers; others are distributed by employers, health plans, and insurance companies. Internet-based communities facilitate interaction around common health concerns among consumers, patients, or informal caregivers. Many online communities have multiple capabilitiesâ€”not only providing social support, but also exchanging health information and facilitating decisionmaking. Many disease management tools and some with other functions offer users an online community option. The tools in this category provide structured support to consumers. Some tools support treatment decisions, such as weighing the tradeoffs between different cancer treatments. Managing healthcare benefits is a related e-health tool function. These tools provide monitoring, recordkeeping, and communication devices to help consumers manage a specific disease, such as diabetes or cancer, typically in close interaction with healthcare providers. These e-health tools facilitate interaction between patients and clinical professionals and healthcare organizations. Some tools may be free-standing, such as personal health records PHRs provided by a non-healthcare entity, or they may be available to patients or members, who have considerable control over their use. The most common forms of healthcare tools are PHRs, patient portals, and secure doctor-patient e-mail. PHRs and portals are a gateway to many other e-health functions and may become the way that most Americans are introduced to e-health tools. Most e-health tools support several of the above functions, generally structured around a primary purpose such as disease management. Migrant farmworkers who keep family health records online with the MiVIA program see Preface could also use that service to e-mail the doctor, download nutritional information, or participate in a Spanish-language online community. The discussion of the attributes, strengths, and limitations of e-health tools continues in Chapter 3 as part of the review of current research. Now that many e-health tools are available in the marketplace and public policy is increasingly interested in promoting their use, key questions

arise: How much demand is there for these tools? How appropriate are available tools for a diverse public? Who will serve those consumers who are uninsured or are part of the healthcare safety net if the market does not perceive sufficient financial opportunity? The report addresses questions about what motivates and engages different users, reviews the research literature, examines e-health dissemination models, and identifies gaps and opportunities in policy, tool development, research, and dissemination. The report is based on review and analysis of the scientific literature; published and unpublished studies and reports on health communication, consumer e-health, health information seeking, Internet access, and health information issues for minority groups; publicly available survey research; field reports; expert input, including one-on-one interviews, group conference calls, in-person meetings, and document review; environmental scans of publicly available consumer-oriented e-health tools; and interviews with e-health tool developers. It concludes that extending the impact and benefits of these technologies requires public leadership, robust public-private partnerships, and consumer-centric research, analysis, and strategies. There is little doubt that all Americans need good resources to help them manage their health, along with the skills and support to use the resources effectively. Powerful forces and trends are converging in health care, employment-based insurance, and public policy to create challenging conditions for all users of the healthcare system. Healthcare costs are growing, and more and more costs are being shifted to consumers. Americans are more likely to live with multiple chronic diseases and less likely to have adequate health insurance. Meanwhile, healthcare providers increasingly expect patients to use Internet-based technologies, including PHRs, and to engage in sophisticated health management activities. Any one of these forces can be challenging for consumers; in combination, they can create financial, technological, and informational demands that for many could be overwhelming. Some segments of the population, however, are not ready or able to perform the personal health management roles into which they are being cast. Especially vulnerable are those who are not yet persuaded of the value of e-health, often because they do not see it as relevant to their lives or they have serious concerns about the privacy of personal information; those who do not have meaningful access to technology solutions; those who do not yet have the capacities to use information or technology effectively; and those for whom available technology solutions are currently inappropriate. The concern of many Americans about the privacy of their personal health data imposes a serious barrier to adoption California HealthCare Foundation, Appropriate and effective tools are not yet available to many Americans, either because the tools have not yet been developed or because dissemination mechanisms are inadequate. Research indicates that, at present, the health information system—both print and digital—is inadequate to serve many Americans IOM, , Available health information is often needlessly jargon-filled, dense and complex, and in many cases not in the right language, style, or format for the intended beneficiaries of the information HHS, The limited literacy skills of many segments of the population make it difficult for them to find and understand basic health information, engage in informed decisionmaking, and manage the consequences of their decisions IOM, , ; Shaller, The reliability of health information available to the public has also been questioned; the quality of Internet-based health resources, as well as health information in the mass media, has been a major preoccupation of health professionals Eysenbach, Powell, Kuss, et al. Taking all these challenges into consideration, this study identified four requirements for a population-scale strategy for e-health tools. All Americans, and especially those with the most limited health literacy, must be adequately prepared to obtain, process, understand, and apply health information and e-health tools to meet the complex information demands of the changing healthcare environment. Appropriate, well-evaluated tools with adequate privacy protections and mechanisms to control access to personal health information must be widely available. Diverse and underserved individuals and communities must have access to electronic resources, which includes not only the physical connection but also appropriate content. Multiple stakeholders must come together to articulate and implement dissemination strategies that address the sustainability and reach of the tools across the population. The intended audiences for this report are all the stakeholder groups discussed in the report, including policymakers, healthcare providers, public health professionals, health services and social science researchers, community-based organizations, consumer advocacy and voluntary health organizations, developers and funders of e-health tools, and consumers. This report will be successful if it draws fresh

attention to the challenges of e-health as a population strategy; motivates stakeholders to contribute to the realization of the vision; stimulates collaboration and agenda-setting by stakeholder groups; and creates support for the linkage of research, dissemination, and evaluation. Back to Top Foundations of the Present Study The elements of the vision informing the present study have emerged over the last decade. New efforts focused on the promotion and deployment of PHRs as potentially transformative tools for consumers have created additional momentum Connecting for Health, In general, these reports call for combinations of more research and joint action in the public interest. Today, the potential recognized by the earliest reports and the conditions conducive to a population-scale vision for e-health are more promising than ever. Still, many gaps remain. McGinnis, Deering, and Patrick made the case for the public health interest in emerging information and communication technologies for prevention more than a decade ago They challenged the public health sector to contribute to building a national infrastructure that would benefit all Americans and serve primarily health, rather than commercial, interests. They described the information and communication components of prevention and connected the investment in these components to the achievement of Healthy People goals. The role of Government, they proposed, is to ensure that everyone has the ability to get reliable information in a way they can use. These issues became embodied in the first-ever national health communication objectives as part of Healthy People The Healthy People Health Communication Focus Area includes objectives on Internet access, the quality of health Web sites, health literacy improvement, the quality of provider-patient interactions, and research and evaluation of communication programs and interventions HHS, The communication objectives also inform and support achievement of many other objectives in Healthy People , which number more than The Panel found that national policy debates mainly focused on healthcare providers and their use of information technologies in healthcare delivery. Discussions of how consumers, patients, and caregivers would use interactive technologies to manage and improve their health were far less common. Each of these stakeholder groups has its own perspectives and responsibilities as part of the process. Also, consumers typically do not have ready access to the policymaking and technology development processes, although the American Health Information Community, an advisory body to HHS, includes consumer representation and solicits consumer input. Three years after the Science Panel issued its report, the IOM Committee on Communication for Behavior Change in the 21st Century found that although there had been rapid growth in the availability of new media, little reliable research on consumer, patient, and caregiver use of interactive health communication technologies existed in the published literature IOM, The Committee also concluded, as had the Science Panel, that there is little solid information about how diverse users will engage with the Internet and other new technologies for behavior change or other purposes. This same theme was echoed in in the introduction to a special issue of the Journal of Health Psychology on e-health. The editors noted that e-health was still more promise than reality. This list of attributes provides an important frame of reference for the present study. Back to Top About This Report: Diversity- and consumer-centered analysis suggests that in a population, there will be a range of attitudes, beliefs, values, expectations, and experience with information, technology, and health management. Methods for assessing the role of diversity engage consumers in the research process and probe those factors that shape attitudes, beliefs, values, expectations, and experiences. In contrast, most research and funding to date have focused on individually and medically oriented technologies that emphasize individual behavior change and chronic disease management Eng, Little attention has been paid to units of analysisâ€”such as audiences, communities, or populationsâ€”that might be more revealing on questions of diversity, communication, and technology use. Meanwhile, as discussed above, an environment is evolving in which most Americans will be expected to manage their health using sophisticated tools. Market and research environments are offering a host of resources, and digital technology has made possible an unprecedented level of attention to individual and community needs and interests. These developments translate into potential for improving health on a population scale using targeted e-health tools. This potential is not likely to be realized, however, if market forces or fragmented public-sector efforts are allowed to drive the e-health phenomenon. The goal of a serious consumer e-health initiative, therefore, would be to create the conditions to enable the use of appropriate technologies to accommodate diversity, focus on end users, and promote population health. The impact and

benefits of consumer e-health tools can be enhanced through a combination of creative visioning, strategy development, resource targeting, and collaboration. All efforts in this direction should take a consumer-centric approach and leverage the many interests to be served by enabling more Americans to use e-health tools. Back to Top Questions Addressed by the Report The present study was animated by five major questions relating to e-health access, availability, appropriateness, acceptability, and outcomes for diverse consumers. This study explored the following questions: What is known about population diversity that can inform the creation of appropriate e-health tools and enhance understanding of their uses? How is the research base for consumer-centric e-health tools evolving? What factors in public policy and the marketplace are influencing the development and dissemination of e-health tools? What gaps are not likely to be filled by market-driven solutions and should be addressed by public policy and public-private collaborations? What approaches exist and might be expanded to connect diverse groups of consumers with e-health tools? The project team took a critical approach to these questions in order to get below the surface of e-health to examine gaps between promise and reality.

2: Case Management - IMPACT Inc.

Impact Case Management Services is nurse owned and operated. Our team of professionals have practical extensive knowledge in workers compensation managed care solutions, trauma emergency medicine, and primary care environments.

To measure the impact of point-of-care case management by a team of diverse clinical specialists at a large medical group on day readmissions and associated costs. An intent-to-treat, historical, baseline cohort comparison design. A case management team employed by a managed care organization was integrated into the point of care at 4 medical offices of a medical group to provide services to health plan members who were medically hospitalized. Measures included case management process measures, day readmissions and associated costs, and total savings. In the baseline cohort, Regression models identified case management intervention, prospective risk score, and Medicaid insurance coverage as significantly associated with readmissions and associated costs. Point-of-care case management can be an effective strategy for reducing readmissions and associated costs. Providing services at the point of care allows for greater convenience for members and increased collaboration with physicians. This strategy of a managed care organization collaborating with medical groups and hospitals has the potential to enhance outcomes in accountable care organizations and to support patientcentered medical homes. Am J Manag Care. Members enrolled in the case management program were less likely to be readmitted within 30 days. Annual savings in day inpatient utilization costs considerably exceeded the costs of the program. Point-of-care case management can support accountable care organizations and the development of patient-centered medical homes. The rapidly rising costs of healthcare have led to a need to transform the current system. One of the primary goals of the Health Care Reform Act of was to transform healthcare by reducing overall costs while enhancing quality. Managed care organizations MCOs are ideally positioned to implement innovative programs aimed at enhancing services to health plan members at risk for hospital readmission. However, traditional programs have experienced challenges that have often limited their ability to affect members. Typically, managed care programs have used claims to identify hospitalized members over a given period of time, and then targeted these members to receive outbound, telephone-based services from clinical staff aimed at reducing future readmissions. While some organizations use predictive modeling software to identify high-risk members, these models are typically impacted by claims lag, lack of information from nonadministrative sources, and limited discriminative ability. Managed care organizations often lack correct contact information, especially for their members without stable housing, who may be at the highest risk for admission. In addition, members may be wary of discussing health-related issues on the telephone with strangers. These key interventions include medication reconciliation, identifying red flags for readmission and development of an action plan, needs assessment and linkage to resources, and timely postdischarge aftercare with a primary care physician PCP or specialist. The purpose of this study was to measure the impact on day readmission and associated costs of integrating a case management team consisting of a nurse, social worker, pharmacist, and 2 health navigators at the point of care in a medical group to deliver care transition and case management services to health plan members following a hospitalization. Point-of-care case management POC services were offered to plan members who were discharged from an acute inpatient hospitalization over a 3-month period. Members were identified via hospital notification to the health plan during the preauthorization process. Members received outreach via telephone for the purpose of program enrollment. All eligible members—whether they were enrolled, unreachable, or declined program services—were included as part of the intervention group in all analyses. The baseline group consisted of all members identified via hospital notification during the preauthorization process over the corresponding 3-month period in the year prior to program initiation. The baseline group was identified using the exact same process and eligibility criteria used in the intervention group. Eligibility for Inclusion To be eligible for either the intervention group or the baseline group, a member must have been hospitalized for a nonpsychiatric, nonmaternity primary diagnosis and the hospitalization must have been reported to the health plan as part of the standard preauthorization

process. In addition, the member must have been discharged home or left against medical advice. Members discharged to skilled nursing or other facilities were excluded. Intervention Group A POC team consisting of a nurse case manager, social worker case manager, pharmacist, and 2 health navigators was integrated into a large urban medical group to work with hospitalized health plan members at 4 medical offices. These offices provide services to approximately 23, members under a capitated financial arrangement. Each of the offices provides both primary care and specialty services. On a daily basis, hospitalized members were referred to a member of the POC team who, prior to discharge, attempted to contact the member via telephone for enrollment in the program. During the initial contact, the POC team member introduced the program and confirmed all contact information. In the weeks following initial contact, the team member discussed the importance of aftercare; ensured that a timely aftercare appointment was made; provided appointment reminders and rescheduled any missed aftercare appointments; performed a needs assessment and linked the member to health plan, medical group, and community resources; coached the member on communicating with the PCP; reviewed how to access care resources such as after-hours and express care; identified red flags for readmission; developed a plan of action; identified any barriers to treatment or medication adherence; and worked with the member to overcome these barriers. In addition, the POC team arranged for the pharmacist to conduct medication reconciliation. The pharmacist reviewed medication lists and had telephone or in-person meetings with members. In addition to their own caseload, each team member was also available to consult on cases whenever their specific specialty was needed. Health plan members were able to speak with the POC team via telephone or have face-to-face meetings in the medical office.

Baseline Group The baseline group consisted of members who met eligibility criteria during the corresponding 3-month time period 1 year prior to POC implementation. Members were patients at the same 4 medical offices and were identified using the same strategy and inclusion criteria that were used for the intervention group. Baseline group members had access to the same medical office services, with the exception of the POC program, which did not exist during the historical baseline time period.

Measures The study measures included case management processes, inpatient utilization, and program costs.

Case Management Processes

Enrollment Rate. Enrollment rate refers to the percentage of members eligible for inclusion in the intervention group who were enrolled in the POC program.

Days to enrollment was the average number of days between referral to the POC team and member enrollment. The goal was fewer than 7 days.

Days managed was the average number of days between the date a member was enrolled in the program and the date the case was closed.

Readmissions were the number of readmissions at any hospital for a nonmaternity, non-mental health condition that were paid for by the plan as identified by claims in the 30 days following discharge. **Readmission costs** were those paid by the plan for all readmissions at any hospital for a nonmaternity, non-mental health condition, as identified by claims, in the 30 days following discharge.

Analysis was conducted with a 4-month lag to allow for the inclusion of late claims.

Program Savings

Annual Program Costs. Annual program savings for inpatient utilization were those attributed to the POC program. To be attributed to the POC program, the condition variable must have been identified as statistically significant. The number of readmissions per member in the baseline group was multiplied by the total number of members in the intervention group to control for differences in the number of members between the groups. This number was then multiplied by the average cost per readmission in the intervention group to determine the total cost of expected readmissions for the intervention group if the POC intervention had not been implemented. Outlier readmission costs in the baseline group were removed prior to calculating the average readmission cost to maintain a more conservative estimate of readmission costs. The average cost per readmission was multiplied by the actual number of readmissions in the intervention group to yield a total cost for the intervention group. The average cost per readmission was also multiplied by the number of readmissions in the baseline group, adjusting for the difference in the number of members of the groups, to yield a total cost for the baseline group. The total cost for the baseline group minus the total cost for the intervention group equalled the program savings. This number was multiplied by 4 to estimate the annual savings. The annual cost of the program was subtracted from the total annual savings. The total annual savings were divided by the costs for the return on investment.

3: 3 Behavioral Health Case Management Best Practices

It is challenging to identify high-quality, comparable case studies where there is high return on investment. One recent published study in the Journal of the American Medical Informatics Association described the financial impact of EHR implementation on ambulatory practices in an academic medical center.

Executive Summary Chapter 1. Introduction The economic pressures of ever-increasing healthcare costs and suboptimal health outcomes are driving the search for new approaches to health management. Policymakers and even the President now speak of the National Health Information Network and interoperable electronic health records as necessary elements of health care for the entire population. Based on multiple studies and reports on the need for patient-centered health care, public policy is attaching growing importance to the role of consumers in managing their own health, in partnership with healthcare providers. Consumer-oriented e-health resources are meant to help consumers manage the heavy demands of health management. Indeed, it may be difficult for consumers to meet some of the demands without e-health tools. Most, although not all, of these resources are available through the Internet. Most tools support several of these functions, generally structured around a primary purpose such as disease management. This category includes personal health records. These tools show great promise for enhancing the health of users; at present, however, they fall short of offering population-wide benefits. The national commitment to eliminating health disparities and improving health literacy intensifies the need for a thorough understanding of consumers and their requirements for e-health tools. Some of the most important benefits of e-health tools—“if properly designed and disseminated”—could potentially extend to underserved Americans, who often bear the greatest health burdens with the least support. This study found that there do not appear to be intrinsic deficiencies in technology or insurmountable access obstacles; rather, the issue is that not enough tools have yet been designed and disseminated with an eye to the diverse experiences, requirements, and capacities of end users. This study treats diversity as a key concept in analyzing the e-health phenomenon. Its purpose is to identify and analyze the critical factors influencing the reach and impact of consumer e-health tools for a diverse population. It addresses questions about what motivates and engages different users, reviews the research literature, examines e-health dissemination models, and identifies gaps and opportunities in policy, tool development, research, and dissemination. The following vision provides the guiding principles and the yardstick against which current conditions are assessed: Consumers with diverse perspectives, circumstances, capacities, and experiences are included in the design of, and have meaningful access to, evidence-based e-health tools with strong privacy and security protections. Diverse consumers have the skills and support to evaluate, choose, and use e-health tools to derive benefits for themselves and those they care for. Healthcare organizations and practitioners use the full range of e-health tools to engage and support diverse consumers in their own health management as a routine element of care. Local, state, and national policies and programs support the sustainable development and dissemination of evidence-based consumer e-health tools to diverse individuals and communities, including those served by safety net providers. Alliances and partnerships facilitate sustained consumer access to and use of e-health tools, consistent with the value propositions and perspectives of each participating stakeholder. Appropriate funding and incentives exist in public policy and the market to enable sustainable business models for tools with demonstrated effectiveness. This report stresses that e-health practices have the potential to be part of the solution to health disparities and other health policy challenges if appropriate and useful e-health resources are made available to a larger proportion of the U. So far, market forces and fragmented public-sector efforts have failed to harness technological innovation to improve population health. The report proposes that extending the benefits of these technologies to diverse users requires public leadership, robust public-private partnerships, and consumer-centric research, analysis, and strategies. The entire effort must be connected both to the disease prevention and health promotion objectives for the nation in Healthy People and to the goals for the emerging National Health Information Network. This study explored the following questions: What is known about population diversity that can inform the creation of appropriate e-health tools and enhance understanding of their uses? How is the research

base for consumer-centric e-health tools evolving? What factors in public policy and the marketplace are influencing the development and dissemination of e-health tools? What gaps are not likely to be filled by market-driven solutions and should be addressed by public policy and public-private collaborations? What approaches exist and might be expanded to connect diverse groups of consumers with e-health tools? The study team took a critical approach, searching below the promising surface of e-health, to examine gaps between promise and reality. The study draws on many earlier studies, reports, and articles. Department of Health and Human Services, The present study identified or confirmed several encouraging trends in the consumer e-health arena and identified several issues raised in earlier reports that still have not been adequately addressed. Literature reviews of published and unpublished studies, an environmental scan, interviews, and meetings with e-health researchers and developers, public health officials, community technology professionals, and other experts led to the following five findings: A large body of evidence suggests the effectiveness and utility of many consumer e-health tools. The evidence is uneven across categories of tools and user groups, however. Often, the tools are developed as research projects and not easily available in the marketplace; conversely, many tools in the marketplace do not have an explicit evidence base. Consumers may not be able to access many evaluated e-health tools that would be beneficial to their health, particularly given the increasing demands related to personal health management. See Chapters 3 and 4. In addition to the lack of alignment between evidence-based and popular tools, other significant gaps include the shortage of viable and sustainable business models, the need to protect health information privacy and nurture public trust, and the need for ongoing quality assurance. The e-health arena comprises many stakeholders besides consumer end users, including healthcare organizations, purchasers, public health entities, employers, community-based organizations, and others. Many are already engaged in partnerships around funding, dissemination, research, development, and advocacy. The personal health record arena has generated early collaborations around a tool that may prove useful to diverse user groups and provide a platform for multiple e-health functions. Both coordination and Federal leadership are needed to achieve the vision proposed in this report, possibly modeled on these activities related to personal health records. See Chapters 4 and 5. Strategies for reaching diverse audiences have been developed and have proven effective in communities outside the digital and economic mainstream. These strategies could provide models for new efforts to reach diverse, often underserved audiences, complementing more standard market approaches and widening the reach and impact of e-health tools. In addition, future e-health dissemination efforts may be able to leverage the networks they have already created. Back to Top Chapter 2. Diversity has many dimensions, including but not limited to cultural, economic, educational, and experiential factors. This study confirmed earlier findings that little consumer research is available, particularly at the subpopulation level, to inform projections of who will use e-health tools in general, who will use specific tools, and how the use of these tools will affect their perceived and objective health status. The idea of health literacy is emerging as a powerful construct for identifying the environmental and human factors that influence the ways in which people interact with health information and the healthcare system. Health literacy is defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. The construct unites the issues of individual and group capacity, access, and understanding. Digital disparities should be a matter of great concern for public health and medicine because many of the same segments that lack adequate Internet access also have the highest risks of developing, or already have high rates of, chronic diseases. If public and private policies put greater responsibility for personal health management on any of these population groups, then policymakers must give serious consideration to the types of support—digital and nondigital—that consumers will need to carry out their responsibilities. Significantly, there are indicators that Internet access is growing in every segment of the population and that many of these segments are ready to think about new uses of the Internet and other digital technologies for health. A scan of the current field of e-health tools indicates that developers are beginning to address issues of diversity. However, most strategies and approaches do not go beyond traditional public health targeting based on demographic characteristics. Although important, characteristics such as race and ethnicity are mediated by many other factors, including age, life experience, culture, health and caregiver status, education, and income.

This study brings together what is known about factors to be considered when designing and disseminating e-health tools for diverse populations. These factors include language; cultural factors; socioeconomic position; disabilities; age, developmental, and role issues; interest in health information; and attitudes about privacy. If the vision of e-health benefits for all is to be realized, the critical factors for user-centric design will require additional research and integration into tool design, development, and dissemination. [Back to Top](#)

Chapter 3. Assessing the Evidence for e-Health Tools for Diverse Users

Several reviews of the research literature have noted both the promise of e-health tools and the multiple factors that limit their effectiveness. The literature review conducted for this report focuses on which e-health tools work well for diverse users and on where additional and different research is needed to address disparities and improve population health. This chapter uses the following attributes to organize the findings from the research literature and assess their implications for serving diverse populations:

4: Digital Health and Social Care Strategy – Development | eHealth

The purpose of this study was to measure the impact on day readmission and associated costs of integrating a case management team consisting of a nurse, social worker, pharmacist, and 2 health.

Other agencies and services continue to forge ahead using information technology, while patients often still struggle to transfer their own paper-based medical records from provider to provider. The promise of eHealth using technology to improve healthcare services still remains uncertain to many stakeholders. Why should we invest in information technologies when funding could go directly to patient care? For eHealth to achieve its full potential, it must improve the quality and efficiency of health care delivery while lowering its cost. One prime example of eHealth is the electronic health record EHR. Many health care providers consider EHRs to offer better access to patient data, greater data confidentiality, improved documentation, and reduced errors. At the same time, they feel EHRs reduce the cost of transcriptions, chart retrieval and storage, while increasing revenue generation through more efficient billing and improved ability to meet regulatory requirements. However, it still can be challenging for health organizations and providers with limited or non-existent EHR use to accurately determine the return on investment ROI on various forms of EHR implementation. Accurate determination of eHealth ROI is complicated, and depends on factors such as time span and the perspective being considered. For example, who directly receives the cost savings of eHealth? If a health organization delivers health services more efficiently and with fewer employees – the organization itself may realize the financial benefit. However, if technologies provide a patient population with better care, fewer complications from disease, and less expensive screenings, then society as a whole might receive the benefit. Alternatively, when eHealth is implemented, does it take advantage of all of the features it is intended to provide, and does it share data with other systems in place? And do consequent changes from implementation affect other workflow patterns? It is challenging to identify high-quality, comparable case studies where there is high return on investment. One recent published study in the Journal of the American Medical Informatics Association described the financial impact of EHR implementation on ambulatory practices in an academic medical center. Interesting, practice productivity decreased during two years of observation following EHR implementation. However, reimbursements significantly increased, resulting in overall increased revenues. Weighing the governmental incentives with anticipated return on investment is a complex endeavor. Still, it remains unclear how much this might influence some providers and practices – as response to pay-for-performance and other incentives tends to be variable. Ultimately, formal study is needed to truly understand the financial impact of eHealth implementation, with consideration of costs from provider, organization, and societal perspectives.

5: Expanding the Reach and Impact of Consumer e-Health Tools - Executive Summary

The Impact of Health Care Reform on Case Management It's a remarkable time to be in health care, especially as a case management professional. Changes are happening at an unprecedented rate, and include far-reaching health care reform efforts aimed at transformational improvements in the quality and efficiency of health care.

Disclaimer Measuring the impact of e-health Evaluating the success of e-health initiatives and programmes means looking beyond the number of users to their impact on the people and this, Claire Keeton reports, is difficult to measure. This service, run by the Cape Town-based organization Cell-Life in partnership with counselling service LifeLine, reaches about 10 million people. Yet many countries in Africa still struggle with access to computers, the Internet, a reliable power supply and other infrastructure challenges. Vincent Shaw, executive director of the South-Africa Health Information Systems Programme HISP, a nongovernmental organization that specializes in the development and maintenance of health information systems, recalls how the HISP lost data in a project in Nigeria when the power failed and all the stored mobile phone text messages were deleted after 24 hours. In developing countries, health technology via mobile phones helps to overcome the lack of universal and reliable access to information and communication technology, just as the use of desktop computers will persist until bandwidth and internet access improve, says Shaw. HISP, which has university partners in Norway and Sweden, is active in 15 countries and its free web-based software has been translated into nine languages including Chinese, Russian and Swahili. They may be paper-based at the start but at some point the information is stored in computers. He says that one measure of the success of such systems is that they make data available, so that they can be used to allocate resources more rapidly than before. This means that data are available to managers in health-care systems within a short space of time, between one and three months, so that they are able to assess services using more recent data, rather than older data from six to 12 months ago. Data, when interpreted by health-care workers, can alert health departments to risk and priority areas, where more resources may be needed. However, data need to be reliable to have a concrete impact on health planning. She did a study to find out whether e-health systems in hospitals in two provinces in South Africa were working and found that two systems were reasonably successful, while a third was not. The study included data from 30 hospitals and there were 70 individual respondents. In the study, a model of factors associated with the success of these systems was developed. These included system performance, perception of usefulness, management commitment to system success, and user knowledge and understanding of the system. A survey of users was conducted and respondents were asked to rate the system which they were using in terms of these factors. In addition, users were asked whether they thought that the system was successful in supporting their work. The results were presented in a paper to the Medinfo conference held in Cape Town. Marc Mitchell, president of Africa-based nongovernmental organization D-tree International, identifies a challenge that is specific to e-health systems: It is essential that health people keep the focus on health priorities. In a study on HIV testing, Cell-Life found that text messaging can make recipients change their behaviour. Designed by de Tolly and the health and research society unit at the University of Stellenbosch, the study tested whether sending text messages that encourage people to go for HIV testing had any impact. Another study tried to evaluate whether e-health, in this case mobile phone m-health technology can contribute to better quality care. In a D-tree study, which is under review, a trial was conducted in the United Republic of Tanzania to find whether using an electronic version of the chartbook for the Integrated Management of Childhood Illness IMCI resulted in improved adherence to the protocols and better treatment. Health workers access the electronic version by cell phone or other mobile devices and it guides them through each step of this approach to assessing a child. Increasingly health officials and political leaders are recognizing the benefits of e-health technologies. The South African Department of Health is currently reviewing its e-health strategy, which has been developed over the past six years but is yet to be implemented. Furthermore, overextended health workers, who are trained to provide health care rather than analyse numbers, can be slow to embrace technology. The pace at which technology evolves is another reason why pilot projects are essential. At the beginning of a study you learn what you must do to adjust the project

for it to work.

6: The Impact of Health Care Reform on Case Management - CMSA - Online Learning by CMSA

Case management is a service offered in most health care and social service settings, but a universal definition and standards for practice, applicable to the various case management models, do.

Disclaimer Impacts of e-health on the outcomes of care in low- and middle-income countries: Correspondence to John D Piette e-mail: Bulletin of the World Health Organization ; Health systems must address diverse population needs, provide high-quality services even in remote and resource-poor environments, and improve training and support for health-care workers. Services that can be scaled up and are reliable despite any infrastructural deficits and cost-effective are in high demand worldwide, especially in low- and middle-income countries. E-health systems have the potential to support these objectives in ways that are both economically viable and sustainable. E-health tools are designed to improve health surveillance, health-system management, health education and clinical decision-making, and to support behavioural changes related to public-health priorities and disease management. The objectives of the current review were to highlight gaps in our knowledge of the benefits of e-health and identify areas of potentially useful future research on e-health. There were three main topics of interest: Evidence collection We focused on evidence for the impact of e-health in three areas identified by prior reviews: Institutional systems include systems for health information and management, early disease warning and disaster management. These systems aggregate data from health facilities and patients to create community-wide views of disease trends and clinical activity. Multiple systematic reviews have been conducted on some of these e-health approaches, whereas the rest are barely covered in the peer-reviewed literature. To provide a rapid updated summary of the evidence for decision-makers, we conducted a scoping review by gathering information through targeted scans of scientific databases, reviews of reference lists and conversations with other experts. Throughout the review we highlight priorities for future research. Systems facilitating clinical practice Examples In developed countries, usage of electronic medical-record systems varies widely. The adoption of specification standards may drive down implementation costs as buyers choose or build systems with compatible components, rather than being limited to proprietary systems. The second opinions made possible via easily shared electronic images could also improve patient outcomes. However, in areas with intermittent power supplies and unreliable infrastructure, relying on servers and computers for radiographic images involves considerable risks. The scale-up of electronic systems for picture archiving and communication to be implemented across regions or nations requires the resolution of many practical problems, such as widespread staff training and the provision of adequate network bandwidth. Institutional systems Examples Examples of community information systems used in low- and middle-income countries include the District Health Information System in Malawi, Rwanda and South Africa, which collects data on routine health-care events from clinics. Other examples include the TRACnet system in Rwanda, which aggregates data on the care of patients infected with human immunodeficiency virus HIV from large numbers of clinics, and the Monitoring, Evaluation, and Surveillance Interface in Haiti, which performs a similar function. Unfortunately, many such settings exist in low- and middle-income countries because of a general paucity of effective data-collection tools and training for data collectors in health facilities. Moreover, the data collected so far have focused primarily on productivity and treatment quality, and more research on the impact of the institutional systems on health outcomes and the overall cost of care is needed. Studies on the use of SMS messages in support of the self-management of diabetes show potential for improving health behaviours and physiological control. In six of 14 trials of asynchronous telehealth interventions, declines in blood haemoglobin A1c concentration were moderately or substantially greater in the intervention group than in controls. In a meta-analysis of 21 randomized trials that included patients who had suffered heart failure, the cost per patient of treatment including remote monitoring was about €” euros less than the cost of more conventional treatment. These cost savings, combined with a modest gain of 0. These services can address the major problems of access to care and the support of behavioural changes that will benefit health. Studies on the impact of such services on maternal and child health would be extremely valuable in the development of policies against some major causes of morbidity

and mortality in low- and middle-income countries. Between-visit monitoring systems that result in much more frequent patient contact run the risk of increasing the use and cost of health services, as the often relatively crude data streams may lead clinicians to conduct telephone or in-person follow-ups for potentially minor or self-limiting conditions. Better data on both the positive and negative cost implications of mobile health services in low- and middle-income countries are badly needed. The authors have had considerable experience in e-health research and implementation projects and represent institutions in Africa, Asia, Europe and South and North America. Nevertheless, the current review was not systematic and the results probably under-represent innovative work that has not been described in the peer-reviewed literature or by professional organizations. As is typical of scoping reviews, the quality of the source materials was not systematically evaluated using the tools employed by more exhaustive approaches to evidence synthesis. Although several of the largest implementation projects discussed above come from low- and middle-income countries, the scientific evidence for the impact of e-health continues to be dominated by studies in industrialized nations. Studies that evaluate the cost-effectiveness of e-health tools in low- and middle-income countries are particularly under-represented in the published literature. Rigorous trials to evaluate the impacts of such tools on outcomes and treatment costs in low- and middle-income countries should be a priority for future research. Patient communication via SMS messages, interactive voice response calls or other modalities is more likely to have an effect if the content is theoretically driven, and culture-specific factors may well influence uptake. Implications for large implementation projects Deploying community-wide systems is much more complex than deploying smaller or short-term pilot projects, since, to avoid fragmentation, poor communication and poor interoperability, integration with existing systems becomes vital. Apart from the obvious need for a good infrastructure for general communications and information technology, systems intended to work in large settings need to embody an architecture that supports unique identifiers for patients, as well as open standards for data coding and exchange, to make it possible to integrate the novel systems with existing information systems and other new initiatives. Deploying an e-health tool in large settings requires a high degree of organizational skill and administrative systems for the ongoing training and supervision of health-care professionals where the tool is to be used. Since effective allocation of scant health resources is a major priority in low- and middle-income countries, evidence regarding the short-term impact of e-health systems on outcomes and costs is. Directions for research Large randomized trials, such as those by Free et al. However, highly controlled studies fail to answer questions about the reach of e-health in vulnerable communities or whether such systems can be adopted, scaled up and maintained outside the environments in which they were originally studied. New approaches to implementation science, emphasizing both qualitative and quantitative methods, community-based participatory research, and organizational theory can complement controlled trials and ensure that e-health systems are relevant and flexible enough to adapt to multiple environments. Traditional, large, multi-site trials are expensive and can take years to produce information. Investment in such studies should be carefully weighed against the funding of larger numbers of smaller and innovative albeit less definitive studies of solutions adapted to different cultures and environments. Preliminary evidence shows that e-health systems can have a beneficial impact on the process of clinical care in low- and middle-income countries. However, more studies, particularly to examine the key information needs of health-care workers as well as the effects of e-health services on patient outcomes, are required in resource-poor settings. Research focused on large-scale implementation should address how an e-health architecture can help connect disparate health information systems, how interoperability can support coordination between multiple points of care, and how this coordination can improve health outcomes. Given the encouraging evidence regarding the benefits of mobile health tools, studies of their costs and impact on outcomes in low- and middle-income countries should be a priority. The views expressed here do not necessarily represent the views of the US Department of Veterans Affairs.

7: Financial Impact of E-Health | University of Illinois at Chicago

Case management of 'at-risk' patients in primary care has been promoted as a way of reducing health system pressures, and the most recent iteration of the UK GP contract has provided incentives for its delivery.

The role of case management Page last updated: Case management is one of the major types of community aftercare that is used to provide ongoing management of chronic or recurring illness. Active case management is especially important for people who have been repeatedly hospitalised for mental illness. The more chronic and disabling the experience of mental illness, the more a case management approach to continuing care is required for people with mental illness, and their families and carers. In assertive community treatment, services are usually provided by a community team on an ongoing and intensive basis Bond et al Most case management programs in mental health, however, typically involve a single case manager working with a consumer. The role of the case manager is to undertake assessment, monitoring, planning, advocacy and linking of the consumer with rehabilitation and support services Intagliata, Its function is clearly illness management and relapse prevention. Importantly, where significant reductions in hospitalisation have been found the staff to consumer ratio has been 1: Studies that have not reported reductions in hospitalisation have reported higher caseloads, and it has been argued that in programs where the ratio is 1: There is also wide variation in the philosophy and practice of case management, and the relationship between the case manager and consumer is seen as fundamental to success. The principles of effective case management have been extensively studied, and are presented in Table 3 as they apply for mental health services. There is a great deal of unmet need in Australia for case management Groom et al The lack of a case manager was mentioned repeatedly in the consultations as a major barrier to recovery. This is even more pronounced in regional, rural and remote areas, and there were many stories of people being discharged from hospital with no discharge planning and no aftercare. Even in regions where case management models were available, often the case manager had too large a caseload to provide effective relapse prevention. Top of page I currently have 40 people on my list. My understanding is that best practice is about 12 clients. With 40 I can barely get around to seeing them every 2 weeks. Carers feel that they are forced to assume a case management role, without the authority, skills or resources to do so. While case management is not a panacea, there is an urgent need for more case management within the mental health system, to ensure that people seriously affected by mental illness are connected with the clinical and psychosocial supports that they need to remain in the community. All of a sudden he is back at home and I have to manage as best I can, which is not good enough. Principles of effective case management Table 3 is presented as a list in this HTML version for accessibility reasons. It is presented as a table in the PDF version. Case managers should deliver as much of the "help" or service as possible, rather than making referrals to multiple formal services. Natural community resources are the primary partners eg, landlords, employers, teachers, art clubs, etc. Work is in the community. Both individual and team case management works. Case managers can be para-professionals. Supervisors should be experienced and fully credentialed. Caseload size should be small enough to allow for a relative high frequency of contact no more than Case management service should be time-unlimited, if necessary. People need access to familiar persons 24 hours a day, 7 days a week. Case managers should foster choice.

8: Case Management Knowledge | CCMC's Case Management Body of Knowledge (CMBOK)

Provision of integrated community case management (iCCM) for common childhood illnesses by community health workers (CHWs) represents an increasingly common strategy for reducing childhood morbidity and mortality. We sought to assess how iCCM availability influenced care-seeking behavior. In areas.

Definition of Case Management There is no one standardized or nationally recognized and widely accepted definition of case management. An Internet search for the definition of the term case management will result in thousands of references. Such results are confusing for case managers and others who are interested in case management. You may be unable to discern which definition is most credible or relevant. Despite the large search outcome, experts would agree that there are no more than twenty or so definitions of case management considered appropriate. These definitions are available in peer-reviewed professional case management literature or on Web sites of case management or case management-related organizations, societies, and agencies. It is characterized by advocacy, communication, and resource management and promotes quality and cost-effective interventions and outcomes. Case management is not a profession unto itself. Rather, it is a cross-disciplinary and interdependent specialty practice. Case management is guided by the principles of autonomy, beneficence, nonmaleficence, and justice. Case managers understand the importance of achieving quality outcomes for their clients and commit to the appropriate use of resources and empowerment of clients in a manner that is supportive and objective. Case managers approach the provision of case-managed health and human services in a collaborative manner. Professionals from within or across healthcare organizations e. The healthcare organizations for which case managers work may also benefit from case management services. They may realize lowered health claim costs if payor-based , shorter lengths of stay if acute care-based , or early return to work and reduced absenteeism if employer-based. All stakeholders benefit when clients reach their optimum level of wellness, self-care management, and functional capability. These stakeholders include the clients themselves, their support systems, the healthcare delivery systems including the providers of care, the employers, and the various payor sources. Case management helps clients achieve wellness and autonomy through advocacy, assessment, planning, communication, education, resource management, service facilitation, and use of evidence-based guidelines or standards. They do so while ensuring that the care provided is safe, effective, client-centered, timely, efficient, and equitable. This approach achieves optimum value and desirable outcomes for all stakeholders. You might also not interpret the terms in the way the knowledge developers " who are case management experts " thought of them. To get the most out of the knowledge these experts have shared in the CMBOK, take the time to review the following terms.

Caregiver The person responsible for caring for a client in the home setting and can be a family member, friend, volunteer, or an assigned healthcare professional.

Case Management Program Also referred to as case management department. An organized approach to the provision of case management services to clients and their support systems. The program is usually described in terms of: **Case Management Plan of Care** A comprehensive plan of care for an individual client that describes: **Payor** The person, agency, or organization that assumes responsibility for funding the health and human services and resources consumed by a client. The organization or agency at which case managers are employed and execute their roles and responsibilities. The practice of case management extends across all settings of the health and human services continuum. Also refers to the professional background " such as nursing, medicine, social work, or rehabilitation " that case managers bring with them into the practice of case management.

Knowledge Domain A collection of information topics associated with health and human services and related subjects. Examples of case management knowledge domains are **Principles of Practice and Healthcare Reimbursement**. It refers to the presence or absence of illness, disability, injury, or limitation that requires special management and resolution, including the use of health and human services-type intervention or resource.

Health and Human Services Continuum The range of care that matches the ongoing needs of clients as they are served over time by the **Case Management Process** and case managers. It includes the appropriate levels and types of care " health, medical, financial, legal, psychosocial, and behavioral " across one or more care settings. The levels of care

vary in complexity and intensity of healthcare services and resources, including individual providers, organizations, and agencies. Level of care may vary from least to most complex, least to most intense, or prevention and wellness to acute care and services. Community Services and Resources Healthcare programs that offer specific services and resources in a community-based environment as opposed to an institutional setting i. These programs either are publicly or privately funded or are charitable in nature. Benefit Programs The sum of services offered by a health insurance plan, government agency, or employer to individuals based on some sort of an agreement between the parties e. Benefits The type of health and human services covered by a health insurance plan sometimes referred to as health insurance benefits, health benefits, or benefits plan and as agreed upon between an insurance company and an individual enrollee or participant. The Case Management Process The Case Management Process consists of nine phases through which case managers provide care to their clients: The overall process is iterative and cyclical, its phases being revisited as necessary until the desired outcome is achieved. Client Source Before looking more closely at the phases of the Case Management Process, first consider what triggers the process. It begins with the identification of a client. Without a client found to be in need of case management services, there is no need to launch the Case Management Process. An acute care setting-based case manager may implement the process for a client after referral from any of the healthcare team members, including the physician, primary nurse, social worker, consultant, specialist, therapist, dietitian, or manager.

9: Community Research Foundation

Measuring the impact of e-health Evaluating the success of e-health initiatives and programmes means looking beyond the number of users to their impact on the people and this, Claire Keeton reports, is difficult to measure.

Social Solutions Health and Human Services Behavioral health case management is a complex task that must incorporate strategies from multiple fields—social work, psychology, and medicine—to be successful. Despite its complicated nature, best practices for behavioral health case management can be summarized by three guiding principles: Each of these is an umbrella under which many aspects of effective case management fall. Case managers must listen to their clients, doing their best to avoid biases that may inappropriately influence decisions related to care. Initial Assessment The initial assessment is often the most crucial point where client-focused, individualized care must be exercised. The case manager should use this opportunity to establish any factors that may affect outcomes and quality of care, including: Finances – A lack of funds may make recovery difficult and impede access to necessary medical care. Case managers can help low-income patients access available resources. Current housing situation – The case manager should address whether or not the patient lives in a safe environment. In the event that a client is homeless, living with domestic violence, or is in another situation that negatively affects recovery, the case manager should help locate safer housing options. Cultural competency – To best interact with clients from different socioeconomic backgrounds, case managers should understand where their patients come from. Linguistic competency – When a case manager encounters a significant language barrier, he or she has a responsibility to refer the client to a colleague better able to manage care through fluent communication. Substance abuse and dependency – Many clients who have been referred for other mental health issues have comorbid substance dependencies. An effective case manager should identify whether this is a factor and possibly refer the client to another case manager, as substance abuse case management has its own unique challenges. Other health issues – A wide variety of physical illnesses are more prevalent among people with severe mental illness. Referral to medical doctors will likely be needed. Points of focus should include: Disciplined Compassion While it may seem obvious that effective case management requires professional rigor – case managers and social workers need a special kind of discipline. The following are indispensable for effective case management. Documentation Case managers and their support staff must be sure to keep accurate, up-to-date records of their clients that are easily accessible when necessary. While in the past that meant detailed, hand-written notes kept in a physical folder, the transition to digital patient records has facilitated more diligent documentation along with more streamlined coordination of care. Additionally, case managers must also recognize when some patients with severe mental illness may not have the capacity to make decisions regarding the sharing of their information, as in the case of intoxication or temporary psychosis. However, case managers have the responsibility to remain compassionate and to maintain a professional demeanor even when faced with the most difficult patients. At the same time, behavioral health case managers must also keep healthy professional boundaries. Appropriate Discontinuation of Service Case management is a service with an ultimate goal that, at some point, the client will no longer need the help of his or her case manager. Holistic Approach Because of the interconnected nature of the mind and body, physical health influences mental health and vice versa. Thus, behavioral health case management and general health management should be integrated. An effective case manager should work to promote efficient coordination of care with both mental health and bodily health care providers. A case manager should network with local community resource providers so as to better refer clients to available medical, social, educational, and vocational services. Measuring Success Behavioral health case management should be outcome-based. Increased quality of life. Fewer days spent hospitalized when applicable. Less dependency on community programs when applicable. Incorporating Best Practices Did you find yourself or your organization lagging behind while you were reading through the best practices above? There is always room for improvement! Some aspects of these best practices, such as maintaining proper levels of privacy and accurate documentation, may depend on choosing the right software for your organization. If you have questions about how you can

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implement these best practices or evaluate your organization, Social Solutions is happy to help answer any questions you may have. Make sure you stay up-to-date with the latest news in the Health and Human Services space by heading over to our News page. See what is going on in your industry today!

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