

Telehealth and Occupational Therapy: Integral to the Triple Aim of Health Care Reform

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MeSH TERMS

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- Patient Protection and Affordable Care Act
- patient satisfaction
- telemedicine

Programs and concepts included in the Patient Protection and Affordable Care Act of 2010 are expected to transform health care in the United States from a volume-based health system to a value-based health system with increased emphasis on prevention and health promotion. The Triple Aim, a framework set forth by the Institute for Healthcare Improvement, focuses on improving the health care experience, the health of populations, and the affordability of care. This article describes telehealth as an integral component in achieving the Triple Aim of health care and discusses implications for occupational therapy practitioners.

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The Patient Protection and Affordable Care Act of 2010 (ACA; Pub. L. 111–148) is expected to have wide-ranging influence that will transform health care in the United States from a fee-for-service system that rewards volume of care to a health system focused on prevention and health promotion. In this new health care model, organizations providing health care will be rewarded for keeping people healthy through high-quality and comprehensive services, health promotion initiatives, and prevention or minimization of complications associated with chronic diseases.

No longer will payment be made solely on the basis of the volume of care provided. The underpinning of this new model is referred to as the *Triple Aim*, a term first coined by the Institute for Healthcare Improvement (IHI), a nonprofit charitable organization with a mission to improve health and health care worldwide (Berwick, Nolan, & Whittington, 2008). The Triple Aim includes three goals: “(1) improving the individual experience of care, (2) improving the health of populations, and (3) reducing the per capita costs of care for populations” (Berwick et al., 2008, p. 760). According to the Center for Connected Health Policy (2014), a federally designated National Telehealth Policy

Resource Center, “Telehealth technologies are valuable assets to help achieve the ‘Triple Aim’ of improved quality of care, better health outcomes, and lowered costs” (para. 1). This article describes telehealth as an integral component in achieving the Triple Aim and discusses the implications for occupational therapy practitioners.

Telehealth and the Affordable Care Act

Telehealth is the remote service delivery of health care services using information and communication technologies in which the provider and service recipient are in different physical locations. Broader use of the term incorporates health education and health administration; however, the term *telehealth* is commonly used interchangeably with *telemedicine* and describes delivery of clinical services (American Telemedicine Association, 2012; Institute of Medicine [IOM], 2012). As noted by Ward (2013), several sections of the ACA specifically mention telehealth:

Section 3022 [Medicare shared savings program]: (G) The ACO [Accountable Care Organization] shall define processes to promote evidence-based

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medicine and patient engagement, report on quality and cost measures, and coordinate care, such as through the use of telehealth, remote patient monitoring, and other such enabling technologies.

Section 10328 [Improvement in Part D medication therapy management programs]: (i) An annual comprehensive medication review furnished person-to-person or using telehealth technologies (as defined by the Secretary) by a licensed pharmacist or other qualified provider. . . . (ii) Follow-up interventions as warranted based on the findings of the annual medication review or the targeted medication enrollment and which may be provided person-to-person or using telehealth technologies (as defined by the Secretary).

Section 10333 [Community-based collaborative care networks]: (E) Expand capacity, including through telehealth, after-hours services or urgent care.

Section 10410 [Centers for Excellence for Depression]: (D) use electronic health records and telehealth technology to better coordinate and manage, and improve access to, care, as determined by the coordinating center.

The alignment of telehealth with the Triple Aim of health care and its inclusion in the ACA ensure that telehealth will be an integral component of evolving health care practice (IOM, 2012).

Telehealth and Occupational Therapy

Telehealth is a service delivery model within the existing scope of occupational therapy practice. As permitted by laws and regulations, occupational therapy practitioners use telehealth as a service delivery model for evaluation, intervention, consultation, monitoring, and supervision. The American Occupational Therapy Association's (AOTA's) 2013 Position Paper *Telehealth* highlights evidence demonstrating positive outcomes associated with the use of telehealth in each major practice area within occupational therapy (i.e., children and youth; health and wellness; mental health;

productive aging; rehabilitation, disability, and participation; and work and industry). Occupational therapy services delivered using telehealth technologies occur within a *virtual context*, defined as "interactions that occur in simulated, real-time, or near-time situations absent of physical contact" (AOTA, 2014, p. S9).

Telehealth is increasingly being used by occupational therapy practitioners (Cason & Jacobs, 2014). This growth in telehealth is expected to continue as the ACA is fully implemented and its objectives are achieved. The establishment of this new health care environment creates opportunities for occupational therapy practitioners to integrate telehealth technologies when working with clients to increase access to services, improve health outcomes, promote health and wellness, enhance management of chronic diseases, and facilitate communication and care coordination (Cason, 2012). In line with the Triple Aim, use of telehealth by occupational therapy practitioners can contribute to positive care experiences, improved population health, and affordability of care. The profession must take advantage of these opportunities both to keep up with the changing health care system and to ensure the full and contemporary availability of occupational therapy.

Telehealth and the Triple Aim

Care Experience

Health systems usually quantify and measure the care experience through patient satisfaction surveys and system-level analysis of key dimensions of care: safety, effectiveness, timeliness, efficiency, equitability, and patient-centeredness (Stiefel & Nolan, 2012). Telehealth improves access to care and specialists; prevents delays in care caused by personnel shortages, travel, and other barriers; facilitates care coordination and communication; reduces hospital admissions and readmissions through telehealth-delivered health and wellness services, chronic disease management, and prevention of secondary complications of chronic diseases; and fosters care in the community (Cason, 2012; Clawson et al., 2008; Darkins,

2014; Darkins et al., 2008; Hopp & Hogan, 2009).

High levels of satisfaction have been reported among patients receiving services through telehealth technologies (Darkins et al., 2008; Kairy, Lehoux, Vincent, & Visintin, 2009; Steel, Cox, & Garry, 2011); some patients even preferred videoconferencing to in-person contact (Steel et al., 2011). Factors that influenced patient and caregiver satisfaction with telehealth included positive perceived benefits, convenience, and usefulness of the telehealth program (Kairy et al., 2009; Taylor et al., 2009); reduced travel requirements (Clawson et al., 2008; Finlayson & Holberg, 2007; Robinson, Seale, Tiernan, & Berg, 2003); and improved care coordination (Clawson et al., 2008; Hopp & Hogan, 2009). Kairy and colleagues' (2009) systematic review of 28 telerehabilitation studies revealed "consistently high" patient satisfaction with telerehabilitation and clinical outcomes comparable with in-person interventions.

Population Health

The term *population health* refers to the health outcomes of a defined population. Population health is often affected by the social processes and public policy that influence these outcomes. Stoto (2013) conceptualized population health along a spectrum:

At one extreme, the focus is on health outcomes in populations defined by geography or similar factors. . . . At the other extreme, "population health" refers to accountability for health outcomes in populations defined by health care delivery systems such as health plans or [ACOs]. (p. 2)

The ACA underscores population health as a means and an end to achieve the goals of health care reform. Several initiatives are under way to improve population health: increased access to health care through the ACA's insurance mandate and Medicaid expansion, health care quality improvement initiatives (e.g., National Strategy for Quality Improvement, Center for Medicare and Medicaid Innovation [CMMI]), enhanced prevention and health care promotion measures, and incentives for community- and population-based health promotion

activities (Stoto, 2013). In the IHI white paper *A Guide to Measuring the Triple Aim: Population Health, Experience of Care, and Per Capita Cost*, Stiefel and Nolan (2012) identified physiological factors (blood pressure, body mass index, cholesterol, blood glucose), behavioral factors (tobacco use, alcohol consumption, physical activity, nutrition), and health-related quality of life (QoL) as indicators of population health. Other factors that influence population health include “social, economic and physical environments, personal health practices, individual capacity and coping skills, human biology, early childhood development, and health services” (Public Health Agency of Canada, 2013, para. 2).

Occupational Therapy’s Role in Population Health. Occupational therapy practitioners are trained to analyze client factors, performance skills and patterns, contexts and environments, and the activity demands that affect health and engagement in occupations; this ability to broadly analyze people and their environment is unique in many ways. Such expertise positions occupational therapy practitioners as critical partners in health promotion and population health (Cason, 2012). Occupational therapy practitioners have a distinct role in positively influencing social and physical environments; helping people establish healthful habits and routines to promote positive health practices; enhancing people’s capacity and coping skills; improving early childhood development through developmental screening and assessment, early intervention, habilitation, and rehabilitation services; and mitigating behavioral risk factors and improving QoL for individuals and populations (AOTA, n.d.-b).

In traditional occupational therapy settings (e.g., hospitals, outpatient clinics, skilled nursing facilities), occupational therapy practitioners should be integral members of teams assessing risk and developing programming to prevent hospital-acquired conditions such as a fall that results in injury, decubitus ulcer, deep venous thrombosis or pulmonary embolism, infection, and delirium (AOTA, n.d.-b; Fisher & Friesema, 2013). Occupational therapy practitioners can contribute to early mobilization programs to mitigate secondary complications and fall risks in the hos-

pital and identify environmental supports and modifications, including discharge-related home assessment and patient education to prevent unnecessary hospital readmission (Fisher & Friesema, 2013). Other areas of population health promotion for which occupational therapy practitioners’ skills are valued include patient activation for self-management of chronic diseases, behavioral health and implementation of depression screening programs, care coordination, and development of health and wellness plans in conjunction with primary health care providers (AOTA, n.d.-b; Roberts & Robinson, 2014; Stoffel, 2013).

In educational and community settings, occupational therapy practitioners improve population health through injury prevention initiatives (e.g., backpack awareness, ergonomics promotion, fall prevention, older driver safety, environmental assessment and modification). Occupational therapy also promotes population health by facilitating occupational performance, participation, and QoL through interventions including education, self-advocacy training, supported employment training for people with disabilities, and community planning and universal design consultation to promote aging in place (AOTA, n.d.-b).

Telehealth as a Tool to Improve Population Health. The U.S. Department of Veterans Affairs (VA) has been at the forefront of the use of telehealth. A VA report noted a 22% annual increase in telehealth utilization and reported that 1,793,496 telehealth episodes of care took place in fiscal year 2013 (Darkins, 2014). Home telehealth services within the VA enabled 41,430 patients to live independently in their own homes rather than receiving care in a long-term institutional setting. Telehealth programming in the VA resulted in decreased hospital bed days of care, decreased hospital admissions, travel reduction savings of approximately \$35 per consultation, and high patient satisfaction (Darkins, 2014).

Occupational therapy practitioners are involved in diverse VA telehealth programs that provide a variety of rehabilitation and health and wellness services (U.S. Department of Veterans Affairs, 2014). Studies demonstrate the effectiveness of telehealth for rehabilitation of veterans with traumatic brain

injury (Girard, 2007), lower limb amputation or ulcer (Rintala et al., 2004), stroke (Chumbler et al., 2010; Lutz, Chumbler, Lyles, Hoffman, & Kobb, 2009), and mobility impairments (Sanford et al., 2006, 2007); evaluation and recommendations for adaptive equipment and assistive technology to support aging in place (Bendixen, Levy, Olive, Kobb, & Mann, 2009; Sanford et al., 2007); chronic disease management (Bendixen, Horn, & Levy, 2007; Darkins et al., 2008); and provision of home exercise programs, adaptive strategies, assistive technology, and home modification (Hoenig et al., 2006). In addition to telehealth programming for rehabilitation and health and wellness services, VA telehealth programs also aim to support and improve the QoL of caregivers of veterans (Griffiths et al., 2010). Through telehealth, occupational therapy practitioners can positively influence clients’ social and physical environments and promote healthful habits, routines, and health practices that enhance clients’ capacity, coping skills, and QoL and contribute to population health.

Affordability of Care

Improved access to care in the home versus in a more costly institutional environment (e.g., hospital, long-term care [LTC] setting) may reduce health care costs overall and contribute to positive health outcomes and effective patient self-management of chronic diseases (Darkins, 2014; Jones et al., 2014). Jones et al. (2014) reviewed 137 articles related to home telehealth for chronic disease management and concluded that home telehealth was equivalent or superior to usual care (as defined by each study’s authors) in improving disease state, symptoms, and QoL in patients with chronic diseases.

Providing services where people live, work, and play is a foundation of occupational therapy. Systematic reviews and comparative efficacy studies of occupational therapy using telehealth yield similar outcomes when compared with in-person services for treatment of chronic conditions (Steel et al., 2011), wheelchair assessment (Barlow, Liu, & Sekulic, 2009; Schein et al., 2011), preadmission orthopedic occupational therapy home visits (Hoffmann & Russell, 2008), assessment of activities of daily living (ADLs)

and hand function in people with Parkinson's disease (Hoffmann, Russell, Thompson, Vincent, & Nelson, 2008), rehabilitation and adaptive equipment recommendations for older adults with mobility impairments (Sanford et al., 2007), ergonomic assessment (Jacobs, Blanchard, & Baker, 2012), and skill development (e.g., completing novel household activities) in adults with intellectual disabilities living in integrated community settings (Taber-Doughty, Shurr, Brewer, & Kubik, 2010).

Research funded by the Agency for Healthcare Research and Quality (2008) demonstrated that telehealth can improve patient safety, quality of care, and care coordination. By providing the "right care in the right place at the right time" (U.S. Department of Veterans Affairs, 2014, para. 6), telehealth may lead to improved efficiencies within the health care system. Because occupational therapy has always worked toward the "right care in the right place at the right time," the profession's underpinnings are compatible with the positive potential of telehealth. The profession must now move forward to fully integrate telehealth to optimally achieve these objectives. Further research, including comparative effectiveness studies and cost-effectiveness analyses, is needed to evaluate the impact of telehealth on the dimension of affordability of care.

Opportunities, Challenges, and Call to Further Action

Center for Medicare and Medicaid Innovation

Established by the ACA, the CMMI is charged with engaging a broad range of stakeholders in identifying and testing innovative payment and service delivery models and advancing best practices aimed at reducing costs and improving quality of care for beneficiaries of Medicare, Medicaid, and the Children's Health Insurance Program (Centers for Medicare and Medicaid Services [CMS], n.d.). Lamb and Metzler (2014) encouraged occupational therapy practitioners to advocate for inclusion in CMMI-funded research when the potential for occupational therapy involvement exists. In July 2014, CMMI announced the second

group ("Round Two") of prospective award recipients for the Health Care Innovation Awards program. The significant number of funded programs incorporating telehealth technologies indicates that telehealth will be an integral factor in health care reform (CMS, 2014). Occupational therapy practitioners must become aware of and involved in projects such as these to increase awareness of the true value the profession can bring to these efforts. In several of these studies, occupational therapy, if included, could be recognized as a key component of any broad telehealth expansion:

- The Remote Interventions Improving Specialty Complex Care Model study, funded by CMMI in 2014, will use telehealth technologies for remote patient monitoring to improve access to health care services for people living in underserved areas (CMS, 2014). It is not evident whether occupational therapy will be part of this project, but clearly it should be. Potential roles for occupational therapy in such a model are remote assessment of the physical environment (e.g., fall risk assessment and management); establishment of healthful habits and routines to promote positive health practices, such as medication management; mitigation of behavioral risk factors; patient education and activation for self-management of chronic diseases; and facilitation of improved occupational performance and QoL (AOTA, n.d.-b).
- The Avera Virtual Care Center: Improving Care & Reducing Costs for the Vulnerable Elderly Population study will use telehealth technologies to connect an interprofessional geriatric team to more than 30 LTC centers to enhance assessment capability, promote access to care, and improve care transitions.
- The University of Illinois CHECK (Coordination of Healthcare for Complex Kids) study will improve access to care for patients where they "live, work, and attend school . . . and will use multiple tools, including technology . . . to build bridges between care sites, care providers, and the family" (CMS, 2014, p. 4).
- The San Diego: A Heart Attack and Stroke Free Zone study will use telemonitoring via emerging wireless and other technologies to monitor patient progress

in reducing biological risk factors and compliance with a wellness plan. The study incorporates telehealth technologies to improve population health by preventing heart attack and stroke in a high-risk population.

- The Rural Clinically Integrated Network to Improve Heart Health and Stroke Survival for Rural Kansas study will use telehealth as a means to provide population health management and care coordination and to prevent stroke.
- The VillageCare's Treatment Adherence Through the Advanced Use of Technology study will promote population health among people living with HIV/AIDS using a variety of telehealth technologies to increase access to services and improve engagement and retention in care.
- The University of California San Francisco and University of Nebraska Medical Center study Dementia Care Ecosystem: Using Innovative Technologies to Personalize and Deliver Coordinated Dementia Care is designed to improve population health of people with dementia through telemonitoring using smart phones and sensors to detect and intervene to achieve changes in functional status. This study aims to "improve satisfaction with care, prevent emergency-related health care costs, and keep patients in the home longer" (CMS, 2014, p. 13) and pairs telehealth technologies with health care to achieve the Triple Aim of improved care experience, population health, and affordability of care.

These studies demonstrate the growing interest in telehealth technologies as a means to achieve the Triple Aim. Other CMMI Round Two studies do not explicitly include telehealth or occupational therapy, although they would benefit from the inclusion of both. For example, the Coaching and Comprehensive Health Supports Program, designed to improve outcomes for young adults transitioning out of foster care, will use a coaching model and interprofessional support team to improve healthy behaviors; reduce hospitalizations through better management of behavioral health conditions; increase access to primary care physicians; and positively influence pregnancy-related outcomes, employment, and education attainment (CMS, 2014). The role of

occupational therapy in physical and behavioral health, wellness and health promotion, employment, and education is well established (AOTA, 2014). Inclusion of occupational therapy and telehealth technologies could greatly augment this study.

Similarly, occupational therapy and telehealth technologies could be a positive addition to CMMI-funded pediatric studies. The Improving Child Well-Being Through Integrating Care in a Community School Setting study aims to promote health through health risk assessment and interprofessional services targeting physical and behavioral health, wellness, and personal health management. In this and other CMMI-funded studies, occupational therapy practitioners could incorporate telehealth technologies to evaluate all factors in a client's life that may promote or hinder health, participation, occupational performance, and QoL and then analyze those factors to facilitate intervention, consultation, and monitoring to promote healthy living and prevention of disease and disability.

Patient-Centered Outcomes Research Institute

The ACA established the Patient-Centered Outcomes Research Institute (PCORI) to fund comparative efficacy research to assist health care providers and consumers in making informed decisions related to treatment options (Lamb & Metzler, 2014). As in CMMI-funded research, telehealth is a prominent delivery model in PCORI-funded research. A study by the University of California–Los Angeles will determine whether telehealth is an effective, efficient, and family-centered method to deliver developmental, behavioral, and mental health services to children in low-income communities. Outcomes to be studied include improved access to developmental, behavioral, and mental health services; quality measures including timeliness, family-centeredness, coordination, and parent experiences of care; parent satisfaction; clinical outcomes associated with the children's developmental, behavioral, and mental health; and the children's QoL (PCORI, 2013a).

This study, which is aligned with the Triple Aim, would benefit from the inclusion of occupational therapy to evaluate

and remediate limitations in areas of concern including ADLs, instrumental ADLs, rest and sleep, education, work, play, leisure, and social participation (AOTA, 2014). By evaluating client factors, performance skills, performance patterns, and the influence of context and environment, occupational therapy practitioners could design interventions and provide recommendations for enhancing the children's occupational performance; promoting their health and wellness, emotional well-being, and mental health; increasing their participation, role competence, and social competence (e.g., coping skills, making and keeping friends, solving problems, understanding social etiquette, following rules); and improving their QoL (AOTA, 2011).

Another PCORI-funded study, titled Telehealth Self-Management Program in Older Adults Living With Heart Failure in Health Disparity Communities, aims to use telehealth technologies to enable weekly interactions with health care providers via videoconference and daily patient self-monitoring to reduce higher cost care (i.e., emergency room care, hospitalization) and facilitate patient-led improvements in health, satisfaction, and quality of life (PCORI, 2013b). Occupational therapy practitioners could contribute to this study in the areas of prevention, lifestyle modification, and physical and psychosocial rehabilitation. Interventions may include assessment for fall risk and home modification to improve performance and safety; provision of home exercise programs, adaptive strategies, and assistive technology to enhance occupational performance and participation; and activity modification techniques and patient education on energy conservation. Additionally, occupational therapy practitioners may teach techniques to facilitate stress management, pain control, and coping skills to support physical and psychosocial health and well-being (AOTA, n.d.-a).

Challenges and Call to Further Action

Of concern in the studies outlined in this article and in other PCORI-funded studies is the apparent omission of occupational therapy practitioners as members of the studies' health care teams. For example, a \$30 million national study for fall injury

prevention will deploy "nurses or nurse practitioners trained as 'falls care managers' to provide older adults with individually tailored, evidence-based care plans to help them avoid falls and related injuries" (PCORI, 2014, para. 1). Occupational therapists are trained to administer standardized balance, cognitive, and visual assessments and evaluate the interplay of intrinsic (person) and extrinsic (environment) factors contributing to fall risk (AOTA, 2012; Roberts & Robinson, 2014). Occupational therapy interventions including environmental modification, exercise programs, and patient education promote safety during daily routines and activities and reduce fall risks (Roberts & Robinson, 2014). The distinct skills of occupational therapy practitioners would be of great value in this fall intervention study, yet nurses and nurse practitioners are the "falls care managers" identified in the study.

Lamb and Metzler (2014) identified fall prevention programming as an area in which evidence supports the value of occupational therapy; occupational therapy practitioners can use this evidence for "assertive and focused actions to ensure that the new system and all its components fully use the skills and benefits of occupational therapy" (p. 13). The ACA created opportunities for expanded roles for occupational therapy in primary care, patient-centered medical homes, ACOs, behavioral health, prevention, and wellness. Unfortunately, the role (and value) of occupational therapy in these nontraditional practice settings is not well understood by stakeholders (Goldberg & Dugan, 2013). We must take action to fulfill our potential in service of these larger needs by articulating the distinct value of occupational therapy and the evidence supporting our expertise in these nontraditional practice settings.

Stoffel (2013) issued a call to action for occupational therapy practitioners to "collaborate closely with behavioral health professions, advocacy groups, and the community to ensure that quality essential services include the expertise of occupational therapy practitioners" (p. 144). We must take this call to action even further. Occupational therapy practitioners must educate stakeholders and articulate occupational therapy's distinct benefits in relation to what patients, health care teams, organizations,

policymakers, and society value (Lamb & Metzler, 2014). This message must include attention to the role of telehealth in health care and, more specifically, the role of telehealth in the delivery of occupational therapy services.

Conclusion

Occupational therapy practitioners must be prepared to embrace technologies and service delivery models valued in the new health care environment. Telehealth will be valued for its effectiveness and cost-efficiency. The message must be conveyed within occupational therapy and to external stakeholders that occupational therapy services delivered via telehealth technologies can empower people to be active participants in improving their own health and thus are an integral component in achieving the Triple Aim. The CMMI- and PCORI-funded research studies outlined in this article demonstrate the important role telehealth will play in the delivery of health care services. These studies will provide evidence to inform future health care policy and practice. Occupational therapy practitioners must advocate for inclusion in future studies and articulate the distinct value of occupational therapy in primary care, behavioral health, chronic disease management, health promotion, and other areas of keen interest to health reformers. We must engage in research to validate the efficacy and cost-effectiveness of occupational therapy assessments and interventions delivered through telehealth technologies. Most importantly, we must continue to be consistent and clear champions of our profession in this rapidly evolving health care environment. ▲

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