

6-1-2018

## Greater Needs, Greater Spending: Improving Care for High-Need, High-Cost Patients

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### Recommended Citation

Tackett, Laken (2018) "Greater Needs, Greater Spending: Improving Care for High-Need, High-Cost Patients," *Kentucky Journal of Undergraduate Scholarship*: Vol. 2 : Iss. 1 , Article 5.

Available at: <https://encompass.eku.edu/kjus/vol2/iss1/5>

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## Improving Care for High-Need, High-Cost Populations

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**Abstract:** *High-need patients spend up to four times more than the average American adult on health care services and prescription medications annually. Tailoring services to each individual's needs could improve health care outcomes, effectively decreasing costs. Although high-need individuals make up only 5% of the population, they account for 50% of national health care expenditure. Improving care for this population is vital. Implementing an occupational therapist in the primary care process is one way to improve health for these individuals. Highly specialized care coordinators could also be beneficial for this population to coordinate services and medications, making sure there are not any complications that could arise. Another recommendation is multidisciplinary teams. It is also imperative to educate these patients on their various conditions. There are various routes to fix the problems this population faces. Most importantly, care should be coordinated, individualized, preventative, informative, and client-centered. Improving care for the high-need patients could be beneficial for more than just this population. The vast majority of high-needs patients are publicly insured, therefore Medicare and Medicaid expenditures would decrease at both state and national levels. Implementing these changes in the U.S. health care system could result in better health outcomes and decreased costs for the entire population.*

*Keywords: occupational therapy, chronic conditions, healthcare, Kentucky, healthcare systems, affordable healthcare act, occupational science, occupational justice*

The United States health care system is one of the most technologically advanced in the world, however, it has many flaws. One of the more alarming and substantial concerns is the fact that the United States spends more on health care than any other country in the world, yet has the worst health outcomes (Shi & Singh, 2015). A group of individuals referred to as high-need, high-cost populations suffer the consequences of flawed health care delivery daily. High-need, high-cost patients are defined as individuals with three or more chronic conditions, along with a functional limitation

(Hayes et al., 2016). Due to the substandard quality of health care delivery in the U.S., these individuals use many unnecessary health services, and therefore often pay for services that could have been avoided. Some of these avoidable services might include emergency visits, hospital stays, and tests or scans, which are all relatively high-cost.

## **National Population Statistics**

High-need, high-cost patients, while only making up about 5% of the population, account for about 50% of total health care spending (Blumenthal, Chernof, Fulmer, Lumpkin, & Selberg, 2016; The Commonwealth Fund, 2016). Over half of these individuals also have low incomes (Hayes et al., 2016). According to the Commonwealth Fund (2016), the majority of these patients reported being publicly insured. These individuals spend about four times more than the average adult on health care services annually; they also use hospital emergency services three times more often than the average adult, as well as a higher number of doctor visits and paid home health days (Hayes et al., 2016). A survey conducted in 2016 revealed that many of these individuals have limited access to resources that could improve health, such as care coordinators, assistance in managing functional limitations, emotional counseling, and transportation services (The Commonwealth Fund, 2016).

## **Chronic Conditions and Improving Care in Kentucky**

Kentucky is one of the more unhealthy states in the nation with alarmingly high rates of chronic obstructive pulmonary disorder, diabetes, and other chronic conditions. In 2015, it was estimated that 584,000 individuals in Kentucky had 3 or more chronic conditions; this number is projected to reach 1.3 million by 2030 (Partnership to Fight Chronic Disease, n.d.). Health care expenditures in Kentucky are similar to that of the U.S. (5% of the population accounts for 50% of health care spending) and it is estimated that costs average \$27,000 per year for individuals with 3-4 chronic diseases and \$48,000 per year for those with 5 or more chronic conditions (Partnership to Fight Chronic Disease, n.d.). While the specifics of the high-need population in Kentucky are not known, individuals with multiple chronic conditions face similar struggles with the health care system.

Although there is not much information readily available regarding Kentucky's high-need population, it is noteworthy to mention that Kentucky has implemented a program to address this cost burden for this population, referred to as the Emergency Room Super Utilizer Initiative (Center for Health Care Strategies, 2015). The purpose of this program is "to identify Emergency Department (ED) Medicaid super-utilizer patients (>10 ED visits in one year) and decrease the number of both ED visits and Medicaid costs while improving overall health outcomes" (Kentucky Health

Information Exchange, n.d.). The program will use multidisciplinary teams called Community Care Teams to coordinate care for super utilizers in order to improve outcomes for these individuals (Kentucky Health Information Exchange, n.d.).

## **Impact of Functional Limitations**

High-need, high-cost patients have been compared to individuals with three or more chronic conditions and no functional limitations. Their counterparts spend substantially less on health care services. A study conducted by The Commonwealth Fund analyzed health care spending from 2009-2011. Researchers found that the average annual health care cost for high-need high cost patients was almost triple the cost for those with three or more chronic conditions, and no functional limitations (Hayes et al., 2016). According to Dattalo, Nothelle, & Chapman (2016), “High-cost, high-need patients within the Medicare population are the highest utilizers of the hospital, and it is through hospital admissions that most costs are accrued” (p. 15). The Commonwealth Fund (2016) reports that almost half of high-need, high-cost patients report using emergency services multiple times since 2014.

## **Demographic Factors**

The health status of the population has already been recognized as poor, due to their multiple chronic conditions. However, there are also notable demographic factors to be considered. More than half of the high-need, high-cost population is 65 and older (Hayes et al., 2016). This is a key demographic factor in improving health care delivery. According to Dattalo et al. (2016), “adults over age 65 have the highest proportion of persons who are below basic levels of health literacy” (p. 16). These individuals make up the majority of the high-need, high-cost population; the elderly population is also growing and is expected to continue growing over time. As of 2012, the elderly made up 13.3% of the U.S. population and are expected to make up 20% of the population by the year 2030 (Shi & Singh, 2015). As the aging population grows in America, it is vital to implement a program to reduce cost of quality health care. Nearly two-thirds of high-need individuals are female, while females make up just over half of the total population; this is thought to be contributed to the fact that most of these individuals are elderly and women tend to live longer than men (Hayes et al., 2016). Another key factor to consider is income level. More than half of high-needs adults reported having low incomes (Hayes et al., 2016). These individuals report annual incomes below 200 percent of the federal poverty level, or less than \$21,780 in 2011. While, as previously mentioned, average annual health care spending was \$21,021 (Hayes et al., 2016). More than one of four high-needs adults reported less than a high school education and 83% reported fair or poor health status (Hayes et al.,

2016).

## **Weaknesses in Health Care Delivery**

The high-needs population faces obstacles in health care for various reasons. One of many reasons is the lack of coordination between services. The individuals have multiple chronic conditions, along with functional limitations, which all need to be treated differently. Dattalo et al. (2016) notes that “guidelines and recommendations for one chronic condition often conflict with that of another, putting patients at risk of therapeutic competition and complications” (p. 16). More than half of high-need, high-cost patients also reported difficulty gaining access to services that could help them manage their conditions, or care coordinators (The Commonwealth Fund, 2016). Another flaw in health care delivery is the lack of patient engagement in the health care process. Patients are not properly educated about their care. The movie *Money-Driven Medicine* (2009) discusses the finding that if patients are properly educated about their conditions, care, and treatment options, their outcomes are often better. This is related to health literacy as well. *Healthy People 2020* defines healthy literacy 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.” According to Hayes et al. (2016), high-needs adults are more than three times more likely than other adult populations to be hospitalized. About 3% of high-needs adults reported using Emergency Department (ED) services four or more times in a year; emergency services were more common among individuals who did not receive high school diplomas (Hayes et al., 2016). *Healthy People 2020* is an initiative developed in the U.S. to improve health outcomes nationwide. Improving health literacy is one of many objectives of *Healthy People 2020*. Some changes that would improve health care delivery services include patient engagement in care, patient education, coordination of care, and careful targeting of interventions; the goal of these changes is to improve quality of services, and in turn reduce unnecessary expenditures and hospitalizations, effectively reducing costs (Blumenthal et al., 2016).

Compared to the average American adult, high-need patients spend up to four times more on health care services and prescription medication. Health care services should be tailored to each individual’s unique needs in order to improve outcomes and reduce spending.

## **U.S. Health Care Delivery System**

The three major components of health care delivery in the United States are cost, access, and quality (Shi & Singh, 2015). The high-need, high-cost population faces discrepancies in both access and quality, while also having the highest health care costs of any other population. High-need patients account for more than half of Medicare spending in the United States (Dattalo et al., 2016). Cost, access, and quality are interrelated. One

of the reasons for high cost is the lack of quality in health care delivery. Cost efficiency can help determine quality of care; cost efficient care is when the benefit received is greater than the cost expended (Shi & Singh, 2015). Lack of access can also contribute to higher costs; for example, those in rural areas or those who do not receive any kind of preventative care, consequently, using costly emergency services.

The lack of preventative services can be attributed to the medical model for health care delivery in the United States (Shi & Singh, 2015). This is perhaps the most influential factor in the health care system. The current medical model focuses on treating individuals after they have become ill (Shi & Singh, 2015). Preventative services could increase health, quality of life, and outcomes for high-need individuals, while also reducing any unnecessary costs and hospitalizations.

The United States is also experiencing a shortage of primary care providers, who are considered gatekeepers to health care (Shi & Singh, 2015). This shortage contributes to the lack of access to preventative care, especially in rural areas. The shortage is partially attributed to lower income of primary care physicians compared to specialty physicians; however, the Affordable Care Act is working to combat this issue by investing in primary care training for various health professionals (Shi & Singh, 2015). Increased access to primary care providers would be beneficial for high-need patients, because they could receive more preventative services, resulting in decreased emergency department utilization, as well as hospitalizations. This would in turn decrease health care costs for this population.

## **Public Health Insurance**

Ninety-six percent of high-needs adults reported being insured through public health insurance, include Medicare, Medicaid, or a combination of the two (Hayes et al., 2016). According to Dattalo et al. (2016), of the top 5% of Medicare spenders, 61% are high-need, high-cost individuals. Medicare consumed over one-fifth of national health expenditures (Shi & Singh, 2015). High-needs individuals also pay, on average, more than twice that of the average adult on out-of-pocket expenses for insurance. Based on these numbers, the high-needs, high-care population is responsible for the majority of national health care expenditures.

There are a few factors which raise concerns about the future of Medicare, including the rising cost of health care services, the increasing elderly population, and the shrinking workforce (Shi & Singh, 2015). These could have a significant impact on this population. The majority of the high-need, high-cost population are elderly individuals who are insured through Medicare. This could mean continued increase in cost of health care services. Over half of these individuals are low income, and spend almost as much on healthcare annually as the average income for an individual with high-needs (Hayes et al., 2016).

## **Occupational Perspective**

High-need, high-cost individuals may be lacking in their occupational lives. Since these individuals are identified as having functional limitations and use healthcare services approximately three times more than the average adult, they may face deficits in meaningful occupation. In occupational science and occupational therapy literature, it is noted that meaningful occupation is highly influential on health and well-being. Improving health and well-being is also one of the key focuses of occupational therapy practice, as noted in the occupational therapy practice framework (American Occupational Therapy Association, 2014). One of the many goals of occupational therapy is to help diminish the effects of health disparities on meaningful occupation (Braveman & Bass-Haugen, 2009).

## **Occupational Justice**

Occupational justice is a key factor in each individual's life which supports engagement in valued occupations. Occupational justice has helped therapists provide access to services for all individuals. There are a few different forms of occupational injustice that affect various individuals and populations. Occupational apartheid is defined as denial of access to meaningful occupations, and depends on many factors which include disability and income status (Baillard, 2016). This is one form of occupational injustice that high-need, high-cost patients experience. These patients spend the majority of their time and money on health care services, because of the lack of quality care in the U.S. delivery system. Due to the low income of the majority of this population and the high costs of healthcare, these individuals are left with little time and money to participate in meaningful occupations.

Oversimplification of injustice can lead to ineffective intervention (Baillard, 2016). It appears that the health care system has oversimplified the injustice of the high-need, high-cost population. Baillard (2016) provides a valuable example in which famine was analyzed; it was determined that famine did not occur due to lack of food, but from structural inequalities in food distribution. This is similar to the experiences of high-need, high cost patients. Their injustice does not occur simply because of high health care costs and need for health care utilization, but because of poor health care delivery and lack of quality care. In order to combat the injustices that this population faces, it is vital to understand the situational complexities involved.

## **Practice Implications**

Occupational therapy could be beneficial in improving health

outcomes for high-need, high-cost populations. Muir (2012) suggests implementing occupational therapy in primary care. Occupational therapists could be a valuable asset to the primary health care team. Some benefits an occupational therapist could offer in a primary care setting include assisting the physician in early intervention, identifying how symptoms affect functioning and participation, addressing a broader range of patient issues, providing home intervention techniques that could decrease health care expenditures, enabling or improving occupational participation, and providing group education or intervention sessions (Muir, 2012). This holistic practice would improve quality of life of the high-need, high cost population. Implementing occupational therapy in primary care practice could also help combat the issues of occupational injustice that are occurring.

One of the primary focus areas for occupational therapy is activities of daily living (ADLs). ADLs include bathing, grooming, dressing, eating, and other self-care activities (American Occupational Therapy Association, 2014). Therapists often address instrumental activities of daily living (IADLs) as well; these may include activities such as home maintenance and meal preparation, among many other activities (American Occupational Therapy Association, 2014). In a survey conducted by The Commonwealth Fund, 57% of high-need patients reported having difficulty performing ADLs and IADLs; 62% reported never/sometimes having someone to help with these activities (Ryan, Abrams, Doty, Shah, & Schneider, 2016). It is imperative for therapists to recognize when a patient is unable to perform ADLs or IADLs and provide them with the tools or skills to become more independent in daily activities.

## **Health Literacy and Client Education**

Patients have a wealth of information available to them via current technology. Technology can be used a tool for intervention, if used correctly. It is critical for occupational therapists, as well as other health care providers, to give patients the proper information regarding their conditions (Case-Smith, 2010). This can assist individuals in making safe, informed decisions based on knowledge of their conditions.

Smith, Hedrick, Earhart, Galloway, and Arndt (2010) believe it is the responsibility of occupational therapists to address health literacy. A few suggestions include simplifying any health materials provided to clients, tailoring education to the client's preferred learning technique, clarifying that the patient understands, and being clear with any instructions (Smith et al., 2010). There have also been health literacy tools created to address safety that could be beneficial for occupational therapy practice. Health literacy is important in occupational therapy because of the profession's holistic perspective, encompassing the relationship between person, environment, and occupation (Smith et al., 2010). Improving health literacy and providing proper education could help high-need, high-cost populations to prevent unnecessary hospitalizations and optimize health, participation, and



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well-being.

## **Current Health Care Delivery**

High-need, high-cost individuals are currently dealing with health care that is ineffective. For example, their time with primary care physicians is often short and the doctors are unable to address all of the patient's needs. These individuals are then sent to specialists from whom they are receiving various medications (Hayes & McCarthy, 2016). None of this care is coordinated, resulting in avoidable complications and preventable health care visits (Hayes & McCarthy, 2016).

There are a number of programs and recommendations that could be used to improve care for these individuals. One is a continuum care coordinator, as these individuals are highly trained and make sure that patient care is effective (Hayes & McCarthy, 2016). Another is a patient-aligned care team, including multiple disciplines; in this team, care is coordinated and client-focused (Zulman et al., 2014). Another program uses multidisciplinary care not only in the clinic, but also in home health; this program is provided by HealthCare Partners Medical Group (Feder, 2011). In the clinic, patients will work with multidisciplinary teams with the goal of returning to their primary care physicians. In the home, patients will be visited by a doctor or nurse practitioner and a social worker initially, then one or both will make follow-up visits, and the patient is monitored by phone (Feder, 2011).

These programs all have similar outcomes. These include reducing unnecessary health care costs, as well as emergency department visits (Feder, 2011; Hayes & McCarthy, 2016; Zulman et al., 2014). HealthCare Partners saw a 20 percent drop in hospital use among those participating in their program, as well as annual savings of \$2 million for every 1,000 participants (Feder, 2011). The range of services resulted in improved care for high-need, high-cost individuals (Feder, 2011; Zulman et al., 2014). While all of these intervention practices have been successful, they each have room for improvement. With further research and implementation, care for high-need, high-cost populations can be improved while also decreasing excessive health care costs.

## **Affordable Care Act**

The Affordable Care Act (ACA) has improved coverage for individuals with public health insurance substantially. Medicare beneficiaries saw improvements such as better protection against the cost of prescription drugs, better coverage of preventative and other services, increased access to primary care physicians, and some minor improvements for the low-income population (Moon, 2012). The ACA also created Medicare payment incentives for hospitals and physicians to improve their performance (Blumenthal, Abrams, & Nuzum, 2015). The ACA has also recommended

accountable care organizations (ACOs) for health care providers that integrate and coordinate ambulatory, in-patient, and post-acute care services, and take responsibility for the cost and quality of care for a defined population of Medicare beneficiaries (Blumenthal et al., 2015). Since the ACA has been recently repealed, beneficiaries may lose some of these accommodations.

## **Recommendations and Outcomes**

There are a few recommendations for improving care for high-need, high cost populations through individualized services. One of these recommendations is to implement occupational therapy in primary care; occupational therapists can provide holistic care to gain a deeper understanding of occupational participation and improve patient quality of life (Muir, 2012). Occupational therapists, as well as other practitioners should also provide client education regarding their conditions (Case-Smith, 2010). Addressing health literacy and ensuring the patient has a clear understanding of health materials provided by the practitioner, as well as any instructions for care are also important concepts that can be used to improve health care delivery and outcomes (Smith et al., 2010). Care coordinators and multidisciplinary health care teams could also be helpful in improving care for these individuals (Feder, 2011; Hayes & McCarthy, 2016; Zulman et al., 2014). Finally, value-based payment can be used as an incentive to provide higher-quality care. With value-based payment, clinicians and health care organizations would be held accountable for cost and quality of services, which provides an incentive for improving quality of care (Blumenthal et al., 2016). The Affordable Care Act had begun to implement some of these techniques, such as coordinating care and value-based payment (Blumenthal, Abrams, & Nuzum, 2015; Blumenthal et al., 2016). It is important for occupational therapists to provide quality care and inform other practitioners of the need for quality care for this population.

There are many anticipated outcomes of improving care for the high-need, high-cost population. These individuals would not be the only ones who would benefit from individualized services. Coordinated, individualized, preventative, client-centered care would result in both decreased costs and improved health outcomes for high-need individuals. Improved care would also result in decreased health care expenditures and Medicare and Medicaid costs at both state and national levels (Hayes et al., 2016; Kentucky Health Information Exchange, n.d.).

## **Conclusion**

High-need, high cost individuals face many discrepancies in today's health care system. These individuals face frequent, low quality care at high costs. As a result, these individuals also face occupational injustices due to

their health and economic status. There are a few ways the current health care system can work to improve services, while also decreasing health care costs. Occupational therapists can offer holistic care and knowledge to help patients avoid unnecessary costs and visits (Muir, 2012; Smith et al., 2010; Case-Smith, 2010). Multidisciplinary teams are also beneficial because care can be coordinated, improved, and client-centered (Feder, 2011; Zulman et al., 2014). Success in modifying health care services can be used to further implement better care for the high-need, high-cost population, effectively increasing outcomes and decreasing costs. Modifications such as tailoring services to each individual could improve care not only for the high-need population, but for the nation as a whole.

### References

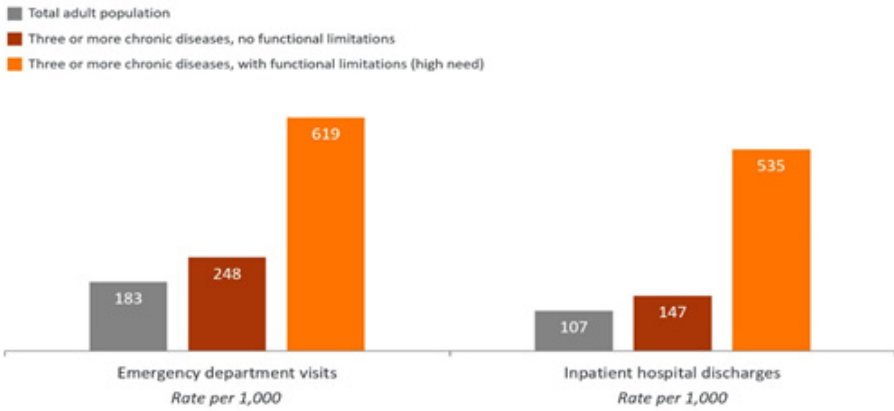
- American Occupational Therapy Association. (2014). *Occupational therapy practice framework: Domain and process* (3rd ed.). American Journal of Occupational Therapy, 68(Suppl. 1), S1– S48. <http://dx.doi.org/10.5014/ajot.2014.682006>
- Bailliard, A. (2016). Justice, difference, and the capability to function. *Journal of Occupational Science*, 23, 3-16. doi: 10.1080/14427591.2014.957886
- Blumenthal, D., Abrams, M., & Nuzum, R. (2015). The affordable care act at 5 years. *The New England Journal of Medicine*, 372, 2451-2458.
- Blumenthal, D., Anderson, G., Burke, S.P., Fulmer, T., Jha, A.K., & Long, P. (2016). Tailoring Complex-Care Management, Coordination, and Integration for High-Need, High-Cost Patients: Vital Directions for Health and Health Care Series. Discussion Paper, National Academy of Medicine, Washington, DC. Retrieved from <https://nam.edu/wp-content/uploads/2016/09/tailoring-complex-care-management-coordination-and-integration-for-high-need-high-cost-patients.pdf>.
- Blumenthal, D., Chernof, B., Fulmer, T., Lumpkin, J., & Selberg, J. (2016). Caring for high-need, high-cost patients -- An urgent priority. *The New England Journal of Medicine*, 375, 909-911.
- Braveman, B., & Bass-Haugen, J.D. (2009). From the desks of the guest editors—Social justice and health disparities: An evolving discourse in occupational therapy research and intervention. *American Journal of Occupational Therapy*, 63, 7-12.
- Case-Smith, J. (2010). The role of occupational therapists in helping consumers understand their health and medical conditions. *OTJR: Occupation, Participation and Health*, 30, 146-147. doi: 10.3928/15394492-20100930-01
- Center for Health Care Strategies, Inc. (2015). Programs focusing on high-need, high-cost populations [Fact sheet]. Retrieved from [http://www.chcs.org/media/SU-Fact-Sheet\\_41715\\_Final.pdf](http://www.chcs.org/media/SU-Fact-Sheet_41715_Final.pdf)

- Dattalo, M., Nothelle, S., & Chapman, E.N. (2016). Targeting enhanced services toward high-cost, high-need medicare patients [PDF file]. In L. A. Lindquist (Ed.), *New Directions in Geriatric Medicine: Concepts, Trends, and Evidence-Based Practice* (pp. 13-30). New York City, New York: Springer
- Feder, J.L. (2011). Predictive modeling and team care for high-need patients at HealthCare Partners. *Health Affairs*, 30, 416-418. doi: 10.1377/hlthaff.2011.0080
- Gibney, A., Montonti, C. & Bull, P. (Producers) & Fredericks, A. (Director). (2009). *Money-driven medicine* [Motion picture]. United States: Jigsaw Productions.
- Hayes, S.L. & McCarthy, D. (2016, December 7). Care management plus: Strengthening primary care for patients with multiple chronic conditions. Retrieved from <http://www.commonwealthfund.org/publications/case-studies/2016/dec/care-management-plus>
- Hayes, S.L., Salzberg, C.A., McCarthy, D., Radley, D.C., Abrams, M.K., Shah, T., & Anderson, G.F. (2016, August 29). High-need, high-cost patients: Who are they and how do they use health care—A population-based comparison of demographics, health care use, and expenditures. Retrieved from <http://www.commonwealthfund.org/publications/issue-briefs/2016/aug/high-need-high-cost-patients-meps1>
- Healthy People. (n.d.) Health communication and health information technology. Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/health-communication-and-health-information-technology>
- Kentucky Health Information Exchange. (n.d.) Kentucky ER SMART: Emergency room super utilization initiative
- Moon, M. (2012). Medicare and the affordable care act. *Journal of Aging & Social Policy*, 24, 233–247. doi: 10.1080/08959420.2012.659111
- Muir, S. (2012). Health Policy Perspectives—Occupational therapy in primary health care: We should be there. *American Journal of Occupational Therapy*, 66, 506–510. doi: 10.5014/ajot.2012.665001
- Partnership to Fight Chronic Disease. (n.d). What is the impact of chronic disease in Kentucky? [Fact sheet]. Retrieved from [http://www.fightchronicdisease.org/sites/default/files/download/PFCD\\_KY\\_FactSheet\\_FINAL1.pdf](http://www.fightchronicdisease.org/sites/default/files/download/PFCD_KY_FactSheet_FINAL1.pdf)
- Ryan, J. Abrams, M.K., Doty, M.M., Shah, T., & Schneider, E.C. (2016, December 9). How high-needs patients experience health care in the United States: Findings from the 2016 Commonwealth Fund survey of high-need patients. Retrieved from <http://www.commonwealthfund.org/publications/issue-briefs/2016/dec/high-need-patients-experience-health-care>
- Shi, L. & Singh, D.A. (2015). *Delivering health care in America: A systems approach*. (6th ed.). Burlington, MA: Jones & Bartlett Learning. Smith,

- 
- D.L., Hedrick, W., Earhart, H., Galloway, H., & Arndt, A. (2010). Evaluating two health care facilities' ability to meet health literacy needs: A role for occupational therapy. *Occupational Therapy in Health Care, 24*, 348-359. doi: 10.3109/07380577.2010.507267
- The Commonwealth Fund. (2016, December 9). As new survey describes scope of problem, five national health care foundations identify promising approaches for treating patients with complex needs. Retrieved from <http://www.commonwealthfund.org/publications/press-releases/2016/dec/treating-patients-with-complex-needs>
- Zulman, D.M., Ezeji-okoye, S.C., Shaw, J.G., Hummel, D.L., Holloway, K.S., Smither, S.F., . . . Asch, S.M. (2014). Partnered research in healthcare delivery redesign for high-need, high-cost patients: Development and feasibility of an intensive management patient-aligned care team. *Journal of General Internal Medicine, 29*, S861-S869. doi: <http://dx.doi.org/10.1007/s11606-014-3022-7>

## Figure

### High-Need Adults Have More Emergency Department Visits and Hospital Stays



Note: Noninstitutionalized civilian population age 18 and older.  
Data: 2009–2011 Medical Expenditure Panel Survey (MEPS). Analysis by C. A. Salzberg, Johns Hopkins University.

Source: S. L. Hayes, C. A. Salzberg, D. McCarthy, D. C. Radley, M. K. Abrams, T. Shah, and G. F. Anderson, *High-Need, High-Cost Patients: Who Are They and How Do They Use Health Care?* The Commonwealth Fund, August 2016.



Figure 1. High-need adults make more emergency visits than the average.