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# Moving toward implementation: The potential for accountable care organizations and private–public partnerships to advance active neighborhood design



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#### ABSTRACT

The 2010 Affordable Care Act's (ACA) aims of lowering costs and improving quality of care will renew focus on preventive health strategies. This coincides with a trend in medicine to reconsider population health approaches as part of the standard curriculum. This intersection of new policy and educational climates presents a unique opportunity to reconsider traditional healthcare structures. This paper introduces and advances an alignment that few have considered. We propose that accountable care organizations (ACOs), which are expected to proliferate under the ACA, present the best opportunity to establish partnerships between healthcare, public health, and community-based organizations to achieve the legislation's goals. One example is encouraging daily physical activity via built environment interventions and programs, which is recommended by numerous groups. We highlight how nonprofit organizations in Sacramento, California have been able to leverage influence, capital, and policy to encourage design for active living, and how their work is coordinating with public health and healthcare initiatives. In conclusion, we critically examine potential barriers to the success of partnerships between ACOs and community organizations and encourage further exploration and evaluation.

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## Introduction

As defined by the American Academy of Family Physicians, an accountable care organization (ACO) is a "group of health care providers who agree to share responsibility for the quality, cost, and coordination of care for a defined population of patients" (American Academy of Family Physicians, 2014). Patients who join an ACO are assured that once they pay their fixed fee, the organization will provide all of the outpatient and inpatient care they need, with all healthcare parties sharing savings (Berwick, 2011; Calman et al., 2012). As the Affordable Care Act (ACA) unfolds, ACOs are expected to proliferate. The model,

which incentivizes health maintenance rather than healthcare provision through a system of reimbursements and penalties, is a logical outgrowth of health reform measures designed to improve patient outcomes and reduce costs.

ACOs now number more than 400, covering four million Medicare enrollees and millions more people with private insurance (Lowrey, 2013). While ACO structures may vary, they are most often anchored by one or multiple hospitals and encompass physician practices. Many have looked to Geisinger Health and Kaiser as longstanding integrated ACO-type models of health care delivery. Some ACOs have also partnered with corporations such as Walgreen's pharmacies (Gamble and Punke, 2013). While early data on ACO model style healthcare shows significant reductions in costly inpatient care, for a nationwide savings of almost \$400 million in 2012, lack of precedent structures has left the model at a crossroads (Muhlestein, 2013; US Department of Health and Human Services, 2014; York et al., 2014). As hospital

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administrators and insurance companies grapple with the new healthcare landscape, we suggest that future ACOs look toward the community development sector, particularly those groups focused on active living, to reinvigorate the model and improve community health outcomes.

## The economics of ACOs

Under the ACA, doctors and hospitals, traditionally paid for healthcare rendered regardless of the outcomes, now face more financial accountability for patients (McClellan et al., 2010). Hospitals with lower readmission rates are eligible for larger reimbursements from the pool; higher subject them to penalty. Medicare has already introduced a version of this reimbursement system under the Medicare Spending Per Beneficiary (MSPB) metric (Chen and Ackerly, 2014). This model is a dramatic departure from traditional fee-for-service medicine, in which physicians and hospitals earn more for seeing more patients and doing more procedures (Shortell et al., 2010).

For the ACA and ACOs to be successful, they will have to focus primarily on preventive care for chronic disease, which now accounts for 75% of the nation's healthcare spending (Robert Wood Johnson Foundation, 2014). For example, a consumer with chronic obstructive pulmonary disease can reduce his or her risk of pneumonia if he or she is supported in efforts to quit smoking and start an exercise regimen. However, patients require support outside the doctor's office for successful outcomes, particularly when it comes to changing lifestyle behaviors. Practitioners can look to some non-ACO integrated models as precedent and for proven results. In 2013, Kaiser Permanente was able to reduce the average days per beneficiary in post-acute facilities to 30% of the days Medicare would normally pay for by emphasizing preventive care upfront, aided by programs such as a 7-week Self-Management Program for chronic disease patients and their families, developing preventive care apps, and community programs such as the HEAL initiative, discussed in more detail below (Davidson, 2013; Lorig et al., 2001).

## **Expanded realms of health**

The ACA is also strongly enforcing nonprofit hospitals' obligation to provide community benefits, which usually consist of community needs assessments but can also include health improvement activities and support of community-based organizations (CBOs) (Rosenbaum et al., 2013). This comes at a time where urban planning, design, and transportation decisions are increasingly acknowledged as having a tremendous impact on a wide range of public health issues, including air and water quality, traffic safety, mental health, and social justice (Dannenberg et al., 2011; Jackson et al., 2013), although interventions in these arenas are often overlooked by the healthcare sector. ACO structures are in a unique position to bridge between these built environment-focused fields and the healthcare community, as the ACA incentivizes upstream prevention practices (Evans, 2013). As ACOs gain more market share, they will cover wider geographic areas. Community development initiatives to encourage active living such as increasing green spaces, sidewalk and complete street improvements, pedestrian safety measures and tree planting are all types of infrastructural improvements that benefit the population as a whole.

The public health sector has traditionally been underfunded or at worst neglected. Federal dollars funneled into public health programs have in large part been directed toward clinical care of the disadvantaged, not toward population-oriented efforts to prevent disease or promote health (Bovbjerg et al., 2011). To address these issues, Congress ensured that the federal healthcare reform law included public health investments and incentives for a shift in focus. By expanding insurance coverage to more people, the public health sector can focus less on clinical care and more on community-based prevention efforts. Part of the first two years' \$1.25 billion investment will be in the form of grant

awards to demonstrate the effectiveness of varying initiatives to improve diet and physical activity to reduce the incidence of and complications from chronic conditions such as diabetes and heart disease (Bovbjerg et al., 2011). The increasing amount of money dedicated to these initiatives as well as the fundraising power of CBOs, as discussed below, is a yet untapped resource for ACOs.

## Partnering for public health

The Chronic Care Model (Bodenheimer et al., 2002) is a widely utilized framework for integrating different clinical teams to deliver daily care for chronic disease patients. A successful CCM intervention promotes changes in six areas: self-management support, decision support, delivery system design, clinical information systems, health care organization, and community resources (Coleman et al., 2009). Changes to neighborhood infrastructure and programs to promote active design not only fall in the community resources sector, but also assist with decision support. The newness of ACO structures can be beneficial in forming partnerships between health organizations and community organizations, recognizing that there are often geographic overlaps between high areas of need for both health and development (Berwick, 2011). Alignments of public health departments with local government planning agencies, CBOs, and private sector organizations will be key for public health and ACO personnel to learn about managing and making tradeoffs, while the private sector can learn to appreciate the importance of public health and its relevance for their professional goals (Bovbjerg et al., 2011).

We see a great potential for the ACA and ACOs to stimulate health innovations in the realm of active living. While this is an area heretofore unexplored by these initiatives, we suggest that they look to the following three examples to expand their scope, which remains somewhat narrow.

- 1) CBO and Public Health partnerships: Acting on research on the role of walkable neighborhoods on physical activity and health (Ewing et al., 2003; Frank, 2006; Heath et al., 2006; Let's Move, 2010; Mozaffarian et al., 2012; The National Physical Activity Plan Alliance, 2010), Sacramento County's public health and community development departments, along with the air quality district, park departments, private sector and several non-profits have partnered to implement healthy design initiatives. Design 4 Active Sacramento (D4AS), a cross-sector CBO composed of planners, designers, engineers, public health officials, and medical professionals, has implemented healthy design standards into the county's planning policies, development codes, and design guidelines. Sacramento County's public health officer, a member of D4AS, engaged with 18 recreation and park agencies for a "park prescriptions" program, in which residents are given written prescriptions to spend 30 min five days a week in local parks walking or participating in an activity of their choice. The public health department's partnership with the Sierra Sacramento Valley Medical Society has led to "Walk with a Doc" events, where physicians give short health talks in different park locations, and lead groups on strolls (Sierra Sacramento Valley Medical Society, 2014). Another CBO, WALKSacramento works to build awareness of safe and walkable design, reviews plans, and runs Safe Routes to School programs (WALKSacramento, 2014).
- 2) Broader interpretations of the Community Benefit Initiative: In South Sacramento, Kaiser Permanente funded a three-year Healthy Eating Active Living (HEAL) Zone initiative in a low-income neighborhood near their hospital. HEAL is coordinated by the CBO Health Education Council and has numerous partners including WALKSacramento, and the City and County of Sacramento. It is funded by Kaiser's own Community Benefit Initiative. While hard data has been difficult to compile due to the nature of the interventions, qualitative follow-up has shown improvements in increased

- exercise in youth, access to healthy foods, and more walkable neighborhoods (Cheadle et al., 2010).
- 3) The Accountable Care Community: The accountable care community (ACC) is an alternative model which concentrates on geographic as opposed to beneficiary communities. Funded as part of CMS Center for Medicare and Medicaid Innovations (CMMI) grants, ACCs engage a broader group of stakeholders across multiple sectors, and focus on generating returns from secondary prevention that can be reinvested via health and wellness trusts and primary prevention. The model influences the spectrum of health determinants, both physical and social, as well as inventories local assets and resources (Hester and Stange, 2014; Trust For America's Health, 2013). The Austen Bioinnovation Institute in Akron (2012) has also laid out a number of metrics to measure success, including community participation, burden of disease, and care coordination which could be utilized to get data on future initiatives. A Massachusetts ACC is already looking at investments in active community environments as a complement to a focus on improving care coordination (Kaiser Permanente Community Benefit, 2014).

## Increasing funding and evidence to come

Community development leaders not only bring local knowledge but are also experienced in attracting capital. The Robert Wood Johnson Foundation and the Federal Reserve have dedicated large funding streams solely to research and initiatives for improving health via the built environment (Braunstein and Lavizzo-Mourey, 2011). The California Endowment has a \$10 million, 10-year investment in a "Building Healthy Communities" program in several communities around the state (The California Endowment, 2014). Funding from California's Cap and Trade program can be leveraged to implement strategies from community needs assessments for health access and active design improvements, particularly in communities with the greatest health disparities. As these organizations start to report back on the results of this funding, and their health partners contribute expertise in evidence-based interventions and outcome measurement, the growing body of empirical evidence and continued funding streams will make them increasingly appealing partners to ACOs.

#### **Potential barriers**

Should ACOs widen their scope to include public health and community development, there will be barriers. Hospitals and physician practices are still somewhat inexperienced with population health and community wellness programs (Raff, 2013), as medical schools have focused more on hospital-based care and scientific research from the 19th century, and isolated public health as separate discipline. The definition of "population health" is still unclear in terms of its relationship to ACOs. The ACA uses the term "population" to refer to diagnosis subgroups within an ACO's patient panel, while public health uses the term to refer to all residents of a geographic area. (Hacker and Walker, 2013). This may limit the activities the ACO is willing to undertake if the immediate goal is to realize short-term cost savings within the specific population. Moreover, because health plan membership changes over time, some ACO leadership may feel that it is not cost-effective to invest in longer-term behavior change strategies (Kaiser Permanente Community Benefit, 2014).

However, it is ultimately in the interest of ACOs to support community-wide change that promotes active living; the healthier the general population, the more cost-effective the ACO's care delivery system and the more affordable health insurance products will be overall. As ACOs look at the potential of active living centered initiatives, they will also have to become more familiar with the languages of other fields, even further beyond public health. Successful active living interventions require an ecological approach, requiring changes to policy, infrastructure, and health promotion which will benefit not only

present populations but future ones as well (Kaiser Permanente Community Benefit, 2014; Sallis et al., 2006). ACOs must come to recognize that healthy patients require healthy places.

#### **Conclusions**

The development of relationships between the public health sector, ACOs, and community groups will likely develop incrementally. As ACOs increasingly take on specific projects to improve population health, these cross-sector collaborations will provide precedent models, but only if outcomes data are rigorously evaluated and widely published in order to improve services and establish best practices.

These alignments will evolve over time, as the roles of each stakeholder come into clearer focus. Further payment reforms to value quality over volume, engage patients in their own care, and keep people healthy will be required, but momentum is building. The current climate of health care economics is excellent for incentivizing collaborations across all sectors and health care for the benefit of both people and places.

#### Conflict of interest statement

Some co-authors of this paper are affiliated with the non-profit organization, WALKSacramento, mentioned in this paper as examples of community based organizations focused on encouraging active living. No personal or financial gain has occurred, nor has it influenced this work. This paper is not evaluating the effectiveness of WALKSacramento nor does it promote it for financial gain. Co-authors Edie E. Zusman, Sara Jensen Carr, Judy Robinson, Olivia Kasirye, Teri Duarte, Adrian Engel, Monica Hernandez, and Mark Horton are members of Design 4 Active Sacramento (D4AS), which is volunteer advisory council as part of WALKSacramento. Co-author Teri Duarte is the executive director of WALKSacramento and co-author Adrian Engel is on the Board of Directors of WALKSacramento.

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## References

American Academy Of Family Physicians, 2014. Accountable care organizations. [Homepage of American Academy of Family Physicians], [Online]. Available: http://www.aafp.org/practice-management/payment/acos.html (last update, [3/17, 2014]).

Austen Bioinnovation Institute In Akron, 2012. Healthier by Design: Creating Accountable Care Communities A Framework for Engagement and Sustainability. ABIA, Akron, Ohio, (Available: http://www.abiakron.org/Data/Sites/1/pdf/accwhitepaper12012v5final.pdf).

Berwick, D.M., 2011. Launching accountable care organizations—the proposed rule for the Medicare Shared Savings Program. N. Engl. J. Med. 364 (16).

Bodenheimer, T., Wagner, E., Grumbach, K., 2002. Improving primary care for patients with chronic illness: the chronic care model. J. Am. Med. Assoc. 288, 1775–1779.

Bovbjerg, R.R., Ormond, B.A., Waidmann, T.A., 2011. What Directions for Public Health under the Affordable Care Act? The Urban Institute, (2014).

Braunstein, S., Lavizzo-Mourey, R., 2011. How the health and community development sectors are combining forces to improve health and well-being. Health Aff. 30 (11), 2042, 2051

Calman, N.S., Hauser, D., Chokshi, D.A., 2012. "Lost to Follow-up": the public health goals of accountable care. Arch. Intern. Med. 172 (7), 584–586.

Cheadle, A., Schwartz, P.M., Rauzon, S., Beery, W.L., Gee, S., Solomon, L., 2010. The Kaiser Permanente Community Health Initiative: overview and evaluation design. Am. J. Public Health 100 (11), 2111–2113.

Chen, C., Ackerly, D.C., 2014. Beyond ACOs and bundled payments: Medicare's shift toward accountability in fee-for-service. J. Am. Med. Assoc. 311 (7), 673–674.

Coleman, K., Austin, B.T., Brach, C., Wagner, E.H., 2009. Evidence on the chronic care model in the new millennium. Health Aff. 28 (1), 75–85.

Dannenberg, A.L., Frumkin, H., Jackson, R., 2011. Making Healthy Places: Designing and Building for Health, Well-being, and Sustainability. Island Press, Washington, D.C.

Davidson, A., 2013. The President Wants You to Get Rich on Obamacare. *The New York Times Magazine*.

Evans, M., 2013. Helping people change their behavior 'is the work of our century': providers employ strategic interventions with hopes of getting the chronically ill to make healthier lifestyle choices. Mod. Healthc. 43 (47), 18.

Ewing, R., Schmid, T., Killingsworth, R., Zlot, A., Raudenbush, S., 2003. Relationship between urban sprawl and physical activity, obesity, and morbidity. Am. J. Health Promot. 18 (1).

- Frank, L.D., 2006. Many pathways from land use to health: associations between neighborhood walkability and active transportation, body mass index, and air quality. J. Am. Plan. Assoc. 72 (1), 75–87.
- Gamble, M., Punke, H., 2013. 100 accountable care organizations to know. [Homepage of Becker's Hospital Review], [Online]. Available: http://www.beckershospitalreview. com/lists/100-accountable-care-organizations-to-know.html (August 14, 2013-last undate 12014 line 201)
- Hacker, K., Walker, D.K., 2013. Achieving population health in accountable care organizations. Am. J. Public Health 103 (7), 1163–1167.
   Heath, G.W., Brownson, R.C., Kruger, J., et al., 2006. The effectiveness of urban design and
- Heath, G.W., Brownson, R.C., Kruger, J., et al., 2006. The effectiveness of urban design and land use and transport policies and practices to increase physical activity: a systematic review. J. Phys. Act. Health 3, \$55–\$76.
- Hester, J.A., Stange, P.V., 2014. A sustainable financial model for community health systems. Institute of Medicine, Washington, DC, (March 6 2014-last update, [Online]. Available: http://www.iom.edu/Global/Perspectives/2014/SustainableFinancialModel).
- Jackson, R., Dannenberg, A., Frumkin, H., 2013. Health and the built environment: 10 years after. Am. J. Public Health 103 (9), 1542–1544.
- Kaiser Permanente Community Benefit, 2014. (Brown, E. Ellen.G.Brown@kp.org) (28th July 2014). Email to: Robinson, J. (Robinsonju@saccounty.net).
- Let's Move, 2010. White House Task Force on Childhood Obesity Report to the President. [Homepage of Let's Move], [Online]. Available: http://www.letsmove.gov/white-house-task-force-childhood-obesity-report-president (May 2010-last update, [2014, 5/2]).
- Lorig, K.R., Sobel, D.S., Ritter, P.L., Laurent, D., Hobbs, M., 2001. Effect of a self-management program on patients with chronic disease. Eff. Clin. Pract. 4 (6), 256–262.
- Lowrey, A., 2013. A Health Provider Strives to Keep Hospital Beds Empty. *New York Times*, A1.
- McClellan, M., Mckethan, A.N., Lewis, J.L., Roski, J., Fisher, E.S., 2010. A national strategy to put accountable care into practice. Health Aff. 29 (5), 982–990.
- Mozaffarian, D., Afshin, A., Benowitz, N.L., et al., 2012. Population approaches to improve diet, physical activity, and smoking habits: a scientific statement from the American Heart Association. Circulation 126 (12), 1514–1563.
- Muhlestein, D., 2013. Why has ACO growth slowed?. [Homepage of Health Affairs Blog], [Online]. Available: http://healthaffairs.org/blog/2013/10/31/why-has-aco-growth-slowed/ (October 31, 2013-last update, [2014, June 20, 2014]).
- Raff, L.G., 2013. ACO coalitions key to population wellness. [Homepage of Becker's Hospital Review], [Online]. Available: http://www.beckershospitalreview.com/hospitalphysician-relationships/aco-coalitions-key-to-population-wellness.html (3/18, last update, [3/18, 2014]).

- Robert Wood Johnson Foundation, 2014. Prevention saves lives. [Online]. Available: http://www.rwjf.org/en/topics/rwjf-topic-areas/prevention.html (last update, [3/17, 2014])
- Rosenbaum, S., Rieke, A., Byrnes, M., 2013. Hospital community benefit expenditures: looking behind the numbers. [Homepage of, Health Affairs Blog], [Online]. Available: http://healthaffairs.org/blog/2013/06/11/hospital-community-benefit-expenditures-looking-behind-the-numbers/ (June 11 2013-last update, [2014, June 20 2014]).
- Sallis, J.F., Cervero, R.B., Ascher, W., Henderson, K.A., Kraft, M.K., Kerr, J., 2006. An ecological approach to creating active living communities. Annu. Rev. Public Health 27, 297–322
- Shortell, S.M., Casalino, L.P., Fisher, E.S., 2010. How the center for Medicare and Medicaid innovation should test accountable care organizations. Health Aff. 29 (7), 1293–1298.
- Sierra Sacramento Valley Medical Society, 2014. Programs: walk with a doc. [Online] Available: http://www.ssvms.org/Programs/WalkWithADoc.aspx (last update, [3/18, 2014]).
- The California Endowment, 2014. Building healthy communities. [Online] Available: http://www.calendow.org/communities/building-healthy-communities/ (last update, [3/18, 2014]).
- The National Physical Activity Plan Alliance, 2010. The U.S. National Physical Activity Plan: Land Use, Transportation, and Community Design. [Homepage of The U.S. National Physical Activity Plan], [Online]. Available: http://www.physicalactivityplan.org/transportation.php (2014, 5/2).
- Trust For America's Health, 2013. Twin pillars of transforming a sick care system to a health system: delivery system redesign and paying for prevention—draft background paper for July 24th, 2013 meeting. [Online]. Available: http://healthyamericans.org/health-issues/wp-content/uploads/2013/07/Twin-Pillers-Background-Paper-Draft.pdf (July 2013-last update).
- US Department Of Health And Human Services, 2014. Medicare's delivery system reform initiatives achieve significant savings and quality improvements—off to a strong start. Available: http://www.hhs.gov/news/press/2014pres/01/20140130a.html (January 30, 2014-last update, [2014, June 20]).
- Walksacramento, 2014. Our work. [Online] Available: http://www.walksacramento.org/ our-work/ (last update, [3/18, 2014]).
- York, R., Kaufman, K., Grube, M., 2014. Where have all the inpatients gone? A regional study with national implications. [Homepage of, Health Affairs Blog], [Online]. Available: http://healthaffairs.org/blog/2014/01/06/where-have-all-the-inpatients-gone-a-regional-study-with-national-implications/ (January 6, 2014-last update, [2014, June 20]).