Institute for Healthcare Improvement

Innovation Wave 47 - Summary Report
Understanding the flow of money from health care to other social determinants of health and potential opportunities for impact.
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Intent and Aim
Understand where money presently flows both qualitatively and quantitatively from health care to social support. By understanding this better, we hope to find out where and how we could improve the use of this money and increase the flow of it to address other Social Determinants of Health (SDoH) needs. By studying the money flow, we hope to find the mechanisms and characterize them in detail in order to figure out where the potential is, so that we can 'pave the paths' that work best already and develop the ones that don't exist yet. Our goal is to identify how to best use funds to increase value, and how to make the case to increase funds if that's appropriate.

Background
The United States has, in the past, focused on improving the health care delivery system as the key to improving health outcomes, although medical care is a small contributing factor to the overall health status of a population, and interventions outside of the healthcare system are likely to have a larger effect on reducing illness and disparities. (Williams 2008) Additionally, researchers have found that higher social spending correlated with better health outcomes. (Bradley 2016) For decades, health experts have recognized the decisive influence of social and environmental factors on people's health, especially among poor and disadvantaged populations. A literature review by Taylor (2016) summarized peer-reviewed literature that examined the impact of investments in social services or investments in integrated models of health care and social services on health outcomes and health care spending. The review showed that, "100% of the studies evaluating income support programs, 88% of the care coordination and community outreach interventions, 83% of the housing support programs, and 64% of the nutritional support programs evaluated had statistically significant, positive effects on health outcomes alone or on both health outcomes and health care spending."(Taylor 2016) In recent years, health systems have become increasingly aware that addressing social determinants of health is critical to advancing population health, improving the quality of care, and reducing the cost of care.

The World Health Organization (WHO) describes social determinants of health as "conditions in which people are born, grow, work, live, and age and the wider set of forces and systems shaping the conditions of daily life." Health People 2020 highlights five key areas of SDoH: economic stability, education, social and community context, health and health care, and neighborhood and built environment. Within these five determinants are key underlying issues.

Methods
This work consisted of a systematic literature review, scanning healthcare journals and leading healthcare magazines to identify the current state of mechanisms where money is invested from healthcare to social support. We will identify the 4-5 primary, high leverage mechanisms that will allow

this opportunity to flourish. Based on scanning journals and articles and conducting interviews, we have gathered some understanding of these mechanisms.

Results

Table 1: Funding Mechanisms of Money in Healthcare

Example of funding	Total amount of money in this sector (Billion)	Estimate that is applied toward social determinants outside of healthcare provision (Billion)	What is the trend over time: stable, shrinking or growing
1.Community Benefit	$ 77.44	$ 4.65	Growing
2. ACO			
Commercial	$114.09	↑	Growing
Medicare	$115.35	↑	Growing
Medicaid	$24.94	↑	Growing
3.Medicare Advantage	$192.68	↑	Stable
--HMO (63%)	$121.39	↑	Stable
--Local PPO (26%) + Regional PPO (7%) ((33%))	$63.58	↑	Stable
---PFFS (1%)	$1.93	↑	Stable
--Other (3%)	$5.78	↑	Stable
4. Medicaid Managed Care & Health Plans	$252.65	↑	Growing
-- Medicaid Managed Care Organizations (MCO)	$236.03	↑	Growing
--Others	$16.62	↑	Growing
5.Dual Eligible (Medicaid and Medicare)	$168.57	↑	Stable

*** Note: "↑" Shows there is qualitative knowledge about investment, but we don't have any specific details of an amount in that sector. All we can extrapolate is that there is money being applied toward social determinants outside of healthcare provision.

Description of Work to Date: In the following pages we will describe the results of the above table in detail.

Community Benefit:
Community benefit is expenditure of nonprofit hospitals to improve the health of the community and is used to obtain and retain tax-exempt status. Community benefit covers a full range of services and activities provided by nonprofit hospitals that address the cause and impact of health-related needs. Provisions of the Affordable Care Act (ACA) encouraged tax-exempt hospitals to invest broadly in community health benefits. Four years after the ACA's enactment, hospitals had increased their average spending for all community benefits by 0.5 percentage point, from 7.6 percent of their operating expenses in 2010 to 8.1 percent in 2014. (Young 2018). We used 8.1 percent as our baseline line for this work with nothing in the literature showing any additional increase. The ACA was expected to have important implications for community benefit spending by tax-exempt hospitals. The law promoted population health by emphasizing disease prevention for local communities (sections 4001 and 4002). The ACA also required tax-exempt hospitals to conduct community health needs assessments every three years (section 9007). Policymakers and community leaders had hoped that by conducting the assessments, hospitals would be encouraged to increase their spending on broad community health initiatives, whether this spending was in the form of hospital-directed health improvement initiatives or contributions to community groups.

Recent research has drawn attention to community benefit spending by hospitals. In a 2015 report to Congress, the IRS indicated that private tax-exempt hospitals reported net expenditures of $62.4 billion on community benefit activities in 2011. (Rosenbaum 2016) In this wave, we looked at the $62.4 billion and adjusted to get a current estimate based on 24.1% growth from 2011. This brought us to $77.44 billion when based on the latest 2016 CMS National Health Expenditure data. (Young 2018)

There are seven types of benefits including patient care benefits (charity care, unreimbursed costs for means-tested government programs, and subsidized health services) community health benefits (direct spending on community health and contributions to community groups) research and health professional education. The majority of community benefit is spent on charity care and unreimbursed cost for means-tested government programs. Based on this research, we were able to see that from 2010 to 2014 there has been no change in direct community health benefits. We saw ~4% being spent on direct spending on community health and ~2 in contributions to community groups, bringing a total of ~6% being spent on community health benefits. (Young 2018) Community Benefit spending has remained relatively steady as a proportion of total operating expenses and so has increased in real dollars over time—although charity care and means-tested care remain the major focus of Community Benefit spending overall. (Leider 2017)

Accountable Care Organizations:
Our approach used Q1 2017 data from Leavitt Partners Center for Accountable Care Intelligence to estimate a more granular analysis of the types of contracts, with a breakdown of lives covered under commercial, Medicaid, and Medicare contracts. This gave us the estimates of 18.7 (mill) in commercial,

9.5 (mill) in Medicare, and 3.9 (mill) in Medicaid. One thing that was surprising was even though the Medicare Shared Savings Program (MSSP) receives the most attention; commercial contracts tend to be larger. They collectively represent a larger portion of ACO lives, and also continue to grow significantly.

After knowing the number of lives per type of contract, we used Kaiser Family Foundation (KFF) data to get a rough idea of how much money on average is spent on each enrollee type. The results were $10,986 per Medicare spending; $6,396 per Medicaid spending; and $6,101 per Commercial enrollee premium. The Medicare and Medicaid spending are based on 2014 data while the Commercial spending is based on 2016 data.

As currently structured, however, most ACOs contain a serious flaw: Although there is now significant evidence of the value of investment in certain social service interventions, the vast majority of ACO financing structures, including most of those promoted by the Centers for Medicare and Medicaid Services (CMS) and state Medicaid programs, do not include the largest drivers of health: social, environmental, and community factors. Predominantly, ACO models focus entirely on traditional health care services, even though these services only contribute a small proportion of an individual's health. (Romm 2017) As the ACO model has expanded, the government has not explicitly encouraged ACO's to address SDoH.

Although we were not able to find specific data on what whether ACO's are shifting money from healthcare to social care, we found a study by Fraze (2016) which conducted qualitative research with leaders and managers of ACOs to understand clinical transformation activities. They found that the nonmedical needs most commonly addressed by ACOs were the needs for transportation, housing and food insecurity. ACOs identified nonmedical needs through processes that were part of the primary care visit or care transformation programs. Approaches to meeting patients' nonmedical needs were either individualized solutions (developed patient by patient) or targeted approaches (programs developed to address specific needs). (Fraze 2016)

ACOs addressed transportation need in different ways. Some ACOs collaborated with transportation companies; others relied on public transportation systems; and still others designed new programs. How an ACO met patients' transportation needs varied based on the area's geographic characteristics, such as its degree of urbanicity, and its transit infrastructure. To provide emergency and short- and long-term housing needs, ACOs most commonly developed partnerships or other relationships with external housing agencies. ACOs also frequently worked with public health agencies and sometimes with other community agencies. Some ACOs offered assistance for patients to access public programs such as the Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps) by determining patients' eligibility and helping them enroll. Some ACOs partnered with local food banks since these organizations were already a common resource for the ACOs' patients. (Fraze 2016) ACO's are still in the process of addressing SDoH, and although many ACO's have taken the lead in building collaboration to address community needs, many others are still in the early process of any investment in SDoH.

Many ACO's are trying to move forward to fully integrate both organizational activities and services to address the SDOH. The ACO's that appear to be moving in this direction have started by partnering with other types of providers and services such as public health agencies, community health resources, and social service agencies so they could provide better patient care.

Medicare Advantage

We used the Medicare Enrollment Dashboard which includes counts of Medicare beneficiaries with hospital/medical and prescription drug coverage, for all states/territories and the entire country. The data reported in the dashboard are based upon Center for Medicare and Medicaid Services (CMS) administrative enrollment data for beneficiaries enrolled in the Medicare program. At the time of this research, we used Nov 2017 data which put Medicare beneficiaries at ~59 Million (58,930,890). Using research from KFF, we know that the majority of the 59 million people on Medicare are covered by traditional Medicare, with one-third (33%) enrolled in a Medicare Advantage plan. Breaking down the Medicare Advantage (MA) plans even further, out of the 33% you have HMOs and Local PPOs that contract with provider networks to deliver Medicare benefits. HMOs accounted for the majority (63%) of total Medicare Advantage enrollment in 2017; local PPOs, accounted for 26% of all Medicare Advantage enrollees.

Regional PPOs were established to provide rural beneficiaries greater access to Medicare Advantage plans and cover entire statewide or multi-state regions. Regional PPOs accounted for 7% of all Medicare Advantage enrollees in 2017. For this study, we included Other Plan Types which account for a total of 4%. The Other plans include Medicare contracts with insurers to offer other types of plans, although enrollment in these other plan types is relatively low. Private Fee-for-Service (PFFS) plans account for 1% of all enrollees. Additional beneficiaries are enrolled in cost plans, PACE plans, medical savings accounts, demonstrations, and pilots that together account for 3% of private plan enrollment. Using the MedPac 2017 Medicare Report to the Congress, we were able to estimate the annual MA plan per enrollee cost at $9,896 based on 2015 data.

There were no clear mechanisms by which MA was used to address “social determinants of health” (“SDOH”). Just recently, the Centers for Medicare & Medicaid Services (“CMS”) finalized guidance and policies for the Medicare Advantage program that will expand the supplemental benefits afforded to beneficiaries to include items and services that address certain (“SDOH”). Previously, CMS did not allow an item or service to be eligible as a supplemental benefit if the primary purpose was for daily maintenance. CMS’ reinterpretation of the statute to expand the scope of the primarily health-related supplemental benefit standard is an important step in encouraging value-based care. In the next year, it will be interesting to see how MA plans utilize the new interpretation of the rule to address SDOH.

Managed Medicaid

Managed Care is a healthcare delivery system organized to manage cost, utilization, and quality. Medicaid managed care provides for the delivery of Medicaid health benefits and additional services through contracted arrangements between state Medicaid agencies and managed care organizations (MCOs) that accept a set per member per month (capitation) payment for these services. We started examining Managed Medicaid by looking at the total cost of Medicaid which is ~553 billion based on FY 2016. Out of the total Medicaid spending, $252.62 (billion) is spent on Managed Care & Health Plans based on KFF Data (FY 2016). Out of $252.62 billion, $236.03 billion is spent on MCOs and $16.62 billion on other.

Early this year, the National Quality Forum (NQF) called on state Medicaid programs to work more with healthcare organizations and communities to better manage social disparities. Medicaid programs are "uniquely suited" to lead the charge on addressing social determinants of health because they serve 74 million beneficiaries across the U.S., many of whom would benefit from services like housing, nutrition,

and transportation. Many Medicaid programs are already working on addressing social needs through 1115 waivers. (Castellucci 2018) Section 1115 Medicaid demonstration waivers provide states an avenue to test new approaches in Medicaid that differ from federal program rules. While there is great diversity in how states have used waivers over time, waivers generally reflect priorities identified by states and the Centers for Medicare and Medicaid Services (CMS). It is difficult to track individual financial efforts, but one thing that is clear is that more states are utilizing waivers to put more money into these programs. Below were some examples of 1115 waivers:

- **Oregon's** 1115 demonstration waiver required the creation of Coordinated Care Organizations (CCOs), which in turn were required to train at least 300 community health workers across the state. The goal has already been reached, reflecting that CCOs have found significant value in using community health workers to connect beneficiaries to social services. Often residing in the same areas as the beneficiaries that they serve, the workers use this first-hand knowledge of the community to connect beneficiaries to social support services.
- **Colorado** has established regional organizations, known as Regional Care Collaborative Organizations (RCCOs) that are charged with coordinating and improving care for the majority of Medicaid beneficiaries in the state. RCCOs are paid a per member per month (PMPM) fee for the care management and coordination services and primary care practice transformation. RCCO responsibilities include helping beneficiaries navigate their various appointments and medication reconciliation, as well as referring beneficiaries to social service programs and working with local agencies to address food deserts and other community issues. The state links a share of the PMPM payments to a RCCO's ability to meet key performance indicators (e.g., level of patient engagement, well-child visits, postpartum visits, and emergency department utilization).
- In 2015, **Michigan** updated its Medicaid managed care contract to require MCOs to use community health workers or peer specialists to serve enrollees with significant behavioral health issues or complex physical comorbidities. The activities they are expected to engage in include arranging for "social services (such as housing and heating assistance) and surrounding support services." The MCOs will be required to maintain a ratio of one community health worker per 20,000 enrollees.
- **Maine** first implemented a Health Home in 2013 targeting beneficiaries statewide with a variety of chronic illnesses. In 2014, the state implemented an additional Health Home State Plan Option targeting adults with serious mental illnesses and children with serious emotional disturbances. Primary care practices are the foundation of the Health Home provider teams and provide basic care coordination, case management, and family supports for enrolled beneficiaries. However, depending on the severity and type of diagnosis, Health Home beneficiaries may also receive care from community mental health providers or Community Care Teams (CCTs). CCTs are locally based care managers who provide more intensive care management for high-needs patients (generally determined to be the highest utilizing or most costly patients). As discussed previously, the state received 90% federal match funding for Health Home services for the first eight quarters of each Health Home SPA.

- **California** covers targeted case management in specific counties for Medicaid beneficiaries deemed to be in jeopardy of negative health or psychosocial outcomes. Qualifying circumstances include having a history of family violence or sexual abuse, being illiterate, or experiencing unstable housing. The state does not require the care managers delivering this service to have a college degree, as long as they have completed an approved training program and have significant relevant experience.

Dual Eligible (Medicaid and Medicare)

About 9 million people in the United States are covered by both Medicare and Medicaid, including low-income seniors and younger people with disabilities. These dual eligible beneficiaries have complex and often costly health care needs and have been the focus of many recent initiatives and proposals to improve the coordination of their care aimed at both raising the quality of their care while reducing its costs. (KFF) To get $168.57 billion we used KFF FY 2011 data which has Medicaid Spending per Dual Eligible per Year at $16,094. Medicare-covered services also covered by Medicaid are paid first by Medicare because Medicaid is generally the payer of last resort. Medicaid may cover the cost of care that Medicare may not cover or may partially cover (such as nursing home care, personal care, and home- and community-based services). The options for dual eligible individuals to receive their Medicare and Medicaid benefits vary by State. In some States, dual eligible individuals receive Medicaid through Medicaid managed care plans, and in other states, Medicaid coverage may be Fee-For-Service. In some States, certain dual eligible individuals can join plans that include all Medicare and Medicaid benefits. (CMS 2018) From there we looked up the total number of persons that are under duel eligible which is 9,972, 300 using (KFF) FY 2011 data. This gave us the overall $168,571,759,200 in total spending (using per year*total enrollee's). Note that some of this money is included in the overall totals of Medicaid and Medicare. The same strategies of investing in SDoH apply with dual eligible.

High Areas of Investment into SDoH

We decided to take a different approach to looking into mechanisms of money flow due to not being able to find concrete numbers in our earlier work. Instead, we tried to look at the topic areas that healthcare is investing in to see if we could find examples of money flow based on activity based payment model. Social factors, like access to healthy food, stable housing, and reliable transportation have been recurring themes throughout researching healthcare mechanisms of money being invested in SDoH.

Table 2: SDoH Topic Areas related to

	Medicaid (Billion)	Medicare (Billion)	Total (Billion)
Transportation	1.5	1.2	2.7
Housing	-	-	3.8
Food	-	-	↑

*** Note: "↑" Shows there is qualitative knowledge about investment, but we don't have any specific details of an amount in that sector. All we can extrapolate is that there is money being applied toward social determinants outside of healthcare provision.

Transportation: Transportation issues shouldn't prevent anyone from getting to or from a doctor's appointment, but they do for an estimated 3.6 million Americans. Some of these individuals don't have cars or access to public transportation. Others can't afford taxis or Ubers. Not being able to afford a ride is an enormous hidden cost for patients, caregivers, providers, insurers, and taxpayers. Missed appointments and the resulting delays in care cost our health system an extra $150 billion each year. (Cronk 2016)

CMS programs spend nearly $3 billion per year nationwide on non-emergency medical transportation (NEMT). It is intended to help low-income, and disabled individuals get to and from their appointments. Medicaid/Medicare contracts with different brokers from state to state, sometimes county to county, and these brokers subcontract rides to hundreds of local transportation companies. The total spend is about $2.7 billion for NEMT with the Medicaid covering $1.5 million and Medicare covering $1.2 million. (GAO 2016)

Housing: Housing instability is an umbrella term for the continuum between homelessness and a stable, secure housing situation. Housing instability takes many forms: physical conditions like poor sanitation, heating, and cooling; compromised structural integrity; exposure to allergens or pests; homelessness; and unstable access to housing or severe rent burden. Some recent estimates highlight the scope of housing instability in the United States. The Corporation for Supportive Housing (CSH), a national lender and promoter of housing development for homeless people, says hospitals put $75 million to $100 million into projects it has embraced over the past three years. Below are some examples of a few hospital health systems that are investing in housing:

- Kaiser Permanente: $200 million
- Oregon 5 hospital system: $21.5 million
- Northern California, Sutter Health: $30 million

Given the enormous impacts of housing, income and other social determinants of health, health providers realize they can no longer expect to heal patients through medical treatments alone. Since the broad consensus is that individuals' social needs are central to health and well-being, hospitals and health systems are getting involved in these types of interventions, either alone or in partnership with community organizations. We reached out to CSH to get a rough estimate of hospitals they have worked with over the years. During the interview with CSH, they mentioned they are currently working with 19 hospitals across the country and have a record of working with a total of 43 hospitals over the past three years. Note that the focus of CSH is supportive housing, often with the intent of housing the chronically homeless. The hospitals they have worked with over the past three years have each invested between $75 and$100 million in their projects. We know this is not an exhaustive list of hospital investment across the country, but it is a figure we can work with to get an estimate. This would mean that the hospitals CSH is working with are investing between $3.3 billion and $4.3 billion (average of $3.8 billion). From the interview, we were not able to track how hospitals were paying for these projects. Each hospital has used various revenue that might include community benefit funds, strategic foundation partnerships, and grants. CSH said many of the hospitals they have partnered with are utilizing 1115 waivers and Medicaid to do pilot demonstrations around housing.

States recognize that supportive housing directed at the right population can reduce Medicaid spending. They also recognize that supportive housing services need to be financed in a way that is more

sustainable than short-term government and philanthropic grants. Therefore, states, localities and health services payers such as managed care organizations are experimenting with ways to more comprehensively finance outreach and engagement, tenancy supports and general case management. (CSH 2016)

Food Insecurity: In 2014, food insecurity affected approximately 49 million Americans in 17.4 million U.S. households or 14 percent of the population. A growing body of evidence links food insecurity—limited or uncertain access to adequate food (Coleman-Jensen et al. 2015)—with common, costly, and preventable chronic conditions, including obesity, hypertension, and type 2 diabetes. The relationship between food insecurity and chronic disease is likely bidirectional: Poor health may make it harder to work, leading to lower income and increased risk of food insecurity; conversely, food insecurity may incentivize purchases of cheaper but less healthy foods, or trade-offs of medications and healthcare to purchase food, leading to chronic disease, poor mental health, and poorer disease self-management. (Berkowitz 2018)

Hospitals are investing in interventions beyond their community's physical and medical health needs and identifying socioeconomic factors such as food insecurity as a significant population health issue. However, the stigma associated with being food insecure may prevent households from readily discussing the situation with their health care providers or from seeking benefits and services. Because healthcare providers are trusted by patients for their knowledge and recommendations, encouraging food-insecure individuals and families to seek help may reduce the stigma associated with food insecurity. (HRET 2017) Hospitals and healthcare providers can:

- Screen for food insecurity
- Educate their patients about available federal nutrition programs
- Guide patients and families to local departments of human services during wellness check-ups or visits
- Connect patients and families with dietitians and nutritionists for counseling services
- Provide free food or healthy snacks at clinics' on-site food pantries or hosting summer or year-round feeding programs
- Enlist patients in free onsite education classes
- Promote existing resources such as food trucks, food shelters, food shelves, food pantries, emergency food programs, community kitchens, and more
- Develop on-site food pharmacies, food pantries and community gardens
- Collaborate with existing grocery stores

Although we are not able to get a specific number on investment to combat food insecurity, we have several examples of hospitals and health systems—including Arkansas Children's Hospital, Boston Medical Center, and ProMedica—that are implementing upstream interventions and teaming up with local and national partners. In Massachusetts, Boston Medical Center has been working with Greater Boston Food Bank to operate the Preventive Food Pantry for over 15 years, delivering medically referred food-insecure individuals with enough healthy food to last three or four days. The partnership provides meals for more than 7,000 patients and their families per month, and more than 15,000 pounds of food per week—totalling more than 1 million pounds of food each year. (Aisha 2017)

In addition to partnership, many hospitals are connecting low-income patients with The Supplemental Nutrition Assistance Program (SNAP), which is one such program suitable for addressing food security. The federally-funded program has proven effective in expanding food access for low-income individuals

and shown that food access may be tied to health outcomes, the team posited. SNAP benefits reduced the likelihood for hospitalization by 14 percent and reduced the likelihood of each individual day in the hospital by 10 percent. SNAP benefits cost $70.9 billion in fiscal year 2016 and supplied roughly 44.2 million Americans (14% of the population) with an average of $125.51 for each person per month in food assistance. A study by Samuel (2018) showed forty-two percent of Medicare patients included in the study were eligible for SNAP but were not enrolled for those benefits. Because of the health improvements SNAP can create, the researchers suggested a path forward for both healthcare organizations and health policymakers.

Conclusion and Recommendation

This research confirmed our thinking that money is flowing from health care into various SDoH. We were unable to quantify the total dollars that are being transferred between health care and SDoH. We estimated that $4.65 billion was spent on SDoH through community benefits. We also know that on NEMT, Medicaid and Medicare spent $2.7 billion.

1. We recommend that the amount that hospitals spend on community benefit that directly goes to SDoH be increased. One way to do that would be to eliminate the present policy that counts the shortfall in Medicaid at health systems as part of the community benefit total. There is no policy that counts the shortfall in Medicare as part of community benefit. Some might argue that if this policy is eliminated that health systems might not take Medicaid or try to decrease the numbers that they take. We see that issue as separate and one that should be addressed. We know already that major health systems are not seeing their fair share of Medicaid within their states.

2. Tie community benefit spending closer to the Community Health Needs Assessment Plan.

3. At IHI we should work closely with health systems that are now doing SDoH screening and connecting to understand more about possible money flow between the health systems and systems for social support.

4. ACO, Medicare Advantage and MCO all have the opportunity to invest more in SDoH. The question for them is where is the greatest ROI for their limited investment in SDoH: food, transportation, housing, etc.

5. Increase transparency on hospital investment in SDoH. While hospitals submit a total dollar resource commitment number for community benefit, there is almost never any way to discern how much is being spent on any particular community benefit activity

6. Creating a strategic approach in community benefit efforts: For the most part, we found that hospitals generally submit unfocused narrative reports with little evidence of strategic thinking about what they are trying to accomplish in a measurable way tied to health status improvement.

7. Increased coordination among hospitals and duplication of efforts: Hospitals carrying out community benefit programs in the same geographic areas as their competitors should coordinate efforts or attempt to avoid being redundant.

8. Deeper partnerships between health plans and hospitals in creating incentives for addressing social impact.

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