A Community Framework for Addressing Social Determinants of Oral Health for Low-Income Populations

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In Brief

There is growing recognition that the places where individuals live, learn, work, and play significantly influence their oral health. Addressing these social determinants of health in a community can lead to improved access to care, utilization, and outcomes — reducing the current oral health disparities experienced among low-income and other vulnerable populations. This technical assistance brief describes a framework for assessing and creating partnerships to improve social determinants related to oral health. It draws from work undertaken in a Center for Health Care Strategies learning collaborative, made possible by the DentaQuest Foundation, that supported three organizations in addressing social determinants of oral health in their regions. The brief illustrates how United Way of Central Jersey applied the framework in developing its Parent Promotoras model to improve oral health for low-income children in its service area.

A flourishing body of research illustrates that the way individuals live, learn, work, and play has a significant impact on their overall health outcomes, including oral health. These social determinants of health (SDOH) — including water and air quality; access to healthy food; housing; employment; access to health care; cultural norms; available transportation; and education — are wide and varied in communities across the country. Along with an individual’s biological characteristics, the SDOH can shape risk behaviors, environmental exposures, and access to health care. These social factors most persistently affect those marginalized due to socioeconomic status, race and ethnicity, disability status, geographic location, or some combination of these. It is estimated that differences in social conditions account for more than one third of total annual deaths in the United States.

Over the past several decades, approaches to reducing health disparities have evolved from traditional clinical interventions to reflect the importance of healthy behaviors or “lifestyle,” and more recently to recognize the role that social determinants in the community also play. There is also a growing focus on addressing SDOH through cross-sector partnerships that may engage a range of health care systems and community-based organizations such as housing authorities, nutrition support programs, and others.

With respect to oral health, there is burgeoning evidence that health insurance inequalities, cultural norms, income, limited access to healthy foods, unemployment, and transportation are among the social determinants that have a particular impact on access to oral health care and care-seeking behaviors. Given the interconnectedness of oral and overall health (e.g., dental disease is a risk factor for cardiovascular disease, diabetes, and respiratory problems), strategies to address social determinants related to physical health can be adapted to address oral health.

In mid-2016, the Center for Health Care Strategies (CHCS) led a learning collaborative, funded by the DentaQuest Foundation, that supported three organizations — the Maine Primary Care Association, United Way of Central Jersey (“United Way”), and Youth Empowered Solutions (YES!) — to develop
community-based plans for addressing SDOH with a focus on oral health. This technical assistance brief explores the experiences of this learning collaborative in order to describe how state- and community-based organizations can engage local stakeholders to address the social determinants of oral health. To guide their efforts, the organizations used a framework, drawn from the Centers for Disease Control and Prevention (CDC) and the World Health Organization, that has demonstrated success in addressing the social determinants of overall health. Findings may be useful to state agencies, state or regional organizations, and other stakeholders working to address “upstream” drivers of oral health in their states, regions or communities.

Developing a Plan to Address Social Determinants of Oral Health

Given the complex and nuanced nature of the multiple SDOH linked to oral health in specific communities, addressing them calls for an approach tailored to community needs and engagement of a varied set of partners to support sustained change. Lessons from partnerships to address social determinants of other health issues suggest that success rests heavily on the partnerships’ abilities to engage the community, develop interventions that are community-focused, and disseminate information to build will. A four-step framework for this undertaking centers on:

1. Identifying the social determinants of oral health in a community;
2. Mapping and mobilizing available community resources through partnerships;
3. Selecting approaches to take action; and
4. Evaluating implementation and impact.

Within each step, this brief shares how United Way applied this framework and created the Central Jersey Oral Health Collaboration (CJOHC) to address SDOH related to oral health in its community and achieve sustainable oral health care for low-income children (0-5) and their parents.

Step 1: Identifying the Social Determinants of Oral Health in a Community

Communities can be based on geographic boundaries, race, ethnicity, language, common interests, religion, or any other association. Defining the community by these distinct characteristics points to potential SDOH and can provide guidance to help tailor oral health interventions for maximum impact. It is important to consider all shared characteristics of community members, which include not only their social or cultural ties (e.g., schools, churches) and demographics (e.g., race, age distribution), but also those beyond their community definition (e.g., types of jobs held; access to transportation, etc.). These attributes may suggest community values, critical stakeholders to engage, and organizations with which to forge partnerships.

United Way’s Target Community

At the start of the learning collaborative, United Way identified Middlesex County, NJ, as its target community, with the following characteristics related to SDOH:

- The county is home to Rutgers University and three major hospitals;
- Many large employers have left, reducing the number of mid-level jobs;
- More than 67,000 residents live in poverty;
- There is much racial/ethnic diversity — more than 30 percent of residents were born outside the U.S.; there are large South Asian and Latino populations, and the proportion of non-Hispanic whites is declining; and
- Two mid-sized urban centers have populations characterized by undocumented, Latino residents.
Once the community is defined, a community needs assessment (CNA) can be used to identify SDOH related to oral health. A CNA is a process for collecting and measuring information in order to determine areas of improvement to achieve optimal living conditions. Results from a CNA can help establish an evidence base for the relationship between social determinants and oral health disparities, and highlight areas of need to target with interventions.

There are a few secondary data sources that are helpful for initiating a CNA, including state public health departments, county health rankings, and the CDC’s community health rankings. In particular, Community Commons, an online tool that provides data by state, county, city, zip code or region, may be especially helpful. It provides data in six distinct categories: demographics; social and economic factors; physical environment; clinical care; health behaviors; and health outcomes. Each category has specific indicators relevant to oral health (Exhibit 1). National and statewide data are included for comparison, which may help organizations determine which SDOH may be affecting a community’s oral health status.

**Exhibit 1: Examples of Indicators Potentially Related to Oral Health**

<table>
<thead>
<tr>
<th>Data Category</th>
<th>Community Commons Indicators Relevant to Oral Health</th>
</tr>
</thead>
</table>
| Demographics        | ■ Population with limited English proficiency  
                        ■ Urban and rural population                                                                                   |
| Social and Economic Factors | ■ Per capita income  
                        ■ Population with no high school degree  
                        ■ Unemployment rate  
                        ■ Uninsured adults                                                                                             |
| Physical Environment | ■ Food access — low  
                        ■ Housing vacancy rate  
                        ■ Use of public transportation                                                                                  |
| Clinical Care       | ■ Access to primary care  
                        ■ Access to dentists  
                        ■ Population living in a health professional shortage area                                                        |
| Health Behaviors    | ■ Fruit/vegetable consumption  
                        ■ Tobacco usage — current smokers  
                        ■ Soda expenditures                                                                                             |
| Health Outcomes     | ■ Poor dental health                                                                                               |
Community Commons also provides community-level data on service utilization (e.g., percentage of adults without a dental exam in the past 12 months) and health or oral health outcomes (e.g., percentage of adults with untreated tooth decay, percentage of adults with six or more teeth removed). When exploring sub-populations (e.g., adult Medicaid beneficiaries), data from the state Medicaid agency and its contracted dental plans can provide more specific insights into disparities in access to specific service types (e.g., preventive vs. corrective), and at particular locations (e.g., outpatient clinic, hospital emergency department). Data such as these can help an organization and its partners examine the actual impact of individual SDOH on oral health care delivery, costs, and outcomes.

Notably, secondary data sources are not always sufficiently comprehensive or timely to assess a community’s current needs, and it can be helpful to supplement with primary data collection as resources allow. The latter — drawn from surveys, interviews, town hall meetings, and other methods — can explore, for example: (1) nuances in the presence of indicators (e.g., prevalence in specific neighborhoods or sub-populations); (2) how the indicators are leading to actual barriers to care or oral health outcomes (e.g., individuals cannot find oral health providers who speak their primary language); or (3) the degree to which the actual experiences of the population are consistent with the secondary data.

Assessing SDOH in Central New Jersey

Using data from Community Commons, United Way identified community differences* in the following key SDOH related to oral health in Middlesex County, NJ:

<table>
<thead>
<tr>
<th>Indicator(s)</th>
<th>County</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to dentists (rate per 100,000)</td>
<td>80.8%</td>
<td>63.2%</td>
</tr>
<tr>
<td>Uninsured adults</td>
<td>14.57%</td>
<td>16.37%</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>4.4%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Population with no high school degree</td>
<td>11.21%</td>
<td>13.67%</td>
</tr>
<tr>
<td>Per capita income</td>
<td>$34,616</td>
<td>$28,554</td>
</tr>
<tr>
<td>Low food access</td>
<td>30.18%</td>
<td>23.61%</td>
</tr>
<tr>
<td>Housing — vacancy rate</td>
<td>5.11%</td>
<td>12.45%</td>
</tr>
<tr>
<td>Use of public transportation</td>
<td>9.68%</td>
<td>5.06%</td>
</tr>
<tr>
<td>Population with limited English proficiency</td>
<td>16.82%</td>
<td>8.6%</td>
</tr>
</tbody>
</table>

*Green text indicates county measure compares favorably to national percentage, red text indicates it compares unfavorably.

Community Commons showed that Middlesex County has better-than-average per-capita income and rates of access to dentists, unemployment, no high school degree, and public transportation use. The SDOH that compare most unfavorably in the county are rates of low food access, housing vacancy, and limited English proficiency.

The project team’s first-hand experiences with the community — primary data collection — confirmed that language, cultural barriers, and diet are prevalent SDOH that present barriers to oral health. Notably, its experiences suggested that transportation and a shortage of oral health providers — both of which score favorably to national rates above — are also barriers. This underscores that even though a county’s or community’s specific SDOH may be better than elsewhere, it may still impede access to care.
The process of primary data collection itself can be a community engagement exercise. As such, it can raise awareness that an organization is exploring SDOH related to oral health in the community, help establish relationships with community members, and lay the foundation for buy-in of oral health interventions.

### Identifying New Jersey’s Racial/Ethnic Disparities in Oral Health Care

In New Jersey, United Way found racial/ethnic disparities* in the rate of adults without a recent dental exam. While all racial/ethnic groups in the state scored more favorably than the national averages, Middlesex County still experiences notable oral health care disparities between racial and ethnic groups, especially among black and Hispanic populations.

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Rate of Adults in NJ without a Recent Dental Exam</th>
<th>Rate of Adults in The U.S. without a Recent Dental Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hispanic White</td>
<td>20.54%</td>
<td>26.96%</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>33.23%</td>
<td>38.11%</td>
</tr>
<tr>
<td>Non-Hispanic Other</td>
<td>26.14%</td>
<td>29.23%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>32.41%</td>
<td>38.33%</td>
</tr>
</tbody>
</table>

* Green text indicates county measure compares favorably to national percentage

### Step 2: Mapping and Mobilizing Community Resources through Partnerships

Community infrastructures, relationships, and assets are key ingredients for community-wide quality improvement. Assessing this capacity within a community is crucial, and observing the differences among geographic areas can be especially helpful. Geographic information system (GIS) mapping and the United Way 211 website, which provides information on essential health and human services that are available to a community,16 are tools to map social service agencies, community-based organizations, faith-based organizations, and local health providers. Mapping reveals opportunities to develop meaningful partnerships and fortify efforts to reduce related health and oral health inequities. Aside from highlighting resources in the community, mapping can help engage members of the community to identify “hot spots” of particular concern for oral health and community assets that can be used to address them.

A first step in this process is determining the skills, capacities, experiences, and partnerships necessary to effect change in the areas highlighted by the CNA. For example, efforts to address differences in oral health care utilization that are based in race/ethnicity may call for a culturally appropriate set of oral health education tools and establishing relationships with providers and community organizations from those racial/ethnic groups. Addressing insufficient access to healthy foods may call for: partnerships with the food retail industry; healthy offerings of school lunch programs; and/or experiences working with members in a given community to teach them how to access and make healthier food choices given the availability.

Subsequently, an organization can mobilize those resources that already exist — for example, purchasing culturally appropriate health education materials or inviting representatives of school lunch programs to participate in the planning group. Simultaneously, an organization can explore how to obtain the capacities it is missing. Partnering with organizations that have the necessary
resources is ideal, and talking to community members about which entities and individuals they trust can help uncover who may be useful partners.

### United Way’s Assessment of Community Skills, Capacity, and Experience in New Jersey

United Way identified a number of critical skills, capacities, and experiences currently represented in the Middlesex County community, including:

<table>
<thead>
<tr>
<th>Skill/Capacity/Experience</th>
<th>Source(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trusted relationships with families</td>
<td>Head Start schools, faith-based organizations, local pediatricians</td>
</tr>
<tr>
<td>Capacity to address logistical barriers to appointments, including translation services, transportation, completion of health insurance documentation, etc.</td>
<td>Social service agencies</td>
</tr>
<tr>
<td>Funders interested in creating sustainable community change</td>
<td>Health and dental plan foundations</td>
</tr>
<tr>
<td>Advocacy for improved oral health care access</td>
<td>NJ Chapter of the American Academy of Pediatrics, NJ Oral Health Coalition, NJ Dental Association</td>
</tr>
<tr>
<td>Access to educate providers</td>
<td>NJ Chapter of the American Academy of Pediatrics</td>
</tr>
</tbody>
</table>

United Way identified trusted relationships with families as a key capacity, and connected with Acelero Learning Head Start of Middlesex and Monmouth Counties to play that role through its established track record of engaging parents in advisory committees and providing health-related case management for families. To lead advocacy for improved oral health care access, United Way partnered with the New Jersey chapter of the American Academy of Pediatrics, which leads efforts throughout the state to improve oral health care access for children. Together with United Way, the two organizations formed the partnership that became known as the Central Jersey Oral Health Collaboration (CJOHC).

The New Jersey Division of Medical Assistance and Health Services (DMAHS) and managed care organizations contracted with the state were further engaged to identify oral health providers who would deliver services to the target population, track subsequent utilization, and help to assess the cost-benefit ratio of the pilot. In addition, United Way determined that monitoring of oral health utilization and outcomes was a key unmet need. It identified the state Medicaid agency and the Rutgers Health Policy Institute as potential entities to provide this capacity.

Engaging community resources for partnership begins with regular communication. One approach is to share findings from the CNA with key stakeholder organizations in order to solicit their feedback and determine what additional information is needed and how they may contribute.

Building trust with these community organizations is central to a sustained partnership. Equally important, and the next step in solidifying the partnership, is developing its common vision. The vision should reflect a mutual understanding of SDOH affecting the community and a joint approach to resolving them. Questions to consider in developing a vision are:
What are the most important social determinants related to oral health in the community?

How can the partnership encourage community participation and optimize existing social relationships?

What changes in the community are needed to improve the priority social determinants related to oral health, and how will the community benefit if these SDOH are addressed?

Step 3: Selecting Approaches to Take Action

The common vision serves as a guiding principle to identify the interventions that the partnership will jointly undertake. The CDC suggests six approaches to addressing social determinants:18

1. **Consciousness raising** – This is a process through which people in a community come together to discuss their concerns and the social or structural factors that influence them, encouraging critical reflection to humanize or personalize an issue. Examples include discussions to share experiences, and use of “photo voice,” an activity in which individuals take photographs illustrating their communities’ health or social needs to inform programs and policy change.19 This approach can be valuable for increasing community-wide support for addressing specific SDOH related to oral health.

2. **Community development** – This approach focuses on creating change at the community level by strengthening social ties, increasing awareness of issues driving SDOH, and advancing the extent to which community members are involved in addressing them. Individuals who are affected by a given health disparity, for example, are brought together to create a shared group identity and determine approaches to change. By empowering community members to draw upon their strengths and capacities to have more influence in their communities, community development can also reverse feelings of hopelessness and powerlessness. People are more inclined to participate when they believe they can have an impact.

3. **Social action** – Social action works to alter social relationships or resources, highlighting how social factors can affect health and how SDOH can be changed. It is often used to raise awareness of issues and to increase community participation to address them. Examples include public demonstrations and symbolic activities, such as a march.

4. **Health promotion** – This approach typically includes efforts to direct outreach to individuals, families, and populations to influence their knowledge, attitudes, and skills around particular health behaviors. Health promotion efforts to address underlying SDOH can benefit from complementary organizational, policy, or environmental changes, such as enhanced access to transportation, quality housing, and accessible healthy foods.

5. **Media advocacy** – Media advocacy refers to strategic use of the media to drive change. This change can include individual behaviors (e.g., practicing healthy oral care at home), or societal perceptions of an issue (e.g., reframing dental disease as a result of SDOH rather than poor individual choices). This can be done through traditional media placements on television and radio, as well as social media outlets such as Facebook and Instagram.

6. **Policy and environmental change** – Organizations can partner to impact the development or change of policies (e.g., residential/commercial zoning) that can affect SDOH in a state, municipality, or community. They can also work together to make environmental changes (e.g., transportation infrastructure) that can improve SDOH.
It is not necessary to select just one approach — combining various approaches often increases the impact. For example, a social action activity such as a demonstration will likely generate earned (free) media to publicize the issues and common vision of the partnership. Selecting the best approach for a given partnership depends largely on:

- The nature of the SDOH and which approaches are most likely to affect them;
- Whether or not existing community competencies lend themselves to successfully implementing some approaches over others;
- Whether or not the intent is to create community change or organizational change;
- Political and social buy-in of the community;
- Success or failure of similar approaches in the past; and
- Relative benefits and potential drawbacks of each.

How CJOHC Selected its Intervention: The Parent Promotoras Model

CJOHC sought to address language, transportation, access/consumption of healthy foods, and access to providers. To do so, it identified consciousness raising and health promotion as its overarching approaches. The collaboration chose to employ a promotoras model of care among a sample of Head Start school parents in its community. Promotoras, also known as community health workers, peer leaders, patient navigators, or health advocates, are lay Hispanic/Latino community members who provide basic health education and guidance around accessing care and community resources. They are generally used in communities with populations that are historically underserved and uninsured.20

CJOHC is developing a Parent Promotoras model to pilot in at least one Acelero Head Start Center in the community in hopes of improving oral health behaviors and outcomes, reducing costs, and empowering parents to manage their families’ health.21 Given the target population’s receptivity to health-related education by school-based parent groups and widespread evidence of the value of using motivated, unpaid peers to engage community members,22 the pilot will train volunteer Parent Promotoras from the school. Parent Promotoras will teach parents about at-home oral health practices, what to expect at dental visits, insurance basics, and outreach strategies. The Parent Promotoras will engage in one-on-one conversations with parents, accompany them on dental visits, and lead group celebrations to recognize parents who have taken part in the program. Transportation to dental visits will also be provided to families that need it.

The pilot will address the low percentage of oral health care providers willing to treat Medicaid beneficiaries in Middlesex County; low awareness of oral health preventive practices; and language, culture, and transportation barriers. Further, it allows CJOHC to leverage community resources that include trusted relationships with the target population and providers; the Head Start school’s well-developed system for parent engagement; and the social services that families already access through Head Start advocates. Its low-/no-cost design also speaks to CJOHC’s priority to develop a sustainable model that does not rely on an ongoing funding source.
Step 4: Evaluating Implementation and Impact

Once one or more approaches has been selected, the next step is determining how they will be evaluated — even before implementation begins. This evaluation plan should be informed by: (1) the common vision developed by the partnering organizations; and (2) the priority SDOH identified. Establishing the evaluation plan at the outset is critical for: ensuring mutually agreed-upon baseline measures and benchmarks; the availability of data to assess identified goals and objectives; establishing milestone achievements; and creating timelines for interim and final evaluations. As the partnership progresses from program development to implementation, regularly evaluating these efforts is critical to ensure that the project stays on course to have its desired impact on SDOH.

Evaluation metrics should be considered at all of the levels — individual, organizational, and community — where change is needed to reach the goal (Exhibit 2).

Exhibit 2: Examples of Intervention Metrics

<table>
<thead>
<tr>
<th>Type of Metric</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>By the end of year two, more residents will be aware of available dental services in their area.</td>
</tr>
<tr>
<td>Community</td>
<td>In year two, the partnership will establish linkages between dental service providers and employment agencies to create increased access to services.</td>
</tr>
<tr>
<td>Organizational</td>
<td>By the end of year one, the partnership will engage at least two employment agencies for outreach to clients.</td>
</tr>
</tbody>
</table>

When identifying which indicators to track for a given partnership or intervention, consider the availability of data, whether or not additional sources are needed, and how often data for each metric should be collected. For example, interim measures in the first six months of an initiative might explore the process of establishing stronger relationships with a community through town hall meetings or one-on-one conversations with key influencers. Metrics surrounding these activities might assess levels of participation among target audiences, and whether the meetings led to the identification of concrete action steps. If data show that relationships are not strengthening, rethinking engagement approaches would be warranted. After a partnership’s first full year, assessments of changes in community member awareness of how to access dental services, as measured through random-sampling surveys, could indicate the effectiveness of awareness-raising interventions, and suggest needed improvements if increases are falling short of objectives or expectations.

As the evaluation process evolves, sharing progress with the community may help drive further engagement. This can be accomplished by making periodic scorecards on key measures available; issuing progress reports on the evolution of partnerships; and hosting face-to-face opportunities for the community to meet to hear about progress and ask questions.
CJOHC’s Approach to Evaluation

The CJOHC collaboration plans to employ a multi-faceted evaluation approach that includes a control group of families at the same Head Start site to distill results from the Parent Promotoras model and add to the field of oral health interventions. Evaluation approaches, which are still in design, are expected to include:

- Pre-intervention parent surveys on awareness of oral health care guidelines, and post-intervention surveys around whether they adopted recommended preventive practices;
- Tracking changes in the number of students with an established dental home (consistent dental care provider) and their utilization of dental services, as already reported by the Head Start site to the federal government;
- Surveys of parent and student patient experiences, including access to both social services and oral health care;
- Comparisons of oral health care treatment costs in the intervention versus control group, as tracked by the participating managed care organizations; and
- Periodic group discussions and individual interviews with Head Start staff, the Parent Promotoras, and parents receiving the intervention to assess their experiences with the project and identify areas for improvement.

Conclusion

Mobilizing community resources to build partnerships is critical to overcoming inequalities in SDOH. These partners should have deep roots in the community and relationships with residents that produce invaluable perspectives to understanding and planning to address needs. Building these relationships takes time and a commitment to establishing a collective vision. Through this approach, partners are likely to remain more motivated, engaged, and accountable for their contributions to the collective effort to address SDOH in the community.

Partnerships such as CJOHC reflect growing awareness of the power of SDOH to affect not only individual health, but community-wide quality of life. At the forefront of more holistic and sustainable improvements in long-term health outcomes, pilots such as the Parent Promotoras model can strengthen the evidence base for the widespread effects of SDOH, and the power of collective efforts to address them.

ABOUT THE CENTER FOR HEALTH CARE STRATEGIES

The Center for Health Care Strategies (CHCS) is a nonprofit policy center dedicated to improving the health of low-income Americans. It works with state and federal agencies, health plans, providers, and consumer groups to develop innovative programs that better serve people with complex and high-cost health care needs. For more information, visit www.chcs.org.
ENDNOTES


6 Patrick and Less, et al., op cit.


8 Ramirez, Baker, and Metzler, op cit.


10 Ibid.

11 Statements about the work of the United Way and CJOHC are based on materials developed by the organization in CHCS’ learning collaborative, as well as a series of telephone interviews and e-mail exchanges with William Dennison, director of major markets, United Way of Central Jersey, during 2016.

12 For county health rankings, see http://www.countyhealthrankings.org/. For CDC community health rankings, see http://www.cdc.gov/communityhealth.


14 The Community Commons only CNA tool is available at: http://assessment.communitycommons.org/CHNA/SelectArea.aspx?reporttype=libraryCHNA.


21 Note: At the time of publication, CJOHC’s plan for the Parent Promotoras model was still in the final drafting stage, with possible changes to follow.


23 Catalani and Minkler, op cit.