ABSTRACT Despite efforts that increased dental visits at federally qualified health centers (FQHCs) by 65 percent between 2007 and 2014, only 21 percent of FQHC patients received dental services in 2015—not altogether surprising, given that most such facilities do not offer dental services on site. Many of these facilities are part of multisite organizations that offer dental services at other locations; however, sites with co-located dental and medical services often serve only a fraction of their primary care patients. This article describes an initiative, funded by First 5 LA and led by the University of California, Los Angeles (UCLA), designed to improve access to and quality of oral health care for young children at twenty Los Angeles County FQHCs with co-located medical and dental services. The UCLA–First 5 LA Oral Health Program supported infrastructure enhancements, technical assistance, clinical training, quality improvement, health education for parents and caregivers, and related policy analyses. Findings demonstrate a twofold increase in diagnostic and treatment services capacity for young children and a threefold increase in preventive services capacity after two years. Investments in infrastructure, plus support for training and quality improvement focused on medical and dental integration, were crucial to these capacity increases.

The federal Health Center Program is authorized in section 330 of the Public Health Service Act of 1944 (42 U.S. Code, sections 201 et seq.) and administered by the Health Resources and Services Administration (HRSA). Federally qualified health centers (FQHCs)—outpatient clinics that qualify for specific reimbursement systems under Medicare and Medicaid and form a cornerstone of the health care safety net—are required to provide health care to all individuals regardless of their ability to pay and to be located in geographic areas with few health care providers. The Health Center Program funds grantees to support four types of outpatient primary care facilities: community health centers,2 homeless health centers, public housing health centers, and migrant health centers. The grantees operate more than 10,000 unique health center sites (facilities), the majority of which are FQHCs. FQHCs are eligible for section 330 grants to offset costs of uncompensated care and supportive services; can access federal medical malpractice coverage; receive enhanced Medicare and Medicaid reimbursement and drug pricing discounts; have access to the Vaccines for Children Program and on-site Medicaid and Children’s Health Insurance Program enrollment workers; and can receive assistance for recruiting and retaining medical, dental, and mental health pri-
mary care providers through the National Health Service Corps. A related program operated with the Centers for Medicare and Medicaid Services (CMS) designates additional sites as FQHC look-alikes (246 in 2015). FQHC look-alikes provide services consistent with all Health Center Program statutory, regulatory, and policy requirements but are ineligible for section 330 grant funding and federal medical malpractice insurance. Medicaid uses a prospective payment system, which establishes a predetermined per visit payment rate for each FQHC based on costs of services, to reimburse FQHCs for services provided to beneficiaries. States are not required to use the prospective payment system to reimburse FQHCs but may not reimburse an FQHC less than it would have received under that system.

Health Center Patients
In 2014, Health Center Program facilities provided primary health care to one in fourteen people of all ages in the United States; one in ten children; one in seven people in poverty; more than 1.1 million homeless patients; nearly 900,000 farm workers; nearly 570,000 children and their families in school-based health centers; approximately 430,000 public housing residents; and nearly 290,000 veterans. For 2015, HRSA reports that 24.3 million patients were served in health centers, with 84.9 percent receiving medical primary care services. More than 70 percent of health center patients had incomes at or below the federal poverty level; 21 percent had incomes between 101 percent and 200 percent of poverty. Forty-nine percent were covered by Medicaid, 9 percent by Medicare, and 17 percent by private insurance; 24 percent were uninsured.

Health Center Services
Health centers are required to provide primary health services, preventive and emergency health services, and diabetes self-management training for patients with diabetes or renal disease. Health centers also provide supportive services (education, translation, transportation, and case management) that enhance access to health care. Primary health services are those provided by physicians or midlevel providers (such as nurse practitioners, physician assistants, and certified nurse-midwives) to diagnose, treat, or refer patients. Preventive health services include well-child care, prenatal and postpartum care, immunizations, family planning, health education, and preventive dental care. According to federal statutes and HRSA regulations (last issued in 1987), FQHCs are required to provide screenings to determine the need for dental care and preventive dental services. HRSA guidance governing the section 330 grant process uses the statutory authority of the secretary of health and human services to expand the definition of primary oral health care to include not only prevention, education, and emergency care, but also basic restorative and basic rehabilitative services that replace missing teeth—often characterized as “comprehensive primary oral health care services.” Despite these policies, available data highlighted below indicate a considerable gap in FQHCs’ capacity to provide oral health care to people who seek primary care at health center facilities.

Gaps In Oral Health Care Services
HRSA reports that in 2014, 89 percent of Health Center Program grantees provided preventive dental services either on site or by paid referral, with 296 grantees proposing to initiate or expand oral health services as part of Affordable Care Act (ACA) expanded services projects. Nearly twelve million dental visits were provided by HRSA health centers in 2014, an almost doubling of those who received oral health care since 2005 and an increase of 29 percent compared to 2010. Despite these increases, only a relatively small portion (5.2 million patients, or 21.4 percent) of Health Center Program clinic patients received dental services in 2015. These findings are consistent with HRSA aggregate data showing that health centers’ dental provider staffing levels (4,108 full-time-equivalent [FTE] dentists and 1,921 dental hygienists) were much smaller than levels of medical primary care providers (11,867 FTE physicians, 6,906 FTE nurse practitioners, 2,759 FTE physician assistants, and 667 FTE certified nurse-midwives).

One explanation for low dental services use in FQHCs is that most clinic sites (facilities) do not have co-located medical and dental services. The HRSA Uniform Data System national reports—a system of information in which program grantees and look-alikes report on their performance—do not indicate whether specific sites provide dental services. However, a recent analysis of California’s Office of Statewide Health Planning and Development data revealed that only 33 percent of the state’s 886 community health center sites included in the analysis reported co-located dental and medical services; approximately one-third lacked co-located services but were part of multisite organizations that had dental services capacity in either a nearby site (within one mile, 8 percent) or at a more distant site (more than one mile, 27 percent); and roughly one-third of sites had no dental pro-
Oral Health Workforce

FQHCs are required to provide screenings to determine the need for dental care and preventive dental services.

Los Angeles Initiatives To Expand Oral Health Care Capacity

Building or expanding dental clinics within existing FQHCs is an important strategy to help close the gap between FQHCs’ medical and dental primary care capacity. Other promising strategies include increasing capacity within existing FQHC operations using a variety of interventions. Two projects designed and implemented by the University of California, Los Angeles (UCLA), and funded by First 5 LA—the 21st Century Dental Homes Project and the Children’s Dental Care Program—have worked with community partners over the past three years to expand local FQHCs’ capacity to provide high-quality oral health care to the underserved in Los Angeles County. The overall goals of these projects, known collectively as the UCLA–First 5 LA Oral Health Program, are to identify and address major barriers that limit access to oral health care for young children and pregnant women, increase the capacity of community clinics to serve as patient-centered dental homes, and increase parents’ and caregivers’ awareness of the importance of oral health in young children. Twenty-two clinics, including twenty FQHCs or look-alikes with co-located dental and medical services, were selected to participate in this initiative, with consideration given to areas with high concentrations of children ages 0–5 covered by Medicaid and not receiving dental services, geographic dispersion, clinic organization size, and the gap between the number of children ages 0–5 receiving medical care but not receiving dental services at each clinic.

Barriers identified by UCLA–First 5 LA Oral Health Program staff and consultants early on in this initiative included lack of awareness on the part of providers, parents, and caregivers about the importance of oral health in young children and pregnant women; deficiencies in critical clinic infrastructure elements (such as personnel, facilities, and information technology); lack of training and confidence on the part of dental and medical personnel to provide oral health care services to target populations; struggles with achieving and sustaining reliable and efficient care processes; lack of systems-based population health approaches to delivering integrated, patient-centered, evidence-based care within clinical settings and through collaborations with community partners; and lack of commitment on the part of health center leaders to improving oral health care within their programs. These barriers are not unique to FQHCs and generally characterize challenges that must be addressed to improve oral health care in private and public systems throughout the United States. The program interventions to address these barriers include financial support for infrastructure enhancements, technical assistance to improve practice management, clinical trainings in contemporary oral health care methods for dental and medical personnel, a quality improvement learning collaborative to redesign and integrate care processes, and support for community systems development. Online Appendix Exhibit 1 depicts the conceptual design of the UCLA–First 5 LA Oral Health Program. Additional details on program components are provided below and in a related policy brief.

UCLA–First 5 LA Oral Health Program Components

**Infrastructure Enhancements** Notable identified barriers to achieving the Oral Health Program’s goals included deficiencies in dental personnel, support personnel, facilities, equipment, supplies, and information technology. Following clinic site visits and needs assessments, funding was provided to clinics to hire a full-time community dental home coordinator, contract with pediatric dentists, expand or renovate clinical facilities, purchase equipment and supplies, and install information technology (IT) to support care delivery. Community dental home coordinators received training from UCLA faculty and staff in contemporary oral health care for young children and in their roles within the
context of the program. Pediatric dentists were engaged by clinics to expand FQHCs’ scope of dental services for young children and to help teach dental and medical staff members about oral health care for young children. IT enhancements included installation of electronic dental records (for a few clinics lacking this technology) and software that supports care coordination and case management, clinic systems performance monitoring, and population health data collection.

**Practice Management Technical Assistance** Practice management technical assistance was provided by DentaQuest Institute’s Safety Net Solutions program. Each clinic was assigned a Safety Net Solutions expert adviser and program manager who worked with UCLA program staff to develop and oversee implementation of enhancement plan elements linked to the Oral Health Program objectives, clinic practice management improvements, and clinic productivity and efficiency.

**Training for Dental and Medical Personnel and Child Care Providers** UCLA faculty provided a diverse array of clinical training on oral health care for young children and pregnant women for participating clinics’ dental and medical clinical providers and support staff (Exhibit 1). Training program elements included online training, baseline didactic sessions \( n = 106 \) participants, advanced workshops for general dentists \( n = 35 \), webinars \( n > 106 \), and on-site clinical trainings \( n = 33 \). Key clinical training topics included caries risk assessment; risk-based approaches to prevention and disease management; and culturally competent, patient- and family-centered care provision to diverse populations. A total of 1,504 child care providers received training in 2014–15 to raise their oral health awareness and increase their involvement in promoting healthy habits for young children, including encouraging parents to obtain dental care for their children.11

**Quality Improvement Learning Collaborative** The Oral Health Program implemented a quality improvement learning collaborative for successive cohorts of the program’s participating clinics using the Institute for Healthcare Improvement’s Breakthrough Series Model.12 Learning collaborative teams, comprising dental and medical personnel and clinic administrators, received the support of nationally recognized clinical and quality improvement experts through three two-day in-person learning sessions, team coaching, and monthly conference calls. Six selected clinics initially participated during the course of eight months in a collaborative designed to refine the quality improvement learning collaborative driver diagram (relationships between the aim of the quality improvement project and the changes to be tested and implemented), change package (an evidence-based set of changes that are critical to the improvement of an identified care process), and measures used to assess improvements in defined processes and outcomes. Key focus areas for the initial collaborative were teaching the clinics’ staff quality improvement principles and techniques and redesigning clinic workflows to improve the integration of oral health

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**Exhibit 1**

University of California, Los Angeles–First 5 LA Oral Health Program training summary

<table>
<thead>
<tr>
<th>Training component</th>
<th>Training content</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online training</td>
<td>Smiles for Life national curriculum</td>
<td>Dental and medical clinical personnel</td>
</tr>
<tr>
<td>Baseline training</td>
<td>Early childhood caries, caries risk assessment, prevention and disease management</td>
<td>Dental and medical clinical personnel</td>
</tr>
<tr>
<td>Advanced training</td>
<td>Caries management, pulp therapy</td>
<td>General dentists</td>
</tr>
<tr>
<td>On-site hands-on training</td>
<td>Clinical techniques</td>
<td>Dental and medical clinical personnel</td>
</tr>
<tr>
<td>Community dental home coordinator training</td>
<td>Infant and child oral health and early childhood caries, prevention and disease management, Oral Health Program overview and community dental home coordinator role, community outreach, data collection and reporting</td>
<td>Community dental home coordinators</td>
</tr>
<tr>
<td>Pediatric dentist orientation</td>
<td>Oral Health Program overview, pediatric dentist roles</td>
<td>Pediatric dentists</td>
</tr>
<tr>
<td>Motivational interviewing</td>
<td>Motivational interviewing techniques</td>
<td>Dental and medical clinical personnel</td>
</tr>
<tr>
<td>Quality improvement</td>
<td>Quality improvement principles and techniques, “Plan Do Study Act” cycles, medical and dental integration, workflow redesign, reliable systems and sustainability</td>
<td>Dental and medical clinical personnel, clinic support staff and administrators</td>
</tr>
</tbody>
</table>

**Source** Authors’ analysis.
care delivery by primary medical care and dental care providers. The initial collaborative clinics also participated with eight additional clinics in a second phase of the learning collaborative that focused on caries risk reduction, disease management, refinements of medical and dental integration pathways, and outreach strategies. The learning collaborative also included training on the use of motivational interviewing and self-management goals, techniques used extensively in the management of chronic diseases. Appendix Exhibit 2 depicts the risk-based integrated oral health and dental care pathway developed during the learning collaborative to guide systems redesign and monitoring.10

UCLA–First 5 LA Oral Health Program Achievements
Implementation of the Oral Health Program components has proceeded according to established timelines. The 21st-Century Dental Homes Project’s scope of work was formally completed June 30, 2016, with residual resources allocated to continued support of community dental home coordinators and participation of Dental Homes Project clinics in the quality improvement learning collaborative. Children’s Dental Care Program funding will continue through at least February 2018. Initial analyses of data from the Dental Homes Project show that the average number of children ages 0–5 receiving dental services each month at the twelve participating FQHC clinics increased by nearly 85 percent during the first two years of the project, from 819 per month during January–June 2014 to 1,513 per month during July–December 2015. Diagnostic services and treatment services showed twofold increases, and preventive services showed a more than threefold increase during that time period.11 Data for the first six months of 2016 showed continued increases in the number of children ages 0–5 receiving diagnostic services (1,146 per month) and preventive services (1,312 per month), and a high ratio of children receiving preventive services compared to children receiving any dental services (87 percent). Additional findings are based on data in an unpublished evaluation report prepared by the UCLA Center for Health Policy Research.12

Infrastructure Enhancements
All clinics hired full-time community dental home coordinators and part-time pediatric dentists. The coordinators are the primary points of contact within each clinic; they support implementation of the integrated care pathway, patient education, prevention, data collection, and community systems development. Pediatric dentists help expand the scope of pediatric dental services available on site, serve as on-site training resources for dental and medical personnel, and help champion expanded oral health care services within FQHCs. IT enhancements included software tools to help record caries risk assessments, support case management and care coordination (for example, registries for high-risk patients), and monitor system performance (for example, well-child care patients receiving caries risk assessments, prevention, and referrals; follow-up dental care for high-risk patients; and caries risk reduction in patients at elevated risk).

Practice Management Technical Assistance
Technical assistance included baseline assessments of clinic operations and financing, development of clinic-specific enhancement plans, and ongoing Safety Net Solutions technical assistance to help clinics achieve enhancement plan goals and to provide additional resources if needed. The most frequent practice management recommendations involved steps to increase productivity, reduce no-show and cancellation rates, improve staffing, and enhance scheduling. UCLA asked Safety Net Solutions project managers to rate their impressions of how thoroughly each Dental Homes Project clinic completed the enhancement plan recommendations and each clinic’s ability to achieve stated recommendations and project goals. On a scale from 1 (least complete) to 10 (most complete), only two clinics received a score of 5 or lower on both responses. The remaining ten clinics scored between 8 and 9 for thoroughness in completing enhancement plan recommendations. Top facilitators identified by Safety Net Solutions for clinics’ success included support from clinic leadership, followed by staff knowledge and training, staff willingness, and staffing adequacy.

Clinical Training for Dental and Medical Personnel
Dental Homes Project medical and dental providers successfully demonstrated the implementation of the Oral Health Program components has proceeded according to established timelines.
National and state-level data indicate a gap in primary oral health care service delivery in FQHCs.

ability to conduct oral health risk assessments, clinical assessments, and self-management goal setting with patients. Overall, providers appeared to readily grasp and apply the content of trainings. Trainings coincided with increases in delivery of services to young children. Despite staff turnover, 80–100 percent of dental providers in the majority of clinics felt comfortable in treating pediatric patients a year or longer after their last training.

QUALITY IMPROVEMENT LEARNING COLLABORATIVE During the eight-month innovation phase of the learning collaborative, an additional 2,284 children ages 0–5 received preventive oral health services in the six participating clinics. Clinics were effective in implementing processes for risk-based disease management, including routine caries risk assessment and use of self-management goals in dental clinics. Variable success in implementing risk-based scheduling and monitoring of high-risk patients was reported. Clinics reported very positive experiences with using quality improvement methods and the collaborative learning method, and they showed substantial improvement in demonstrated quality improvement skills such as the ability to conduct effective small-scale tests of change, use data, work as teams to understand and improve care processes, and use important quality improvement tools such as workflow diagrams. Subsequent reports from the second phase of the learning collaborative noted a doubling of the number of children ages 0–5 receiving oral health care services, reductions in caries risk status in 28 percent of high-risk children, and development of reliable systems to conduct caries risk assessments (88 percent at dental visits and 70 percent at well-child visits). Clinics averaged 67 percent on-time visits (within seven months) for patients with moderate caries risk, with indications of improvement over the course of the collaborative, and consistent 55 percent on-time follow-up (within four months) for high-risk patients.

In addition to quantitative measurement data from the learning collaborative, clinics reported that participation in a learning collaborative elevated the visibility of their dental leadership and dental programs within the clinics’ administrative structures. For example, one clinic dental director was promoted to report to the CEO and is now a core member of the health center executive leadership team. Additional information obtained from qualitative reports suggests that when quality improvement becomes the way that health care teams do their daily work, it creates a common language devoted to patient-centered, high-quality care in which dental service personnel can participate; helps develop leadership skills among dental team members; and creates an environment in which dental care is an integral part of the primary care delivery system.

Reflections And Considerations For Policy And Program Enhancements

National and state-level data indicate a substantial gap in primary oral health care service delivery in FQHCs, which is not unique to these settings and exists to varying degrees throughout the US health care system. Experience gained from the UCLA–First 5 LA Oral Health Program revealed that even in facilities where primary medical care services and dental services are co-located, dental care generally is not integrated with medical care, behavioral health services, or community outreach programs, and it often operates in relative isolation within clinics’ organizational structures. The UCLA–First 5 LA Oral Health Program implemented multiple interventions to address common barriers and contributed to significant performance improvements in co-located clinics. The initiative benefited from generous levels of funding, which might or might not be available in other settings. Data limitations related to the lack of a common platform for collecting data from the diverse array of electronic recordkeeping systems used by different clinics, the relatively small number of Oral Health Program participating clinics, and the absence of a control group limit the ability to evaluate the relative impact of individual intervention components and the generalizability of the Oral Health Program experience.

Experience gained through the Oral Health Program suggests that sixteen years after the US Surgeon General’s Report on Oral Health called for oral health to be integral to overall health, progress toward reaching this goal has been modest in settings that in many ways represent prime opportunities for delivering truly patient-centered care. Despite this modest prog-
progress, findings from the Oral Health Program and recent developments in the policy landscape suggest that program enhancements designed to address shortcomings in FQHC care delivery systems could provide strategies or platforms for closing the oral health care gap if steps are taken to make specific opportunities available and applicable to oral health care programs.

Space limitations do not allow for a full explanation of such opportunities; however, several options, discussed below, seem worthy of consideration by policy makers and program officials. Federal legislation (for example, 42 U.S. Code, section 254b) and regulations could be used to update and formalize policies that define oral health care as an essential, integral part of health centers’ primary health care services, with clear delineation of the scope of services that constitute “comprehensive primary oral health services” expected to be provided in all FQHCs and other health center programs supported by HRSA and CMS, consistent with emerging evidence-based standards.

Congress and HRSA could give greater priority to expanding dental care service delivery within existing FQHC facilities by providing additional funding for facilities, personnel, and critical infrastructure elements to address impediments identified as barriers in the Los Angeles initiative, especially in FQHCs that do not now provide co-located medical and dental services. New Access Point grants and Capital Improvement Program grants could be used for this purpose. Efforts to address this substantial gap in dental care infrastructure and capacity through additional HRSA health center funding were initiated during the George W. Bush administration and continued under the Barack Obama administration, most recently under provisions of the ACA. Nevertheless, much remains to be done to provide the infrastructure, training, and quality improvement necessary to make oral health care available in the majority of FQHC sites.

HRSA, CMS, and state Medicaid agencies could work to develop more effective strategies for expanding access to dental services through contracting arrangements among FQHCs and community-based dental providers, especially in FQHCs that do not provide co-located medical and dental services. Feedback from former federal officials and dental program administrators suggests that FQHCs are reluctant to enter into or promote the use of contracting arrangements because of uncertainty regarding allowable practices and concerns about jeopardizing section 330 funding. Others have recommended this strategy as a foundation for creating high-performing health care delivery systems, which includes new pathways for making use of all primary care resources.

HRSA could expand the use of quality improvement methods and collaboratives to redesign FQHC care delivery processes to achieve greater medical and dental integration within health center delivery systems and improve oral health care access, quality, and performance. Possible sources of funds for this purpose are Expanded Services grants—for health centers to increase the number of patients they serve and provide additional types of services—and Quality Improvement grants to expand services and support quality improvement learning collaborative efforts at existing health centers. Attention and resources, such as support for training program elements implemented in the Los Angeles initiative, also should be directed toward addressing other barriers that limit oral health care capacity in FQHCs.

HRSA and CMS could develop additional strategies to expand integration of oral health services as part of managed care organization arrangements with FQHCs, as has been recommended previously for other types of health services. Supplemental payments that states are required to provide to FQHCs that contract directly or indirectly with managed care organizations might be targeted for this purpose.

Conclusion

These recommendations form the basis for a substantial policy agenda focused on increasing access to high-quality primary oral health care services in federally qualified health centers for millions of underserved people throughout the United States. Implementing these recommendations would go a long way toward remedying the long-standing situation whereby oral health and oral health care within the context of health policy considerations are at best an afterthought.
NOTES


2 According to the Health Resources and Services Administration, “community health center” is a general term not defined in the section 330 statute that is used to describe health centers, because of their community-based nature, and encompasses several types of health centers. Federally qualified health centers include federally supported health centers (both grantees and look-alikes) as well as certain tribal health centers. See Rural Health Information Hub. Federally qualified health centers (FQHCs) [Internet]. Grand Forks (ND): RHihub; [cited 2016 Oct 19]. Available from: https://www.ruralhealthinfo.org/topics/federally-qualified-health-centers

3 Health Resources and Services Administration. 2015 health center data: national data [Internet]. Rockville (MD): HRSA. Table 3A: Patients by age and gender; Table 4: Selected patient characteristics; [cited 2016 Oct 28]. Available from: http://bphc.hrsa.gov/uds/data center.aspx?q=tall&year=2015&state=


10 To access the Appendix, click on the Appendix link in the box to the right of the article online.


12 Details regarding the Institute for Healthcare Improvement’s Breakthrough Series Model can be found on its website and in its white paper: Institute for Healthcare Improvement. The breakthrough series: IHI’s collaborative model for achieving breakthrough improvement. Cambridge (MA): IHI; 2003.

