



# Oral Medical Care Coordination in the United States: Pillar #2 - Workforce Development and Operations

**Nicole I. Wanty, MAA,<sup>1</sup> Barbara Z. Park, RDH, MPH,<sup>2</sup> Elizabeth R. Phelps,<sup>1</sup> Kristen D. Holtz, PhD<sup>1</sup>**

## **Authors' Affiliation:**

**1. KDH Research & Communication**

**2. National Association of Chronic Disease Directors**

## Background

Oral medical care coordination seeks to improve public health outcomes by integrating oral health and primary care (see research brief 34 in this series for more information). While the evidence base on the benefits of oral medical care coordination is robust, less is known about current levels of adoption of coordinated systems in the United States. The University of Iowa conducted the seminal comprehensive literature review on this topic in 2018,<sup>1</sup> and, in 2021, KDHRC undertook a systematic effort to extend and update that research. We examined peer-reviewed articles, state oral health and chronic disease plans, and grey literature on oral medical care integration (see research brief 35 in this series).

From the systematic review we further drilled down on key program characteristics that undergird success, replicability, or sustainability. These components are named as pillars in a framework of change required before oral medical care coordination can be meaningfully implemented on a broad scale. The pillars are **Awareness, Workforce Development and Operations, Information Exchange, and Payment**. This brief more deeply describes **Pillar #2: Workforce Development and Operations**. Additional briefs describe the other three pillars (see research briefs 36, 38, 39 in this series).

## Workforce development and operations (pillar #2) defined

The **Workforce Development and Operations** pillar focuses on preparing and enabling providers to work across disciplines, establishing organizational structures to facilitate collaboration, and empowering staff to use systems that support whole person coordinated care. This pillar emphasizes interprofessional education (IPE), continuous training, and the creation of coordinated care models that

include both oral health\* and medical care providers.

## Key findings: Provider education

IPE seeks to foster collaborative practice among providers by integrating educational experiences across various disciplines. Research brief 35 in this series spoke about the importance of IPE to increase awareness of oral medical care coordination, but from a foundation of awareness. IPE can also build provider knowledge and skills on topics including:

- Oral anatomy, diseases, and conditions<sup>2</sup>
- Oral hygiene, cleaning, disease prevention, and guidelines<sup>2</sup>
- Medical conditions that affect oral health (e.g., hypertension,<sup>3</sup> diabetes,<sup>4</sup> and sleep apnea<sup>5</sup>)
- Screening and management of chronic diseases and conditions (e.g., diabetes or hypertension)<sup>4,6</sup>
- Interprofessional practices such as reimbursement procedures and roles and responsibilities<sup>7</sup>

Studies evaluating the implementation of IPE programs have documented various approaches to integrating oral health and medical education. Programs have aimed to build skills in oral health and coordinated care through diverse educational formats, including traditional lectures, clinical rotations, case studies, simulation exercises, community service practicums, and online modules. For example, educators widely use the Smiles for Life curriculum<sup>8</sup> to train non-oral health care providers in oral health care, emphasizing the oral-systemic connection and the importance of care to patient experiences and outcomes.

IPE programs have generally succeeded at increasing awareness among students and faculty, prepared providers to work in interdisciplinary teams and improved the delivery of coordinated care.<sup>9</sup> Providers trained through these programs also reported greater confidence in performing oral health assessments, applying fluoride varnish, and making appropriate referrals.<sup>10,11</sup> Additionally, IPE programs that included co-located training experiences demonstrated improved collaboration and communication among providers.<sup>9</sup> However, some programs experienced barriers such as limited curriculum time, lack of faculty buy-in, and insufficient organizational support, suggesting that there is more work to be done for IPE to reach its full potential preparing an oral medical care coordination focused workforce.<sup>12,13</sup>

## Key findings: Integrating strategies into care

Integrating oral medical care coordination into existing health care practices involves significant workforce and operational adjustments. The process entails preparing and enabling providers to deliver coordinated care by performing oral-systemic screenings, examinations, interventions, and referrals. For the oral health workforce, coordinated care activities include monitoring, detecting, educating, and referring patients for non-communicable and chronic diseases with oral-systemic connections.<sup>14</sup> Health promotion techniques, such as motivational interviewing, goal-setting, and patient counseling, are essential components. Education via professional programs and continuing education prepares the oral health workforce for coordinated care. Expanding the scope of practice through state practice acts and licensing also enables oral health care providers to provide a broader range of services in various settings, although not all states have adopted such policies.<sup>15</sup>

---

\* In this brief, the term “oral health care” describes care of the teeth, gums, and soft tissue in the mouth, and “dental care” refers to care of teeth and gums.



For the medical workforce, coordinated care activities include preventive oral health services, patient education on oral health promotion, and screenings for conditions such as oral cancer and periodontal disease.<sup>16,17</sup> Training medical providers occurs through health professional programs, continuing medical education, and dental clinical experiences. Examples of coordinated care activities for the medical workforce include the application of fluoride varnish, counseling for oral health promotion, and assessment of oral health during clinical evaluations.<sup>10,11</sup>

The literature identified several examples of successful coordinated care. Coordinated care occurred in a variety of settings, including medical and dental clinics,<sup>4</sup> hospitals,<sup>10</sup> homes,<sup>18</sup> schools,<sup>19</sup> federally qualified health clinics,<sup>20</sup> WIC clinics,<sup>21</sup> Head Start programs,<sup>22</sup> long-term care facilities,<sup>14</sup> mental health facilities,<sup>23</sup> migrant community centers,<sup>24</sup> academic medical centers,<sup>25</sup> and oncology centers.<sup>26</sup> Coordinated care activities included patient education;<sup>27</sup> dental and medical screenings (e.g., for periodontal disease,<sup>28</sup> HIV,<sup>29</sup> diabetes,<sup>30</sup> smoking,<sup>31</sup> alcohol consumption,<sup>32</sup> hypertension,<sup>3</sup> cardiovascular disease,<sup>6</sup> hepatitis, sleep apnea,<sup>5</sup> mental health, and oral cancer<sup>16</sup>); guidance and counseling on nutrition,<sup>33</sup> human papillomavirus,<sup>34</sup> and tobacco cessation;<sup>31</sup> management of patients with chronic conditions;<sup>35</sup> and referral of patients for additional testing and diagnosis.<sup>36</sup>

Factors that supported success for these coordinated care activities included working relationships between providers and their community; Medicaid eligibility for the provided services;<sup>37</sup> cooperation of staff;<sup>38</sup> knowledge of recommendations and competencies for care;<sup>39</sup> policies and practice acts enabling coordinated care among various providers and in nontraditional settings;<sup>40</sup> reimbursement for services;<sup>41</sup> having people who act as champions of coordinated care;<sup>42</sup> standardized care approaches;<sup>43</sup> quality metrics;<sup>42</sup> supportive provider knowledge, attitudes, and self-efficacy;<sup>39</sup> and improved technology and informatic capacity to share patient information and coordinate care.<sup>39</sup>

Barriers to reaching full impact of coordinated care included time constraints; difficulties referring patients;<sup>39</sup> poor integration into practice workflows and systems;<sup>40</sup> siloed provider education systems;<sup>6</sup> lack of communication among providers;<sup>39</sup> poor attitudes, low perceived value and resistance among providers and staff;<sup>38</sup> poor attitudes and low health literacy among patients and the public;<sup>39</sup> lack of evidence-based guidelines, protocols, and standards of practice;<sup>38</sup> and high costs.<sup>44</sup>

From this robust literature on facilitators and barriers for successful oral medical care coordination models, we can build best practices for future programs.

## Recommendations

The **Workforce Development and Operations** pillar is central to the successful implementation of oral medical care coordination. Numerous studies detail the need for comprehensive training programs that encompass both oral and medical health components. Effective workforce development requires not only initial education but also ongoing training and support to adapt to evolving coordinated care models. The interaction between this pillar and **Awareness** (see research brief 36 in this series) is evident: well-informed providers are better equipped to execute coordinated care practices, and continuous education reinforces their understanding and commitment to these practices.

The barriers to a coordinated workforce, however, can be substantial. There is a widespread lack of IPE in many provider curricula, resulting in providers who are not adequately prepared to deliver coordinated care.<sup>45</sup> Time constraints, insufficient training, and lack of organizational support further impede the adoption of oral medical care coordination practices.<sup>38</sup> Cultural and professional silos that exist between the oral and medical health fields can lead to resistance to change and thwart collaboration.<sup>39</sup>

However, the benefits of IPE applications are significant. IPE must become a cornerstone of provider curricula to foster a new generation of providers who are comfortable and competent in delivering coordinated care to improve patient outcomes. To enhance workforce development and operations, we recommend:

- **Incorporating IPE programs** into provider curricula at initial training levels (degree fulfillment) and promoting continuous professional development (licensing maintenance).
- **Promoting interprofessional collaboration** by expanding practice workflows to incorporate oral health assessments into routine medical exams and establishing referral networks for patients in need of care.
- **Expanding scope of practice** by allowing mid-level professionals such as dental hygienists to provide coordinated care. For most states, this will require modifying practice acts and licensing requirements.

## Conclusion

The coordination of oral and medical health care services has the potential to significantly reshape the landscape of health care delivery. By breaking down traditional barriers, coordinated care models can provide more comprehensive, patient-centered care.

Our review identified four main pillars, each of which are essential to oral medical care coordination. Several policy shifts are also important to support this transition: expanding insurance coverage options, standardizing billing codes/procedures, promoting value-based care, encouraging collaboration between policymakers and providers, and expanding the scope of practice to allow midlevel providers to deliver coordinated services.

The **Workforce Development and Operations** pillar is critical to this work, because a well-informed workforce is essential for effective implementation, and ongoing education is crucial to maintaining professional understanding and acceptance of coordinated care.

## References

1. McKernan, S. C., Kuthy, R., Tuggle, L., & García, D. T. (2018). *Medical-Dental Integration in Public Health Settings: An Environmental Scan - Medical-Dental Integration in Public Health Settings: An Environmental Scan - University of Iowa*. <https://doi.org/10.17077/ax7d-a2rg>
2. Berkowitz, O., Brisotti, M. F., Gascon, L., Henshaw, M., & Kaufman, L. B. (2017). The impact of an interprofessional oral health curriculum on trainees. *Journal of Physician Assistant Education*, 28(1), 2–9. <https://doi.org/10.1097/JPA.000000000000104>,
3. Marshall, S., Scrimshaw, E. W., Metcalf, S. S., Greenblatt, A. P., De La Cruz, L., Kunzel, C., & Northridge, M. E. (2015). Evidence From ElderSmile for Diabetes and Hypertension Screening in Oral Health Programs - PubMed. *Journal of the California Dental Association*, 43(7), 379–387. <https://pubmed.ncbi.nlm.nih.gov/26451080/>
4. Biethman, R. K., Pandarakalam, C., Garcia, M. N., Whitener, S., & Hildebolt, C. F. (2017). Screening for Diabetes in a Dental School Clinic to Assess Interprofessional Communication Between Physicians and Dental Students. *Journal of Dental Education*, 81(9), 1062–1067. <https://doi.org/10.21815/JDE.017.059>,
5. Okuji, D., Healy, E., & Wu, Y. (2020). Opportunity for Interprofessional Collaboration: Screening for Pediatric Sleep-Disordered Breathing by Dentists. *Pediatric Dentistry*, 42(6), 436–440.
6. Singer, R. H., Feaster, D. J., Stoutenberg, M., Hlaing, W. W. M., Pereyra, M., Abel, S., Pollack, H., Gellman,

- M. D., Schneiderman, N., & Metsch, L. R. (2019). Dentists' willingness to screen for cardiovascular disease in the dental care setting: Findings from a nationally representative survey. *Community Dentistry and Oral Epidemiology*, 47(4), 299–308. <https://doi.org/10.1111/CDOE.12457>,
7. Cooper, D., Kim, J. S., Duderstadt, K., Stewart, R., Lin, B., & Alkon, A. (2017). Interprofessional oral health education improves knowledge, confidence, and practice for pediatric healthcare providers. *Frontiers in Public Health*, 5(AUG), 277163. <https://doi.org/10.3389/FPUBH.2017.00209/BIBTEX>
8. *Smiles for Life: A national oral health curriculum*. (n.d.). Retrieved May 29, 2025, from <https://www.smilesforlifeoralhealth.org/>
9. Reeves, S., Perrier, L., Goldman, J., Freeth, D., & Zwarenstein, M. (2013). Interprofessional education: effects on professional practice and healthcare outcomes. *The Cochrane Database of Systematic Reviews*, 2013(3), CD002213. <https://doi.org/10.1002/14651858.CD002213.PUB3>
10. Arif, U. A., Pitts, E., Farrell, C., Fontana, M., & Kinney, J. A. (2021). Perception and Utilization of Oral Screenings and Fluoride Application in Medical Offices Following the Michigan Caries Prevention Program Training. *The Journal of Dental Hygiene*, 50(1).
11. Clark, M., Quinonez, R., Bowser, J., & Silk, H. (2017). Curriculum influence on interdisciplinary oral health education and practice. *Journal of Public Health Dentistry*, 77(3), 272–282. <https://doi.org/10.1111/JPHD.12215>
12. Tolle, S. L., Vernon, M. M., McCombs, G., & De Leo, G. (2019). Interprofessional Education in Dental Hygiene: Attitudes, barriers and practices of program faculty - PubMed. *Journal of Dental Hygiene*, 93(2), 13–22. <https://pubmed.ncbi.nlm.nih.gov/31015303/>
13. Furgeson, D., Kinney, J. S., Gwozdek, A. E., Wilder, R., & Inglehart, M. R. (2015). Interprofessional Education in U.S. Dental Hygiene Programs: A National Survey. *Journal of Dental Education*, 79(11), 1286–1294. <https://doi.org/10.1002/J.0022-0337.2015.79.11.TB06024.X;JOURNAL:JOURNAL:19307837;PAGEGROUP:STRING:PUBLICATION>
14. Marshall, S. E., Cheng, B., Northridge, M. E., Kunzel, C., Huang, C., & Lamster, I. B. (2013). Integrating oral and general health screening at senior centers for minority elders. *American Journal of Public Health*, 103(6), 1022–1025. <https://doi.org/10.2105/AJPH.2013.301259>
15. Manski, R. J., Hoffmann, D., & Rowthorn, V. (2015). Increasing Access to Dental and Medical Care by Allowing Greater Flexibility in Scope of Practice. *American Journal of Public Health*, 105(9), 1755. <https://doi.org/10.2105/AJPH.2015.302654>
16. Wee, A. G., Zimmerman, L. M., Anderson, J. R., Nunn, M. E., Loberiza, F. R., Sitorius, M. A., & Pullen, C. H. (2016). Promoting oral cancer examinations to medical primary care providers: a cluster randomized trial. *Journal of Public Health Dentistry*, 76(4), 340–349. <https://doi.org/10.1111/JPHD.12161>,
17. Atchison, K. A., Weintraub, J. A., & Rozier, R. G. (2018). Bridging the dental-medical divide: Case studies integrating oral health care and primary health care. *Journal of the American Dental Association*, 149(10), 850–858. <https://doi.org/10.1016/j.adaj.2018.05.030>
18. Brickhouse, T. H., Haldiman, R. R., & Evani, B. (2013). The impact of a home visiting program on children's utilization of dental services. *Pediatrics*, 132(SUPPL.2). <https://doi.org/10.1542/PEDS.2013-1021N>,
19. Siruta, K. J., Simmer-Beck, M. L., Ahmed, A., Holt, L. A., Villalpando-Mitchell, T., & Gadbury-Amyot, C. C. (2013, October). *Extending oral health care services to underserved children through a school-based collaboration: Part 3--a cost analysis* - PubMed. *Journal of Dental Hygiene*. <https://pubmed.ncbi.nlm.nih.gov/24158662/>
20. Norwood, C. W., Maxey, H. L., Randolph, C., Gano, L., & Kochhar, K. (2017). Administrative Challenges to the Integration of Oral Health With Primary Care: A SWOT Analysis of Health Care Executives at Federally Qualified Health Centers. *The Journal of Ambulatory Care Management*, 40(3), 204. <https://doi.org/10.1097/JAC.0000000000000151>
21. Lee Rozier R. G. Norton E. C. Kotch J. B. & Vann W. F., J. Y. (2004). Effects of WIC participation on



- children's use of oral health services. *American Journal of Public Health*, 94(5), 772–777. <https://doi.org/10.2105/ajph.94.5.772>
22. Glicken, A. (2014). Innovations in faculty development: Interprofessional oral health workshops combine active learning and community engagement. *Journal of Physician Assistant Education*, 25(3), 31–35. <https://doi.org/10.1097/01367895-201425030-00007>,
23. Goldman, M. L., Scharf, D. M., Brown, J. D., Scholle, S. H., & Pincus, H. A. (2021). Structural Components of Integrated Behavioral Health Care: A Comparison of National Programs. *Psychiatric Services (Washington, D.C.)*, 73(5), 584. <https://doi.org/10.1176/APPI.PS.201900623>
24. Finlayson, T. L., Asgari, P., Hoffman, L., Palomo-Zervas, A., Gonzalez, M., Stamm, N., Rocha, M. I., & Nunez-Alvarez, A. (2017). Formative Research: Using a Community-Based Participatory Research Approach to Develop an Oral Health Intervention for Migrant Mexican Families. *Health Promotion Practice*, 18(3), 454–465. <https://doi.org/10.1177/1524839916680803>,
25. Heath, J., Aker, R., Feld, H., Singer, R. L., & Norton, J. (2019). A pilot interprofessional program to promote oral health and wellness in Appalachian children. *Journal of Professional Nursing*, 35(5), 412–416. <https://doi.org/10.1016/j.profnurs.2019.02.006>
26. Hartnett, E., & Krainovich-Miller, B. (2017). Preventive dental care: An educational program to integrate oral care into pediatric oncology. *Clinical Journal of Oncology Nursing*, 21(5), 611–616. <https://doi.org/10.1188/17.CJON.611-616>,
27. Burgette Preisser J. S. & Rozier R. G., J. M. (2018). Access to preventive services after the integration of oral health care into early childhood education and medical care. *Journal of the American Dental Association*, 149(12), 1024–1031. <https://doi.org/https://doi.org/10.1016/j.adaj.2018.07.019>
28. Mosley, M., Offenbacher, S., Phillips, C., Granger, C., & Wilder, R. S. (2015). North Carolina Cardiologists' Knowledge, Opinions and Practice Behaviors Regarding the Relationship between Periodontal Disease and Cardiovascular Disease. *Journal of Dental Hygiene: JDH*, 89 Suppl 2, 38–48. <https://pubmed.ncbi.nlm.nih.gov/26338906/>
29. Pollack, H. A., Pereyra, M., Parish, C. L., Abel, S., Messinger, S., Singer, R., Kunzel, C., Greenberg, B., Gerbert, B., Glick, M., & Metsch, L. R. (2014). Dentists' Willingness to Provide Expanded HIV Screening in Oral Health Care Settings: Results From a Nationally Representative Survey. *American Journal of Public Health*, 104(5), 872. <https://doi.org/10.2105/AJPH.2013.301700>
30. Poudel, P., Griffiths, R., Wong, V. W., Arora, A., Flack, J. R., Khoo, C. L., & George, A. (2018). Oral health knowledge, attitudes and care practices of people with diabetes: A systematic review. *BMC Public Health*, 18(1). <https://doi.org/10.1186/S12889-018-5485-7>,
31. Prakash, P., Belek, M. G., Grimes, B., Silverstein, S., Meckstroth, R., Heckman, B., Weintraub, J. A., Gansky, S. A., & Walsh, M. M. (2013). Dentists' attitudes, behaviors, and barriers related to tobacco-use cessation in the dental setting. *Journal of Public Health Dentistry*, 73(2), 94–102. <https://doi.org/10.1111/J.1752-7325.2012.00347.X;REQUESTEDJOURNAL:JOURNAL:17527325;WGROU:STRING:PUBLICATION>
32. Parish, C. L., Pereyra, M. R., Pollack, H. A., Cardenas, G., Castellon, P. C., Abel, S. N., Singer, R., & Metsch, L. R. (2015). Screening for substance misuse in the dental care setting: findings from a nationally representative survey of dentists. *Addiction (Abingdon, England)*, 110(9), 1516. <https://doi.org/10.1111/ADD.13004>
33. Fernandez, J. B., Ahearn, K., Atar, M., More, F. G., Sasson, L., Rosenberg, L., Godfrey, E., Sehl, R., & Daronch, M. (2017). Interprofessional Educational Experience among Dietitians after a Pediatric Dentistry Clinical Rotation. *Topics in Clinical Nutrition*, 32(3), 193–201. <https://doi.org/10.1097/TIN.0000000000000112>
34. Daley, E. M., Thompson, E. L., Vamos, C. A., Griner, S. B., Vazquez-Otero, C., Best, A. L., Kline, N. S., & Merrell, L. K. (2018). HPV-Related Knowledge Among Dentists and Dental Hygienists. *Journal of Cancer Education*, 33(4), 901–906. <https://doi.org/10.1007/S13187-016-1156-5>,
35. [ASTDD], A. of S. and T. D. D. (2018). *Opportunities for Improving Oral Health and Chronic Disease*

*Program Collaboration and Medical-Dental Integration.*

36. Atchison, K. A., Rozier, R. G., & Weintraub, J. A. (2018). Integration of Oral Health and Primary Care: Communication, Coordination and Referral. *NAM Perspectives*, 8(10). <https://doi.org/10.31478/201810E>
37. Kranz, A. M., Lee, J., Divaris, K., Baker, A. D., & Vann, W. (2014). North Carolina Physician-Based Preventive Oral Health Services Improve Access And Use Among Young Medicaid Enrollees. *Health Affairs (Project Hope)*, 33(12), 2144. <https://doi.org/10.1377/HLTHAFF.2014.0927>
38. Patel, S., Koskan, A., Spolarich, A., Perry, M., & Flood, T. (2020). Dental professionals' knowledge, attitudes, and practice behaviors related to human papillomavirus vaccination. *Journal of Public Health Dentistry*, 80(1), 61–69. <https://doi.org/10.1111/JPHD.12350;CTYPE:STRING:JOURNAL>
39. Glurich, I., Schwei, K. M., Lindberg, S., Shimpi, N., & Acharya, A. (2017). Integrating Medical-Dental Care for Diabetic Patients: Qualitative Assessment of Provider Perspectives. *Health Promotion Practice*, 19(4), 531. <https://doi.org/10.1177/1524839917737752>
40. Adibi, S., Li, M., Salazar, N., Seferovic, D., Kookal, K., Holland, J. N., Walji, M., & Farach-Carson, M. C. (2020). Medical and Dental Electronic Health Record Reporting Discrepancies in Integrated Patient Care. *JDR Clinical and Translational Research*, 5(3), 278–283. <https://doi.org/10.1177/2380084419879387>,
41. Howard, S. W., Bernell, S. L., Yoon, J., Luck, J., & Ranit, C. M. (2015). Oregon's experiment in health care delivery and payment reform: Coordinated care organizations replacing managed care. *Journal of Health Politics, Policy and Law*, 40(1), 245–255. <https://doi.org/10.1215/03616878-2854919>,
42. Nwando Olayiwola, J., Bodenheimer, T., Dubé, K., Willard-Grace, R., & Grumbach, K. (2014). *Facilitating care integration in Community Health Centers: A conceptual framework and literature review on best practices for integration into the medical neighborhood This work was made possible with generous funding from Blue Shield of California Foundation Executive summary Background.*
43. Douglass, J. M., & Clark, M. B. (2015). Integrating Oral Health Into Overall Health Care to Prevent Early Childhood Caries: Need, Evidence, and Solutions. *Pediatric Dentistry*, 37(3), 266–274.
44. Rawlinson, C., Carron, T., Cohidon, C., Arditi, C., Hong, Q. N., Pluye, P., Peytremann-Bridevaux, I., & Gilles, I. N. G. R. I. D. (2021). An Overview of Reviews on Interprofessional Collaboration in Primary Care: Barriers and Facilitators. *International Journal of Integrated Care*, 21(2), 32. <https://doi.org/10.5334/IJIC.5589>
45. Zechariah, S., Ansa, B. E., Johnson, S. W., Gates, A. M., & De Leo, G. (2019). Interprofessional Education and Collaboration in Healthcare: An Exploratory Study of the Perspectives of Medical Students in the United States. *Healthcare*, 7(4), 117. <https://doi.org/10.3390/HEALTHCARE7040117>



## Acknowledgements

The National Association of Chronic Disease Directors (NACDD) received funding from the Centers for Disease Control and Prevention (CDC) Division of Oral Health (DOH) for the Medical-Dental Integration (MDI) project (award number 5-NU38OT000286-03, CFDA number 93.421). NACDD contracted with KDH Research & Communication (KDHRC) to assist NACDD.

**NICOLE I. WANTY, MAA** is a Senior Research Scientist at KDH Research & Communication

**BARBARA Z. PARK, RDH, MPH** is a Public Health Consultant at National Association of Chronic Disease Directors

**ELIZABETH R. PHELPS** is a Research Assistant at KDH Research & Communication

**KRISTEN D. HOLTZ, PHD** is the Founder and President at KDH Research & Communication



145 15th Street NE  
Suite 831  
Atlanta, GA 30309

[www.kdhrc.com](http://www.kdhrc.com)  
[publicaffairs@kdhrc.com](mailto:publicaffairs@kdhrc.com)

KDH RESEARCH & COMMUNICATION is a non-partisan, public health, research and communications agency. The goal of the "Informing Public Health" brief series is to disseminate innovative, objective, and timely information to solve public health and other social issues. KDHRC actively contributes to a future when all people can find, understand, and act on information to safeguard the health of themselves, their families, and their communities.

The views expressed here are those of the authors and do not necessarily reflect those of KDH Research & Communication, its board, or funders. Permission is granted for reproduction of this document with attribution to KDH Research & Communication.