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Dental Health and Dental Care Utilization Among Able-Bodied Adults on Medicaid in Kentucky After Medicaid Expansion: A Mixed Methods Study

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Abstract

Background. Dental utilization remains low among adults on Medicaid, despite the ACA expansion increasing access to care in many states. It remains unclear whether low utilization reflects low demand or other barriers. Our objective was to examine factors associated with poor perceived dental health and low dental utilization among adults on Medicaid.

Methods. We conducted a large survey of able-bodied adults (N=9,363) on Medicaid in Kentucky from between May and September 2018, which included questions on perceived dental health and utilization of dental care. Semi-structured interviews were also conducted with a subset of participants (N=127) from May to November 2018. Results. 37.8% of respondents reported fair or poor oral health, higher than the 26.2% with fair or poor physical health. 47.6% indicated needing dental care in the last six months, but only half of this group reported receiving all the care they needed. Both low demand and a number of barriers, including lack of coverage for needed services and lack of access to care (low provider availability, transportation difficulties), appeared to explain low rates of utilization.

Conclusions. Low dental utilization reflects a combination of low demand and barriers to care. Coverage and access issues could be mitigated by expanding the range of covered services and increasing provider availability.

Introduction

In 2000, the Surgeon General identified poor oral health as an epidemic disproportionately impacting Americans of low socioeconomic status(1); two decades later, it remains a significant public health problem(2). Oral health significantly impacts physical health, mental health, and quality of life. The majority of oral diseases—such as tooth decay, gum disease, dental abscesses, and oral cancers—can be prevented or effectively managed if detected early(3). Left untreated, however, oral diseases can have debilitating consequences. Moreover, poor oral health has been associated with chronic disease such as diabetes mellitus and cardiovascular disease(4, 5) and may negatively affect mental health by lowering self-esteem and limiting social opportunities(6, 7).

Despite the significant need for dental services, lower income adults have low rates of annual dental visits(8). Incomplete insurance coverage for dental care in this population may contribute to this problem. Under Medicaid, the public insurance program for low-income individuals, states may elect to cover routine dental care as an optional covered benefit. However, implementation of coverage of non-emergency dental services in 24 of the 37 states expanding Medicaid as part of the Affordable Care Act(9, 10) has led to only modest increases in dental care utilization among low-income adults(11–13).

It remains unclear whether low utilization of dental services post-Medicaid expansion reflects low demand for dental care or other factors, such as provider availability or transportation barriers(14). Understanding the drivers for low utilization is particularly critical in the present context, as states are contemplating innovations in dental health care, including, in some cases, tying benefits to specific activities. We investigated this question by analyzing data from large, original, representative survey conducted in 2018 with Medicaid-insured adults in Kentucky. Surveys were followed by complementary in-depth qualitative interviews with a subset of survey respondents. Kentucky is a state of particular interest given their proposed Medicaid waiver program where insurance benefits for beneficiaries deemed able-bodied would be tied to meeting community engagement and cost sharing requirements, and payment for dental services would be contingent on dollars earned by beneficiaries through completing specific activities.

Study Design

Institutional Background

The Commonwealth of Kentucky expanded Medicaid under the ACA in 2014. In 2018, the state received approval from the Centers for Medicare & Medicaid Services (CMS) to implement a Section 1115 demonstration waiver entitled Kentucky HEALTH (Helping to Engage and Achieve Long Term Health). One provision of this waiver specified that able-bodied adults who gained Medicaid due to the ACA expansion would no longer have automatic coverage for non-emergency dental care. The waiver instead specified that these beneficiaries would have complete qualifying activities to earn reward dollars to use for non-emergency dental services (the My Rewards program)(15). The program is currently on hold due to a legal challenge(16), and routine dental care remains covered.

At present, Kentucky covers most diagnostic and preventative services, such as oral examinations, radiographs, and cleanings (prophylaxis and scaling & root planing)(17). Extractions and jaw surgeries are also covered. These services are helpful in eliminating existing oral diseases such as tooth decay and gum disease. However, Medicaid does not cover many services necessary to regain dental function. Other than fillings, commonly required services to restore severely decayed teeth such as root canals and crowns are not covered. Options to replace missing teeth, such as implants and dentures (partial and complete), are also not covered(18).

Data

As part of an independent evaluation of Kentucky HEALTH, we conducted a pre-implementation survey of 9,396 beneficiaries, randomly sampled from a subset of 257,000 beneficiaries deemed eligible for the waiver program(19). The survey was fielded by the National Opinion Research Center at the University of Chicago (NORC) from May 5 to September 8, 2018. Participants could complete the survey over the phone or online and received a small gift of $25 cash for their response. The yield rate for the survey was 17%, with a response rate of 29.1% (using the American Association for Public Opinion Research (AAPOR) definition 1)(20).

During the survey, participants were asked if they were willing to be contacted for a qualitative interview. NORC recruited and interviewed 127 participants from this sample between May 14 to November 21, 2018; each participant received $25 in compensation. Interviews were recorded and transcribed verbatim by Accenture, and thematic coding was completed by the research team. Both the quantitative survey and qualitative interviews were approved by the Institutional Review Board at the National Opinion Research Center. Informed consent was obtained from all participants; verbal consent was approved by the IRB as the surveys were minimal risk. Verbal consent was obtained for phone survey and interview participants prior to survey initiation, and web survey participants were provided with survey information and provided consent to move forward with the survey.

Methods

From the overall survey data, we selected a subset questions that examined self-reported dental health, utilization, and need for care. Participants were asked if they needed dental care in the past six months, if they were able to get all of the care they needed, and reasons for delaying care, if relevant; response options included “it cost too much/insurance didn’t cover it,” “problems getting or making it to an appointment,” “not knowing where to get care,” and “not trusting providers that were available”. To capture perceived dental health, participants were asked to report how many days their dental health was not good in the past 30 days, as well as how they would describe their dental health (including teeth and gums), on a 5-point Likert scale ranging from Excellent-Poor. Participants were also asked to report out-of-pocket spending on dental care in the past six months. We examined the proportion of people reporting fair or poor dental health, and looked at variations in need, dental visits, and perceived unmet need between this group and those reporting good or better dental health.

De-identified qualitative interviews were used for analysis. Only a subset of questions related to dental health were used for coding, including questions on how personally important it was to have coverage for dental care, utilization of dental care in the past year, source of care, and current dental need. Coding was done manually to create a list of thematic codes, which included lack of coverage for replacement (crowns and dentures), high costs for uncovered services, low availability of providers, and confusion about benefits. After initial coding was complete, interviews were reviewed to make sure all themes were coded across interviews.

Results

Survey Analysis

The majority of survey respondents were non-Hispanic white (78.2%), 47.2% were female, and the average age was 36.1 (Table 1). 64.7% attained a high school education or less, and 5.5% reported poor health literacy (often or always requiring assistance to understand medical information)(21).

We found that poor oral health was more prevalent than poor physical health—26.2% of respondents reported “fair” or “poor” physical health, but 37.8% reported “fair” or “poor” oral health (Figure 1a). While 47.6% of respondents indicated that they needed dental care (Figure 2), less than half reported receiving all of the care that they needed. Rates of “fair” or “poor” self-reported oral health were highest among this group of beneficiaries (as compared those who reported not needing care or those receiving all the care they needed; Figure 1b).

Across the sample, 73.2% of respondents reported “good” or better physical health, while 26.2% reported “fair”/”poor” physical health (Figure 1a). In contrast, only 61.2% reported “good” or better oral health while 37.8% reported “fair”/”poor” oral health. Despite perceptions of relatively worse oral health, only 34.6% of respondents reported visiting the dentist one or more times in the last six months.

Figure 3 displays reasons for delaying dental care among respondents who reported an unmet need for dental care. A majority (60.6%) cited financial barriers (“cost too much and/or insurance didn’t cover it”). Other top barriers include “trouble getting or making it to an

appointment" (24.3%) and a "lack of knowledge about where to go to seek care" (17.4%). Among individuals who indicated "Other" (20.6%; the most common write-in cause was anxiety over dentists, needles, and/or doctors.

Qualitative Results

A recurring theme among qualitative interview respondents describing unmet dental needs was that Medicaid did not cover the specific procedures they needed, including crowns and dentures (see Table 4 for covered services). One respondent stated that "I need a lot of dental care but what I need isn't covered. [Medicaid will] pay to remove teeth, but they won't pay to put teeth back or for dentures. And I'm kind of stuck at the point where some need to come out, but I'm unable to fund putting them back in at the moment."

Many respondents specifically named root canals, crowns, implants, and dentures—options to replace decayed teeth—as necessary services that are not covered by Medicaid. One individual remarked, "they [Medicaid] don't help with fixing that tooth. It's either extracted or pay $2,500. I'm a mother of three, I don't have $2,500." Respondents repeatedly expressed that the out-of-pocket cost for dental treatments not covered by Medicaid was an insurmountable barrier to fulfilling their dental needs.

A limited supply of accessible providers was also a commonly cited barrier, particularly a lack of geographically accessible providers who accepted Medicaid. Respondents reported that "I cannot find a place in [my town] that will take my insurance," and "[wait time for Medicaid dental care] is crazy. Our local dentist is about three months out."

Numerous responses indicated confusion about Medicaid dental benefits and coverage. One respondent said "I actually don't know if I have dental care right now…I can't remember. I haven't used it in a while." Another individual stated "I think that the insurance [Medicaid] covers everything that's needed for the dentist and all that, but I'm not really for sure about it. I haven't been in a while." Participants reporting confusion often described how it was a challenge to understand and access their benefits, which made it difficult to access care in a timely way. In response to whether they had seen the dentist lately, one individual responded "No, that has been on my 'to look into' list for forever, and I just did not get around to it."

Respondents also reflected on the social importance of dental care and oral health, stating "your smile is connected to your personality… and makes you feel better about your self-confidence. It's one of the first impressions that another person gets about you." Missed opportunities due to poor oral health were also mentioned, such as "with job interviews…it just seems like a good smile and a good-looking set of teeth can mean a lot" and "I think if I could get dentures…I'd be able to feel like talking to somebody and trying to, you know, have a girlfriend or a wife."

Discussion

Our findings suggest that a large number of Kentuckians covered by Medicaid had high demand for dental care owing to significant disease, but were unable to have this demand for care met by Medicaid services. Survey responses indicated that incomplete coverage of needed care and the cost of uncovered services were significant barriers to receiving needed care. Qualitative interviews revealed additional barriers, including confusion about which services were covered and a lack of local providers who accepted Medicaid payments.

The high prevalence of "fair"/"poor" perceived oral health and low utilization of services among the adult Medicaid expansion population in Kentucky found in this study is consistent with previous studies showing worse oral health outcomes and lower healthcare utilization among low-income individuals (8, 22). While beneficiaries have had access to dental benefits since the 2014 expansion, perceived poor health likely reflects chronically poor oral health, which often requires uncovered treatments (i.e., root canals, crowns, and dentures) to replace teeth and recover form and function (23, 24). This may explain the striking prevalence of unmet dental need among 45.4% of those with "fair" or "poor" oral health, compared to 12.5% reporting unmet needs among those with "excellent" or "very good" oral health. It may be that the range of Medicaid-covered benefits is adequate for program participants who are in reasonably good oral health, and who have consistently received dental care in the past. But among participants with advanced dental problems and a history of going without care, coverage for more extensive diagnostic, preventative, restorative, and surgical care may be essential.

22.4% of the survey population reported needing care and receiving all of the care they needed; this group has perceived dental needs and is able to receive appropriate care through Medicaid. 25.2% of the survey population, however, reported needing care and being unable to receive appropriate care because the services they require are not covered by Medicaid and thus prohibitively expensive. This population will likely remain underserved by Medicaid, as their need is beyond the scope of what is typically covered.

A majority of the population (54%) did not perceive a need for dental care in the last six months. For the approximately 70% reporting “good” or better dental health, this may reflect participation in annual cleanings, which are sufficient care for many in good dental health (25). For the 30.0% of this group reporting “fair”/”poor” dental health, however, the lack of perceived dental need may stem from low prioritization and awareness about the importance of oral health, as well as confusion or misperception about Medicaid dental benefits (26).

Beneficiaries who do not engage in preventative care may not perceive a need for dental services until there is an acute infection or onset of pain after many years of oral health neglect (14). Unfortunately, the services covered by Medicaid may then be inadequate to address their chronic oral health problems. These individuals may benefit the most from targeted efforts and education to increase dental screenings, in order to move as many as possible into the population capable of receiving all the care they need within what is covered by Medicaid (Figure 3).

Lack of dental visits post-ACA expansion appear reflective of two main issues—the first being coverage that is not sufficient to address need, and the second, limited availability of providers. Increases in dental visits in post-expansion states were primarily seen in areas that had both generous coverage and high dentist supply (27). While limitations based on provider availability are seen in this population, recent research in Appalachia suggests a need to identify and address factors other than dental provider availability in order to increase utilization (28).

Kentucky is clearly not alone in facing beneficiary issues around coverage and care-seeking. Many other states’ Medicaid programs cover a more limited scope of dental benefits, while some states provide no dental coverage at all (29). Future studies should rigorously evaluate the effectiveness of expanding dental coverage with respect to improving overall dental health and addressing the unmet dental needs of beneficiaries.

Limitations

Our study had several limitations. First, the data are self-reported and thus potentially subject to recall bias and social desirability response bias. Second, our data did not solicit information on specific dental conditions or individuals’ dental histories, and therefore we lacked complete information on why participants self-reported a need for dental care. Third, survey data may have limited generalizability to states other than Kentucky, to time periods after 2018, or to Medicaid beneficiaries in Kentucky who were not part of the group eligible for the Kentucky HEALTH program.

Conclusions

Many beneficiaries in the Kentucky HEALTH population may be able to receive adequate dental care through currently provided Medicaid benefits. At the state level, efforts should aim to improve oral health awareness among the population not currently seeking care, as this population could benefit from taking advantage of covered services. In order to address poor oral health for those unable to receive all the care they need, CMS should consider expanding mandated benefits under federal Medicaid regulations. States should be urged to opt in to providing dental care as an optional benefit, and to elect coverage for a comprehensive set of dental benefits. If some of these benefits do not qualify for federal matching funds, states could choose to self-finance this care or explore Section 1115 waiver programming that expands dental coverage.

Declarations

Ethics approval and consent to participate

Both the quantitative survey and qualitative interviews were approved by the Institutional Review Board at the National Opinion Research Center. Informed consent was obtained from all participants; verbal consent was approved by the IRB as the surveys were minimal risk. Verbal consent was obtained for phone survey and interview participants prior to survey initiation, and web survey participants were provided with survey information and provided consent to move forward with the survey.

Consent for publication

Not applicable.

Availability of data and materials

The data analyzed during the current evaluation are not publicly available as they are part of an ongoing evaluation, but a de-identified version of the quantitative dataset is available from the corresponding author upon reasonable request, pending agreement from the funders.

Competing interests

Dr Venkataramani reported receiving grants from the National Institutes of Health, the Robert Wood Johnson Foundation, and the Donoghue and Rx Foundation outside the submitted work. Dr Volpp reported being part owner of the consulting firm VAL Health; receiving grants from Vitality/Discovery, the Hawaii Medical Services Association, and Oscar Insurance; and receiving grants and personal fees from CVS Health outside the submitted work. Dr Underhill reported grants from the Donoghue and Rx Foundations outside the submitted work.

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Authors' contributions

T.T. Wang and E.L. Dixon contributed equally and therefore are considered co-first authors. A.S. Venkataramani, K.G. Volpp, and K. Underhill provided supervision and study design. E.F. Bair and K.A. Linn completed statistical analyses. W. Ferrell and K.Underhill completed qualitative analyses. E.F. Bair and W. Ferrell contributed to drafting of the article. All authors contributed significantly to critical revision of the manuscript.

Acknowledgements

Not applicable.

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Tables

Table 1. Demographic characteristics of 2018 Kentucky HEALTH survey population

		Overall population, Percent (SE) (N = 9,396; Total weighted population = 257,027)
Age, mean (SD)		36.1 (11.9)
Female		47.2% (0.7)
Race †		
	Non-Hispanic white	78.2% (0.9)
	Non-Hispanic black	11.2% (0.8)
	Hispanic	3.7% (0.3)
	Other	5.9% (0.4)
Education †		
	≤High School	64.7% (0.8)
	Some College or more	34.7% (0.8)
Self-reported number of months with insurance in last 6 months †		
	0 months	2.1% (0.2)
	1-5 months	5.8% (0.4)
	6 months	89.9% (0.4)
Poor health literacy		5.5% (0.3)
Access to Internet		
	In home	89.8% (0.5)
	In home or somewhere else	93.8% (0.4)

† Subcategories may not add to 100% due to “Don’t know” or “Declined/Skip” responses.

Table 4. Dental Services covered by Medicaid in Kentucky

DMS DENTAL FEE SCHEDULE (Jan 2018)		
Type	Services Covered	Notable Services Not Covered
Diagnostic (D0100-D0999)	Oral evaluation, screening, radiographs	
Preventative (D1000-D1999)	Prophylaxis (cleanings)	Fluoride varnish
Restorative (D2000-D2999)	Amalgam filling, composite filling	Crowns
Endodontics (D3000 - D3999)	Apicoectomy	Root canals
Periodontics (D4000 - D4999)	Scaling and Root planing (deep cleaning), Gingivectomy	
Prosthodontic and Implants (D5000-6999)	None	Partial dentures, Complete dentures, Implants
Oral and Maxillofacial Surgery (D7000-7999)	Tooth extraction, alveoplasty, Facial prostheses, jaw surgeries	

Figures

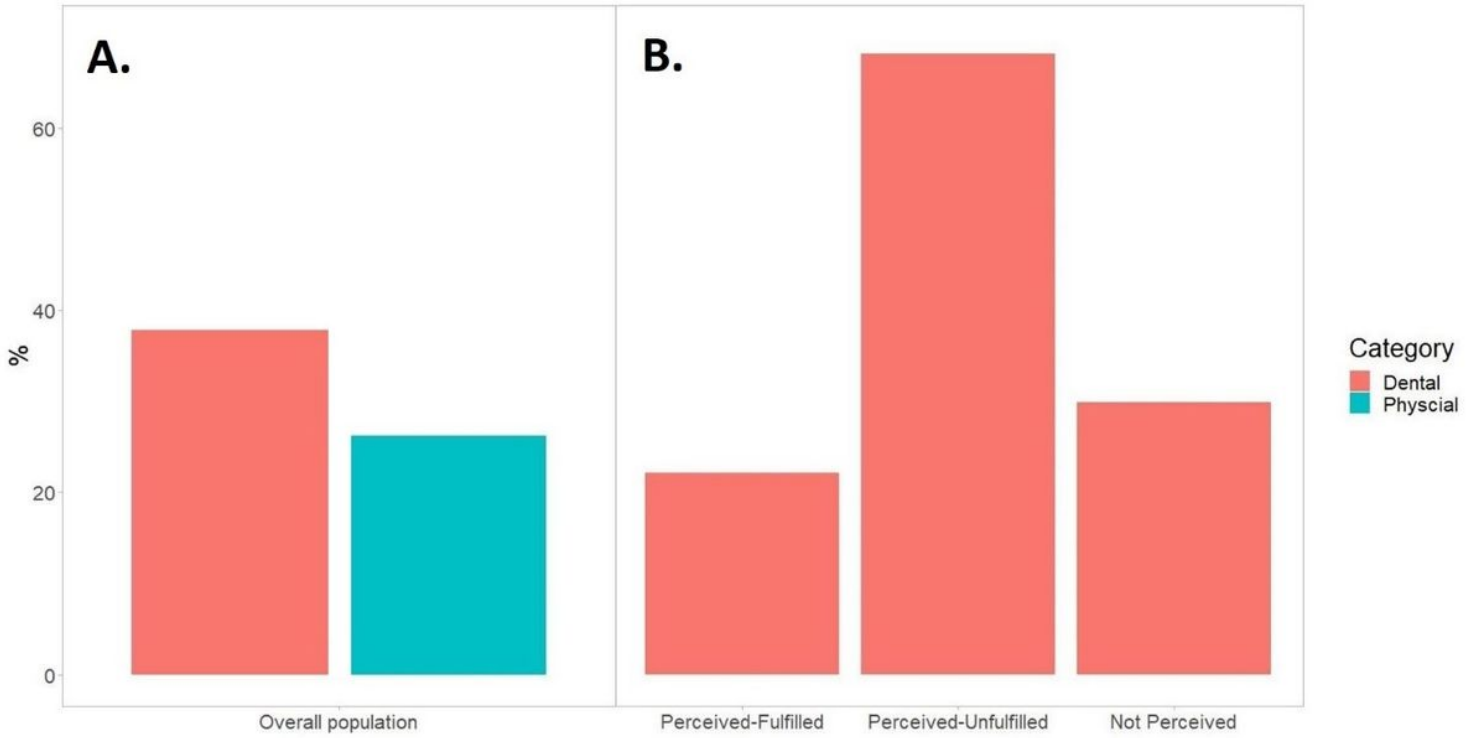

Figure 1

(A) Self-reported “fair” or ”poor” dental and physical health in the 2018 Kentucky HEALTH survey population (N = 9,396) (B) Self-reported “fair” or “poor” dental health by self-perceived need for dental care and care fulfillment in the past 6 months

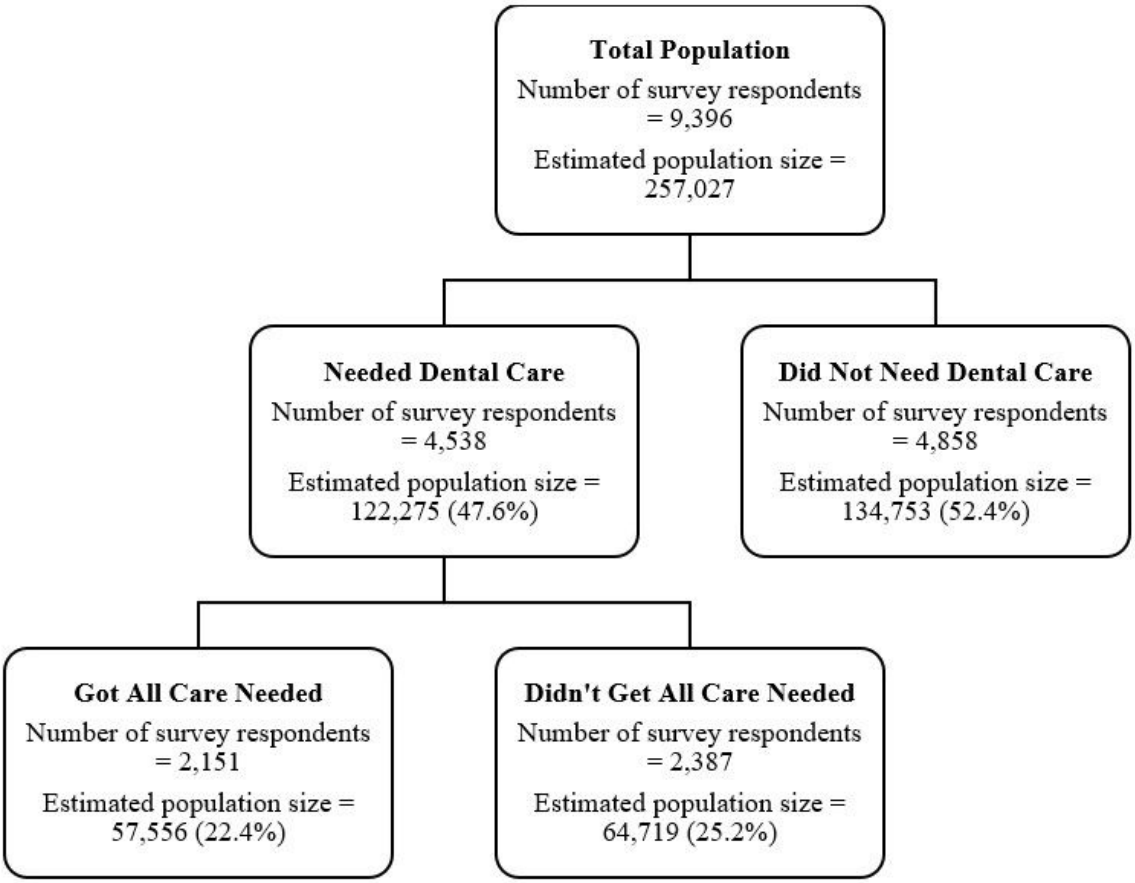

Figure 2

Self-reported dental need and if need was met in the last 6 months within the 2018 Kentucky HEALTH survey population Note: Population estimates and percentages were calculating using survey weights. Weighted populations of subgroups may sum to slightly more than the weighted population of parent groups due to rounding of the weights.

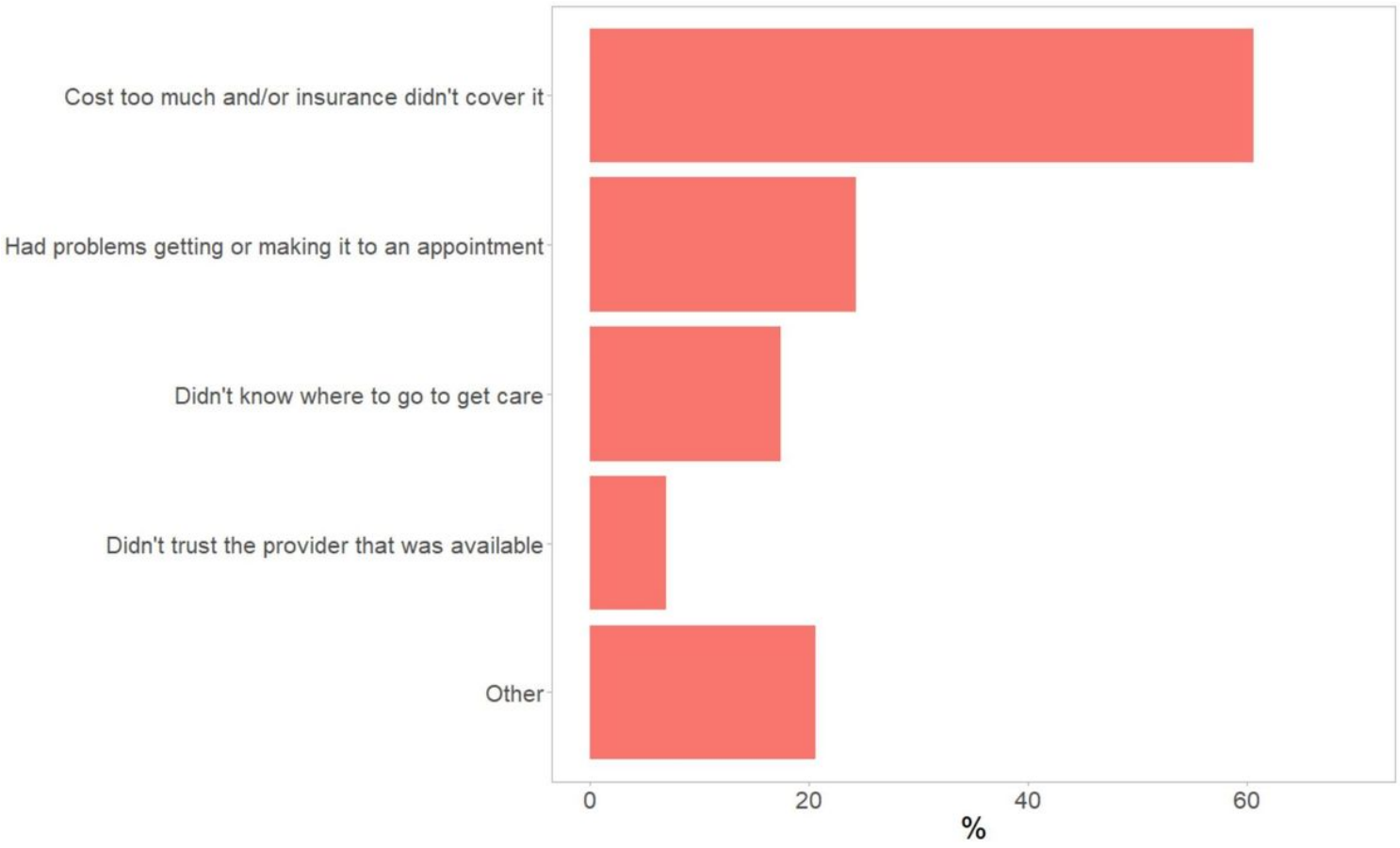

Figure 3

Self-reported reasons for delaying dental care among those who did not get all the dental care they needed in the last six months in the 2018 Kentucky HEALTH survey population (N = 2,387)