



FEATURE

Medicaid and digital health

Findings from the Deloitte 2018 Survey of
US Health Care Consumers

Melissa Majerol and Wil Carroll

A recent Deloitte survey revealed that most Medicaid beneficiaries have the technology and appetite for digital health. How can states and managed care organizations do more to engage them?

FINDINGS FROM THE [Deloitte 2018 Survey of US Health Care Consumers](#) show that most adult Medicaid beneficiaries own mobile technologies, use them for a variety of health purposes, and are interested in trying new digital health applications in the future. One in five people in the United States are enrolled in Medicaid and a number of mobile apps on the market are designed to meet some of their diverse needs.¹ In this article, we discuss several of these apps and explore how states and Medicaid managed care organizations (MCOs) might use some of these features and functions for their Medicaid populations.

Adult Medicaid beneficiaries have mobile devices, too

Adult Medicaid beneficiaries differ from people with private insurance in important ways. They have lower incomes, fewer years of formal education, and are more likely to have social needs related to unstable housing, employment, and food security.² But when it comes to the adoption of digital technology,

such as smartphones and tablets, the Medicaid population looks similar to other groups. Our survey finds that adult Medicaid beneficiaries own smartphones (86 percent) and tablets (69 percent) at the same rates as the general adult US population (86 percent and 72 percent, respectively), but at slightly lower rates than those with employer insurance (94 percent and 79 percent). More than one-quarter of Medicaid beneficiaries report owning wearables (29 percent), a rate lower than that of the general population (39 percent). (See figure 1.)

The prevalence of such technologies among Medicaid beneficiaries may surprise some health care stakeholders. In 2016, when the Center for Medicare and Medicaid Services (CMS) proposed a rule requiring MCOs to create an online grievance and appeals platform for Medicaid beneficiaries, several commentators opposed the proposal, in part because they believed many Medicaid beneficiaries did not have access to the internet. The requirement was later removed from the final rule.³

And in 2015, when Governor Doug Ducey of Arizona announced a new strategy to help Medicaid beneficiaries better manage their illnesses through

INSIDE THE DELOITTE 2018 SURVEY OF US HEALTH CARE CONSUMERS

Since 2008, the Deloitte Center for Health Solutions (DCHS) has periodically polled a nationally representative sample of US adults (18 and older) about their experiences and attitudes related to their health, health insurance, and health care. The national sample is representative of the US Census with respect to age, gender, race/ethnicity, income, geography, and insurance source.

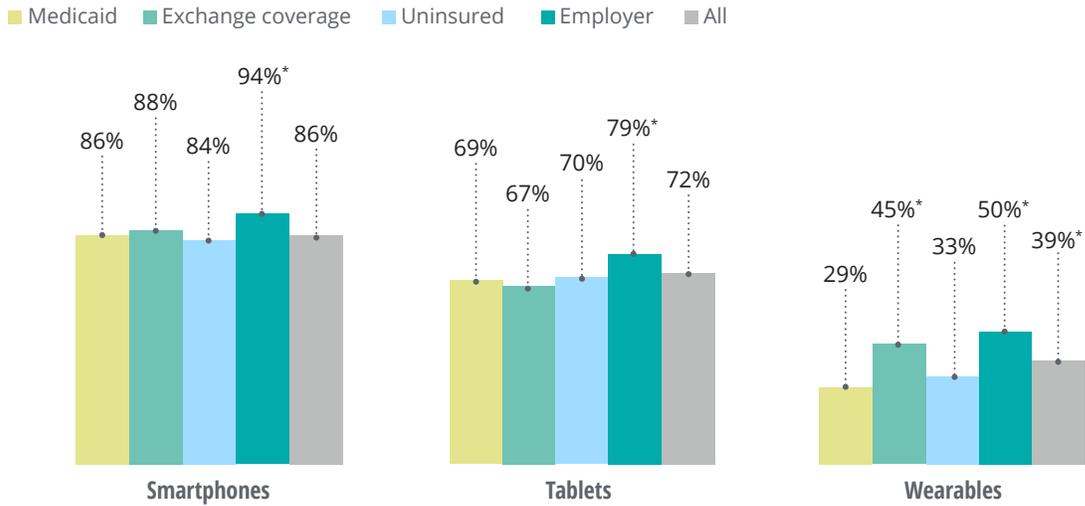
In early 2018, DCHS conducted an online survey of American adults in English and Spanish. This survey seeks to understand consumer interest, preferences, and attitudes around technology-enabled health. As such, the survey explores the current use of technology for monitoring health and fitness and the extent to which consumers are interested in using technology for health care services. Because the survey is administered online, respondents in all insurance groups may be somewhat more likely to own mobile technology and be more tech savvy than the overall population.

a mobile phone app and online portal, the vice president of a mobile engagement company dismissed the proposal, saying it was unlikely Medicaid beneficiaries would own smartphones due to their low incomes.⁴

It's true that mobile device adoption among Medicaid beneficiaries has increased substantially in just the last two years; however, the majority of Medicaid beneficiaries owned these technologies even in 2016 (see figure 2).

FIGURE 1

Adult Medicaid beneficiaries own smartphones and tablets at similar rates to the general US adult population



Note: * Denotes statistical difference from Medicaid at the p<0.05 level. "All" includes all coverage groups shown in the chart and groups not shown in the chart, including Medicare, military insurance, and individuals with other types of health coverage.

Source: Deloitte Center for Health Solutions' 2018 survey of health care consumers.

FIGURE 2

The rate of smartphone and tablet ownership among Medicaid beneficiaries increased by over 10 percentage points between 2016 and 2018



Note: * Denotes statistical difference from 2016 at the p<0.05 level. ^ Denotes a percentage point change.

Source: Deloitte Center for Health Solutions' 2018 survey of health care consumers.

As the world becomes more digitally oriented, connecting to the internet may no longer be optional. Whether they are applying for jobs, providing their children with learning opportunities, paying bills, or refilling prescriptions, people of all incomes increasingly see internet access as essential—and are willing to sacrifice other budget items to pay for it.⁵ For about 20 percent of Americans, a mobile device is the only way of connecting to the internet while at home. So-called “smartphone dependence” is especially common among people with lower incomes.⁶

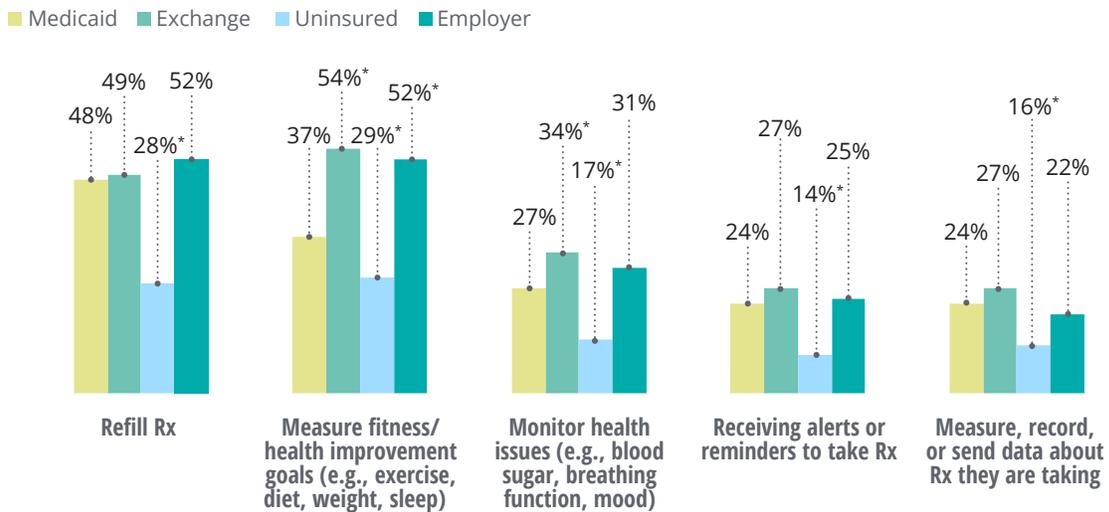
Thus, far from being disconnected, many Medicaid beneficiaries are likely using their smartphones for all or most of their internet activity, potentially making them an exceptionally receptive audience for mobile health apps.

How Medicaid beneficiaries use technology for health purposes

The health care industry continues to develop online information resources, mobile applications, and personal health devices.⁷ These tools have the potential to improve member engagement, care management, and the exchange of health and health care information between patients and providers. Indeed, according to our survey, between one-quarter and one-half of Medicaid beneficiaries use their technologies to refill prescriptions (48 percent); measure fitness and health improvement goals such as exercise, diet, weight, and sleep (37 percent); monitor health issues such as blood sugar, breathing function, and mood (27 percent); receive alerts or reminders to take prescriptions drugs (24 percent); and measure, record, or send data about a prescription they are taking (24 percent). (See figure 3.)

FIGURE 3

Medicaid beneficiaries’ use of technology for health purposes is generally similar to that of individuals with employer and exchange coverage, and significantly higher than those who are uninsured



Note: * Statistically different from Medicaid at the p<0.05 level. This question was asked to all respondents, including those who said they did not own mobile technologies.

Source: Deloitte Center for Health Solutions’ 2018 survey of health care consumers.

Moreover, the vast majority of Medicaid beneficiaries are interested in using technology for a variety of health purposes in the future. Some examples include using an app that can recognize mood from the tone of a person’s voice to help identify issues such as depression or anxiety (70 percent); connecting with a live health coach through an app that offers nutrition, exercise, sleep, and stress management advice (72 percent); and engaging with a virtual assistant to help identify symptoms and direct them to a physician or nurse (77 percent). (See figure 4.)

What kind of mobile apps could be most useful for Medicaid populations?

States across the country have modernized their Medicaid eligibility and renewal systems in recent years. Some have also made Medicaid enrollment applications and/or online accounts available to Medicaid beneficiaries via mobile apps or through

online mobile-friendly designs.⁸ Individuals can use these tools to apply for and renew their coverage, update contact information, and upload documentation. Some state and MCO Medicaid apps also allow individuals to find a nearby provider, view their benefits and cost-sharing responsibilities, and access a digital member ID card.⁹ Such features can help Medicaid recipients maintain continuous coverage and make it easier for them to access health services.

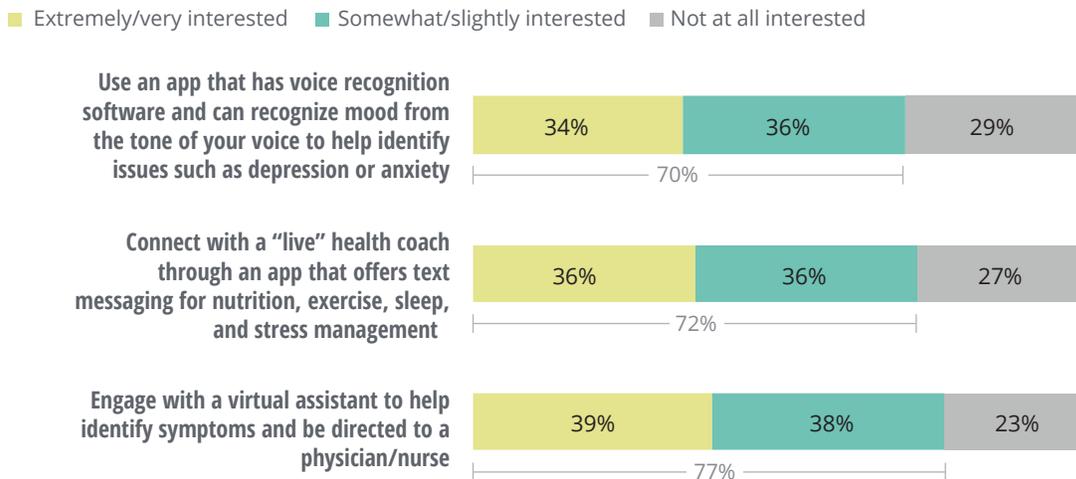
As Medicaid apps grow in number and scope, states and MCOs may choose to expand their app features to better serve specific populations, such as people with behavioral health conditions, individuals with disabilities, pregnant women, and people with risk factors related to the social determinants of health. Below, we discuss several apps that are designed with some of these Medicaid subpopulations in mind.

BEHAVIORAL HEALTH CONDITIONS

In 2011, one in five Medicaid enrollees had behavioral health diagnoses, accounting for almost

FIGURE 4

Most Medicaid beneficiaries are interested in using technology for a variety of health purposes in the future



Note: Bar charts may not add up to 100 percent due to rounding. This question was asked to all respondents, including those who said they did not own mobile technologies.

Source: Deloitte Center for Health Solutions’ 2018 survey of health care consumers.

one-half of Medicaid expenditures. These diagnoses included mental illness, addiction, anxiety, and depression.¹⁰ Despite high rates of behavioral health conditions in the United States writ large, provider shortages are widespread, particularly in rural areas.¹¹

According to the Anxiety and Depression Association of America (ADAA), mental health apps can be effective in making therapy more accessible, efficient, and portable.¹² Happify and CPT Coach are two among many apps designed for individuals with mental health conditions.

Happify is a self-guided app that aims to increase positive emotions through exercises and games supported by positive psychology and mindfulness research.¹³ Individuals fill out an initial questionnaire, which the app uses to suggest personalized tracks. Subsequent activities are geared toward various aims gleaned from the questionnaire, such as reducing worry, building relationships, increasing fitness, or coping with chronic pain. Users are encouraged to read the accompanying blurbs, which explain the research or scientific rationale behind each activity.¹⁴

CPT Coach is an app that was developed by groups within the Department of Veterans Affairs (VA) and the Department of Defense (DoD). It is designed for patients to use with their therapists during face-to-face cognitive processing therapy (CPT) and offers education about PTSD symptoms and a step-by-step approach to following the assessments that correspond with each week of CPT treatment.¹⁵

In addition, some apps for substance use have shown promising results. With funding from the National Institute on Drug Abuse (NIDA), The University of Wisconsin School of Medicine and Public Health developed Seva, an app for people who had completed substance abuse treatment. Key features of the app include discussion boards, interactive problem-solving modules, tools for coping with cravings, and tips for dealing with high-risk situations. Other features include sobriety counters or

calculators and GPS features that help people find their nearest 12-step meeting. Two hundred and sixty-eight people were enrolled in a pilot study of the app, and indicators were checked initially and at six and 12 months. The following results were found: The number of “risky drinking days” dropped by 44 percent, hospitalizations dropped by 32 percent, and visits to the emergency room dropped by 49 percent.¹⁶ While an app cannot replace person-to-person contact with a trained behavioral health provider, it may be useful when someone needs immediate help with a trigger or high-risk situation, and may help keep people focused on their goals between sessions with their providers.

PEOPLE WITH DISABILITIES

Thirty percent of nonelderly adult Medicaid enrollees report having a disability, which may include difficulty with hearing, vision, cognitive functioning (difficulty concentrating, remembering, or making decisions), mobility, or independent living.¹⁷

A number of apps exist to help people with disabilities. Live Caption can help individuals with hearing loss; the hearing-impaired person asks others to speak directly into his or her phone and the app transcribes their voice on a mobile device in real time.¹⁸ Similarly, the RogerVoice app can transcribe phone conversations.¹⁹ Apps like these can make it easier for people who are deaf or hard of hearing to communicate with their providers, health plan, caregivers, or loved ones. Other apps that cater to people with disabilities include a “brain training” app developed by researchers at the University of Cambridge, which was found to improve the memory of people in the very earliest stages of dementia,²⁰ and AXS Map, a crowdsourced tool for sharing reviews on the wheelchair accessibility of businesses and other places in the community.²¹

Making an app for people with disabilities goes beyond simply building functionality to address one or more of their needs. The app itself needs to be designed in a way that is accessible to people with disabilities. Some features that could improve the

accessibility of an app include enabling Braille on a touchscreen or adapting apps with assistive mobile touch features for people with motor skill impairments.²²

PREGNANT WOMEN

Medicaid pays for roughly one-half of all births in the United States.²³ WebMD Pregnancy and Text4baby are two of the many apps designed for pregnant women. The WebMD pregnancy app offers doctor-approved tips and health information, questions for doctor visits, checklists, and a virtual community.²⁴ Text4baby began as a text-messaging app that alerted women about upcoming doctor appointments and important milestones. It is now available as a mobile app and offers a personalized calendar to help keep track of prenatal and well-baby visits, a vaccination tracker, and resources on pregnancy and parenting, including a 24-hour hotline.²⁵

In 2014, Wyoming launched a pregnancy app called Due Date Plus. While available to anyone in the state, it was configured for Wyoming Medicaid with respect to branding and benefits information. It also allowed users to look up providers and pediatricians and locate the nearest social services programs such as Women, Infants, and Children (WIC), Head Start, and home visiting programs. What's more, it was customized for individuals with low literacy, an issue for many Medicaid beneficiaries.²⁶ A study found that there was strong user engagement and a statistically significant positive relationship between app usage and completion of a six-month or more prenatal visit—an important measure of health care performance for pregnant women.²⁷ The state reported a return on investment of 3:1.²⁸ Other states have launched similar apps, including Indiana's Liv app²⁹ and the Alabama WIC app; however, these two apps are not configured for Medicaid in the same way Wyoming's app is.³⁰

SOCIAL DETERMINANTS OF HEALTH

A growing body of evidence supports the connection between social and environmental factors and health outcomes and life expectancy. These factors

include poverty, education, housing and employment stability, and access to health care and healthy food—often referred to as the *social determinants of health*.³¹

A variety of multipayer and Medicaid-specific initiatives aim to address these social determinants, including screening individuals, linking those in need to social services and community resources, and providing housing and employment supports.³²

Some mobile apps already facilitate some of these initiatives. The New York City Food Assistance Collaborative has launched Plentiful, a coalition of public and private organizations working to alleviate hunger in New York City. Families can log onto the app to find food pantries and make a reservation. Created by a social worker, Social Work Helper is an app designed to help connect social workers and people to resources such as social services, homeless shelters, and crisis help centers.³³ Like Wyoming's Due Date Plus app, state Medicaid agencies and MCOs could incorporate such features into their apps by including social determinants screenings and making automatic referrals to social services and community-based organizations (CBOs).

Looking ahead

A number of apps currently exist that are designed to meet the diverse needs of Medicaid populations. However, beneficiaries may not necessarily know about them; they may be customized to one state or city and not replicated in others; and there may be little or no testing or evaluation of their efficacy.

States and MCOs should consider helping their enrollees navigate the expanding field of apps by creating a customized Medicaid app that offers tools and features tailored to Medicaid beneficiaries' needs, including the types discussed in this article. There are several potential benefits to this approach. First, by bringing a variety of features and tools together into a single platform, Medicaid agencies and MCOs could provide a one-stop app for all or most of their enrollees' needs, rather than leaving it

to the enrollee to find and download apps piecemeal. Second, a state- or MCO-developed app could be tailored to the state or cities/regions therein so that the tools and resources are as relevant as possible to app users. Third, this approach would allow states and MCOs to curate the app so that only tools and features that have been tested and deemed effective would be included in the integrated app. Finally, an integrated app would allow states and MCOs to conduct their own research on the effectiveness of tools and features, as Wyoming was able to do with the Due Date Plus app.

Looking ahead, mobile apps could play an important role in states' and MCOs' continued efforts to better engage Medicaid beneficiaries and improve care management. However, it is important to note that although mobile apps have the potential to augment existing resources and services, they cannot replace them. Health care consumers say that personalized experiences with providers are

the *most* important interactions they have with the health care system, and that they want to be heard, understood, and given clear directions through a personalized health care experience.³⁴ Moreover, proper diagnosis and treatment of certain conditions still require hands-on, direct interaction between physician and patient. This is particularly true of Medicaid beneficiaries who face many of the complex medical and social issues discussed in this piece. Finally, while the majority of Medicaid beneficiaries have mobile devices and are interested in digital health, 14 percent still lack such technology,³⁵ and some people with mobile devices do not feel comfortable engaging with digital health tools.³⁶ As states and MCOs continue to develop their digital health technology, it is important that they maintain nondigital tools, resources, and communication channels and that the physician-patient relationship remains at the center of health care delivery.

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