PREMERA | BLUE CROSS

MEDICAL POLICY – 13.01.500
Prescription Digital Therapeutics

Effective Date:	Aug. 1, 2021
Last Revised:	July 13, 2021
Replaces:	N/A

RELATED MEDICAL POLICIES:

5.01.35	Prescription Digital Therapeutics for Substance Use Disorder
10.01.50	Technology Review
3.03.03	Prescription Digital Therapeutics for Attention Deficit/Hyperactivity Disorder

Select a hyperlink below to be directed to that section.

POLICY CRITERIA | DOCUMENTATION REQUIREMENTS | CODING
RELATED INFORMATION | EVIDENCE REVIEW | REFERENCES | HISTORY

Clicking this icon returns you to the hyperlinks menu above.

Introduction

Prescription digital therapeutics (PDTs) are software applications that are prescribed by a licensed healthcare provider. They are used on a mobile device such as a mobile phone, tablet, smartwatch, or laptop computer. The goal of prescription digital therapeutics is to evaluate, diagnose, manage symptoms, or treat an illness, injury, or disease. Other types of software applications are used for general wellness and do not require a prescription by a health care provider. These are not reviewed in this policy. This policy describes when prescription digital therapeutics may be considered medically necessary.

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

Policy Coverage Criteria

Service	Medical Necessity
Prescription digital therapeutics	**Prescription digital therapeutics are considered medically necessary when ALL of the following criteria in A and B have been met:** A. Criteria to evaluate the prescription digital therapeutic: ○ The prescription digital therapeutic has been approved by the Food and Drug Administration (FDA); **and** ○ There is credible scientific evidence* which permits reasonable conclusions regarding the impact of the prescription digital therapeutic on health outcomes; **and** ○ The prescription digital therapeutic has been proven to improve the net health outcome or is considered as beneficial as another established alternative. (See **Related Policies**) **AND** B. Criteria to evaluate the appropriateness of the prescription digital therapeutic for the individual: ○ The prescription digital therapeutic requires a prescription by a licensed healthcare practitioner; **and** ○ There is documentation supporting that the prescription digital therapeutic was ordered for a covered purpose such as preventing, evaluating, diagnosing, or treating an illness, injury or disease or its symptoms and in accordance with generally accepted standards of medical practice**; **and** ○ The requested prescription digital therapeutic is not primarily for the convenience of the individual, physician, or health care provider ***Note:** Credible scientific evidence means well-designed, well conducted investigations published in peer-reviewed journals that demonstrate the technology can measure or alter physiological or psychological changes related to a disease, injury, illness or condition and that these changes positively affect health outcomes for an extended period of time. ****Note**: Generally accepted standards of medical practice mean standards that are based on reliable scientific evidence published in peer reviewed medical

Service	Medical Necessity
	literature generally recognized by the relevant medical community, physician specialty society recommendations, and the views of physicians practicing in relevant clinical areas and any other relevant factors.

Service	Investigational
Prescription digital therapeutics	**Prescription digital therapeutics are considered investigational when ALL of the above criteria are not met.** **FDA approved prescription digital therapeutics that are considered investigational include, but are not limited to, the following: (this list is not all inclusive)** • BlueStar® Rx • Canvas Dx™ autism diagnosis aid • EndeavorRx™ • Freespira® • Halo™AF Detection System • NightWare™ • ReSet™ (See **Related Policies**) • ReSet-O™ (See **Related Policies**) • Somryst®

Coding

Note: There is no specific CPT or HCPCS code for these digital software applications.

Code	Description
CPT	
99199	Unlisted special service, procedure or report
HCPCS	
A9999	Miscellaneous DME supply or accessory, not otherwise specified
E1399	Durable medical equipment, miscellaneous
T1505	Electronic medication compliance management device, includes all components and accessories, not otherwise classified

Related Information

Definition of Terms

Digital therapeutics (DTx): Deliver therapeutic, evidenced-based interventions driven by software to treat, manage, and prevent a broad spectrum of behavioral, mental, and physical diseases and disorders.[10]

Direct to consumer: products that are sold directly to customers, commonly online via the internet, but may include products sold via a television., print advertisements, a brick-and-mortar store, or other marketing venues. These products typically do not require a prescription.

Mobile application (app): A software application designed to run on a mobile device (off the-shelf commercial computing platform that is handheld, with or without wireless connectivity), or an internet-based software application tailored to a mobile platform but run on a server.

Mobile platform: Commercial off-the-shelf (COTS) computing platforms, with or without wireless connectivity, that are handheld in nature (eg, watch, smart phones, tablet computers, or other portable computers).

Off-the shelf: As purchased or as commonly available without modification or customization; taken from existing stock or supplies.

Over-the counter: Therapeutic interventions that do not require a prescription.

Software: A set of instructions or programs that instruct a computing device on how to work and what to do.

Benefit Application

Digital therapeutics that are available "over the counter" or without a prescription are generally excluded from most Plans, even if they are ordered by a licensed healthcare practitioner. Please see the individual contract Plan language for specific benefit determination.

Some health plans or employer groups may choose to cover digital therapeutics that do not meet the criteria of this policy or are excluded from coverage under the health plan benefits. Such coverage is considered to be separate from benefits available under the health plan. If

coverage is requested utilizing benefits under the health plan, the criteria of this policy will apply.

Evidence Review

Description

Prescription digital therapeutics are software applications that are prescribed by a licensed healthcare practitioner and used on a mobile device such as a mobile phone, tablet, smartwatch, or laptop computer with the intent of evaluating, diagnosing, or treating an illness, injury, disease or its symptoms.

Background

There has been an explosion of health and wellness apps in the last decade, but many of these apps do little more than track activities such as sleep or exercise, calculate calories eaten, or monitor heart rate or weight trends. Digital therapeutics, however, are different in that they are evidenced-based software-driven interventions that are used to evaluate, diagnose, or treat a particular illness, injury, or disease or its symptoms. Currently, digital therapeutics are being used and evaluated for a plethora of medical and behavioral health conditions. Rather than just gathering data, these software applications are proposed to actually affect the treatment of individuals. Services available through digital therapeutics may complement and add value to the traditional healthcare delivery system but they also offer new challenges such as burdening physicians with having to learn new technology for many different applications and be overloaded with data that requires interpretation, there may be increased cybersecurity risks for patients' healthcare and personal data, and there may be lack of acceptance among the elderly due to inexperience with digital platforms. The field of prescription digital therapeutics is rapidly emerging and with it comes many opportunities to improve access to healthcare and perhaps lower healthcare costs, but at the same time, these software applications have to be held accountable to the same levels of scientific review and oversight that are expected of traditional medical treatments.

To provide some type of framework to evaluate and review the clinical evidence, safety and efficacy of these products, per BCBSA related policy,[6] "the International Medical Device Regulators Forum, a consortium of medical device regulators from around the world, which is

led by the FDA, distinguishes between 1) software in a medical device and 2) software as a medical device (SaMD). The Forum defines SaMD as "software that is intended to be used for one or more medical purposes that perform those purposes without being part of a hardware medical device".[25]

FDA's Center for Devices and Radiological Health is taking a risk-based approach to regulating SaMD. Medical software that 'supports administrative functions, encourages a healthy lifestyle, serves as electronic patient records, assists in displaying or storing data, or provides limited clinical decision support, is no longer considered to be and regulated as a medical device'.[51]

Regulatory review will focus on mobile medical apps that present a higher risk to patients.

- Notably, FDA will not enforce compliance for lower risk mobile apps such as those that address general wellness.
- FDA will also not address technologies that receive, transmit, store, or display data from medical devices.

The agency has launched a software pre-cert pilot program for SaMD that entered its test phase in 2019. Key features of the regulatory model include the approval of manufacturers prior to evaluation of a product, which is based on a standardized "Excellence Appraisal" of an organization, and its commitment to monitor product performance after introduction to the U.S. market. Criteria include excelling in software design, development, and validation. Companies that obtain pre-certification participate in a streamlined pre-market review of the SaMD. Pre-certified organizations might also be able to market lower-risk devices without additional review". In 2017, FDA selected 9 companies to participate in the pilot program out of over 100 applications: Apple, Fitbit, Johnson & Johnson, Pear Therapeutics, Phosphorus, Roche, Samsung, Tidepool, and Verily.

Other organizations have initiated similar efforts to develop a framework for evaluation of the myriad digital therapeutics that are coming to market. The American Medical Association stated in their proposed guidelines for safe, effective mobile health apps, "mobile health technologies should have a high-quality clinical evidence base to support their use in order to ensure mobile health app safety and effectiveness." The proposed guidelines note some mobile apps are subject to FDA regulation, while others are not and do not undergo rigorous evaluation before deployment for general use. This raises a concern for the safety and quality of the mobile apps that are available to the public.[4] The American Psychiatric Association developed The App Evaluation Model which poses questions for consideration when selecting and using a particular app.[5]

The types of prescription digital therapeutics addressed in this policy are ones that have received FDA approval, are prescribed by a licensed healthcare practitioner, and the intent of the digital therapeutic is to evaluate, diagnose, or treat an illness.

Digital Therapeutics

BlueStar® Rx System (WellDoc, Inc.) is a software app for use on mobile phones or personal computers for individuals 18 years of age or older who have type 1 or type 2 diabetes. It enables the user to input personal health information and captures, stores, and transmits blood glucose data. The system analyzes and reports blood glucose test results and provides coaching messages (motivational, behavioral, and educational) driven by clinical guidelines based on real-time blood glucose values including daily medication administration, physical activity, and smart food choices. It can connect to certain glucose meters via Bluetooth (eg, One Touch, Accu-Chek, Contour, as well as the Dexacom CGM system). The BlueStar® Rx includes an insulin dose calculator that allows patients to use their prescribed insulin regimen to calculate doses of mealtime insulin for a given amount of carbohydrates and/or blood glucose value taking into consideration factors such as I:C ratio, insulin sensitivity factor, or programmed sliding scale. The BlueStar® Rx also includes an Insulin Adjustment Program (IAP) which calculates appropriate long-acting basal insulin doses for titrating insulin levels based on configuration by a healthcare provider (the healthcare provider must activate and configure the IAP for patient-specific parameters). This function will then recommend the next long-acting dose based on a target blood glucose, hypoglycemia events, or other factors. Healthcare providers can view patient-generated data and dialogue with patients through a care management portal. It is available by prescription only. (Note the BlueStar® System that does not include the insulin dose calculator is available without a prescription).

CanvasDx™ (Cognoa, Inc.) autism diagnosis aid is an artificial intelligence (AI)-driven device that helps primary care physicians diagnose autism in young children aged 18 to 72 months. The device uses three main components in evaluating a child's symptoms: via a mobile app a parent or caregiver completes at home questionnaires regarding their child's behavior and can also upload video documenting their child's behavior as well, a physician inputs through a provider portal answers to preloaded questions about the child's behavior problems, and manufacturer-trained and certified specialists can view and analyze the uploaded videos via a video analysis portal. If there has been sufficient information provided for its algorithm to process, the software then generates a positive or negative diagnosis to help diagnose or rule out autism It is proposed that this will help in earlier diagnoses being made, which can lead to earlier interventions when they are the most effective. It is intended for children ages 18 through 72 months who are at risk for developmental delay. It is available by prescription only.

EndeavorRx™ (Akili Interactive Labs Inc.) is a digital, non-drug treatment delivered through an action video game on a mobile device proposed to improve attention function in children with attention-deficit hyperactivity disorder (ADHD). The treatment is a proprietary and patented technology that is purported to activate specific neural systems in the brain which play a key role in attention function. The platform algorithms automatically adjust the difficulty level in real time and between treatment sessions to challenge each patient to an optimal level of performance. The patient plays a video game on a tablet or smartphone for thirty minutes, five days per week for four weeks to improve attention and the ability to focus on multiple tasks. It is available by prescription only.

Freespira® (Palo Alto Health Sciences) is a digital therapeutic system intended as an adjunctive treatment to reduce panic symptoms in patients with panic disorder or post-traumatic stress disorder (PTSD). Freespira® is considered an at-home biofeedback treatment that trains and helps patients regulate and stabilize their breathing patterns to avoid hyperventilation. The system consists of a proprietary sensor that measures respiratory rate and exhaled carbon dioxide. The sensor is linked to a mobile app on a hand-held tablet that provides in real-time audio-visual guided breathing exercise instructions based on the information the sensor receives from the user. The treatment involves two capnometry-assisted respiratory training sessions then the remainder of the sessions are performed in the home daily for four weeks. It is available by prescription only.

Halo™ AF Detection System (LIVMOR Inc.) monitors pulse rhythms for the detection of atrial fibrillation via a compatible Samsung smartwatch worn at night while the user is resting or on demand during the day. The software for this device is based on an algorithm which filters and detects irregular pulse rhythms which may be suggestive of atrial fibrillation from photoplethysmography (PPG) data. The PPG signals recorded by the smartwatch are then analyzed by the LIVMOR Halo + Home Monitoring System tablet when connected to WIFI. When a signal is suggestive of AF, the rhythm is flagged for physician review through a cloud-based portal. It is available by prescription only.

NightWare™ (NightWare, Inc.) is a therapeutic platform using a proprietary AppleWatch® application that helps people who suffer from traumatic nightmares sleep more restfully. The app learns the wearer's sleep patterns and customizes a treatment to the individual. The app monitors the wearer's heart rate and movement while sleeping and arouses the wearer with a vibration alert when a stress threshold is reached so as not to awaken the individual. Users wear the watch only while sleeping and not during the day. It is available by prescription only.

Somryst® (Pear Therapeutics Inc.) is a digital therapeutic indicated to treat chronic insomnia. The therapy is a self-directed 9-week course of six modules delivered via an app used on an individual's mobile device. It consists of education, training, and skill building based on

principles of Cognitive Behavioral Therapy (CBT) for Insomnia and Sleep Restriction. Somryst uses three primary therapeutic components to improve the symptoms of chronic insomnia: tailored sleep restriction and consolidation, stimulus control, and personalized cognitive restructuring. Clinicians have access to a clinician dashboard that reveals user utilization and progress derived from the user's sleep diary and responses to questionnaires. It is available by prescription only. (Somryst® is based on the earlier web-based platform, SHUTi).

Summary of Evidence

BlueStar® Rx

For individuals who have type 2 diabetes who receive cell phone-based diabetes management software system with web-based data analytics and therapy optimization, the evidence includes 2 RCTs, one nonblinded, randomized controlled pilot trial (Quinn, 2008) of N=30 patients with type 2 diabetes with an A1c ≥ 7.5% diagnosed for at least 6 months and on a stable therapeutic regimen for at least 3 months recruited from three community physician practices and followed for 3 months. The intervention group N=15 received cell phone-based software (a Bluetooth® enabled One Touch Ultra™ blood glucose meter and a cellphone with WellDoc's proprietary software) providing real-time feedback on the patients' blood glucose levels, incorporated treatment algorithms, and requested additional data when needed to evaluate diabetes management. Patient data was analyzed by proprietary algorithms and computer-generated logbooks were sent to the patients' healthcare providers with suggested treatment plans. The control group N=15 received One Touch Ultra™ blood glucose meters, testing strips and lancets for the duration of the trial. They sent logbooks of their blood glucose levels to their provider every two weeks until their levels stabilized. The healthcare providers followed their usual standards of care of diabetes management. All patients received A1c levels and completed the Summary of Diabetes Self-Care Activities (SDSCA) questionnaire at the beginning and end of the study. Two subjects from each study group were noted to have dropped out of the study. The demographic characteristics between the two groups was fairly comparable. The intervention group had a higher number of African American patients than the control group (10 vs 6) and a lower number of White patients (3 vs. 7) and lower number of years diagnosed (7.61 vs. 11), comorbidities were comparable and there was a lower use of oral hypoglycemics alone in the intervention group (3 vs. 7) and a higher number of injectable non-insulins (6 vs. 1). Only 1 in the intervention group saw an endocrinologist vs a primary care physician compared to 5 in the control group. The intervention group had a decrease in the mean A1c from 9.51 to 7.48 vs. the control group of 9.05 to 8.37. The authors note that the experimental variance was inflated by an

unusual decrease of A1c in one patient in the intervention group and when that outlier is removed, the variance is equivalent in the two groups. (P<0.04 corrected to ~0.02). The intervention group had medications intensified (84.6% vs. 23.25, P= 0.002), inaccurate use of medications identified (53.4% vs. 0, P=0.002), providers received logbooks (100% vs. 7.7, P < 0.001). Limitations include the following: Sample size was very small, lack of blinding could influence the results as the participants knew their actions and behaviors were being monitored as the intervention group received requests from the study interviewers to complete follow-up surveys, there were some reported technical difficulties where the Bluetooth adapter did not always transmit data and had to be manually entered into the phone as it was acknowledged that actually only 5 of 15 patients regularly used the Bluetooth mode of data entry.

The second RCT was a multicenter pragmatic randomized controlled trial (Agarwal 2019) of N=223 with type 2 diabetes and an A1c ≥ 8% within the 3 months prior to the trial. The participants had to be able to speak English and use a computer or mobile phone and were randomized to either an immediate treatment group (ITG) who received intervention (the BlueStar mobile app on a Samsung smartphone with all other features disabled) for 6 months N=110 or to a wait list control (WLC), N=113, who received usual care for the first 3 months and then received intervention for 3 months. Participants were recruited from three hospital-based diabetes education programs in Ontario, Canada that were considered urban, mid-size city, and semiurban areas. Subject randomization was computer generated. There was some loss to follow-up A1c levels at 3 months, 77.1% (172/223) at baseline and 65.5% (146/223) at 3 months, thus 120 total participants, 57 in the ITG and 63 in the WLC had both baseline and 3-month A1c levels obtained. The results for the primary clinical outcome of glycemic control as measured by A1c levels showed no difference between the intervention (8.22%) and the control arms (8.41%). The nonsignificant difference persisted despite adjustment for study site, length of diabetes diagnosis, ethnicity, and length of time spent in the Diabetes Education Program. The authors noted there was low app utilization by the ITG participants with a mean log-in days of 42.4 over 26 weeks with a small percentage of high users, 18/2 % (20/110) who used the app 100 days or more over a 182-day period. Limitations of this study include the following: There was a high rate of drop-out, 34.5% (77/223). The authors note having the participants use a second smartphone rather than downloading the app to their cell phone may have posed a barrier to use and in this study the Diabetes Education Programs did not have communication with the primary health care providers which may have impacted support for use of the app. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

CanvasDx™

For children at risk for autism spectrum disorder who receive a diagnostic assessment using Canvas Dx autism diagnosis aid, the evidence includes 3 cross-sectional studies of the Cognoa ASD diagnostic aid.

The first study consisted of a comparison of 4 often used autism screening tools (Modified Checklist for Autism in Toddlers Revised with follow-up (M-CHAT-R/F), the Social Responsiveness Scale, 2nd Edition (SRS-2), the Social Communication Questionnaire (SCQ), and the Child Behavior Checklist (CBCL) compared with the Cognoa mobile-health screening tool that was designed at the time to assess ASD risk across general and high-risk populations through its mobile app. The Cognoa app classification was determined by a 15-item questionnaire answered by the parent as well as a 1-to-2-minute home video of the at-risk child's behavior captured on the parent's smartphone and converted to ordinal descriptors of risk such as "low, "medium-non ASD," "medium," or "elevated." The participants were stratified into four age ranges: 18 to 30 months, 31 to 48 months, 49 to 54 months, and 55 to 72 months of age. The trained/supervised video analysts were blind to the parent questionnaire responses. The study sample N=230 of children ages 18 to 72 months of English-speaking parents were referred for possible ASD to one of three tertiary academic autism clinics in the U.S. All children completed the Cognoa screener (parent questionnaire and video) prior to their clinic appointment. Parents of the children also completed the M-CHAT-R/F, SRS-2 (either Pre-School or School Age version), CBCL, and/or SCQ based on age and appropriateness prior to receiving a diagnosis. (The authors noted the SRS-2 Preschool was used for participants through 54 months of age and the School Age version for those 55 months of age and older stating there is no data reporting on the sensitivity and specificity of the SRS-2 Preschool version). All children as well received cognitive assessment with either Mullen Scales of Early Learning (MSEL) or Differential Ability Scales, 2nd Edition (DAS-II) and the Autism Diagnostic Observation Schedule, 2nd Edition (ADOS-2) and parents of the children completed a comprehensive clinical interview and the Vineland Adaptive Behavior Scales-2nd Edition (VABS-2) with the primary clinicians. A Best Estimate Diagnosis (BED) was made based on the results of these measures following DSM-5 criteria by the clinicians. Clinicians were blind to the Cognoa results. The authors suggested the Cognoa tool may have benefits across a range of ages in screening for ASD as many of the standard screening tools are limited to specific age ranges and thus require multiple screening measures, noting that there is very limited normative data for those aged 31 to 48 months of age. The authors state the Cognoa tool accurately identified children 71% of the time across the age range of 18 to 72 months with an overall higher specificity in detecting ASD compared to the other measures. Direct comparison between screening instruments is challenging as the relative importance of sensitivity and specificity depends on the intended use of the instrument. Cogna was noted to outperform the CBCL-ASP scale with comparable sensitivity (0.75 vs. 0.82)

and a stronger specificity (0.62 vs. 029). Limitations of the study include the following: The sample was obtained from preselected participants referred to a university clinic for possible ASD, the sample size was small and consisted predominately of white males, especially when stratified for age as there was only one standard screening measurement tool that was used for direct comparison across all age groups, the authors note the technological difficulty for some parents using the smartphone app, and the appropriateness of some of the submitted videos in capturing appropriate behavior such that the parents were asked to provide additional video samples; these measures could confound the data as well as potentially introduce a bias for the parent, the study was funded by grants from Cognoa, Inc., and for the purposes of this study the Cognoa tool was only used as a tool for screening, and so a full diagnostic assessment had to be completed by a clinician to obtain a diagnosis.

The second study (Abbas et al. 2018) consisted of a clinical validation sample of 230 children between the ages of 18 and 72 months with English-speaking parents who were referred to one of three autism centers in the U. S. and received standard screening tools such as the Autism Diagnostic Observation Schedule (ADOS), Modified Checklist for Autism in Toddlers, Revised (M-CHAT), and Child Behavior Checklist (CBCL). All the children were ultimately given a diagnosis by a licensed healthcare practitioner and labeled for the study as autism, other condition, or neurotypical and stratified as <4 years of age or ≥ 4 years of age. Of that sample, n=162, parents of the children also used their mobile devices to complete a short questionnaire and submit short videos of their children's behavior. Two independent Machine Learning (ML) classifiers were trained for the parent questionnaire from Autism Diagnostic Interview-Revised (ADI-R) score sheets and video classifier (ADOS) score sheets and combined their outputs into a single screening assessment. Training data were obtained from historical records of ADOS and ADI-R score sheets from five different autism treatment centers, consortiums, or data repositories of children ages 18 to 84 months and supplemented with data from ADI-R interviews from a random sample of children considered at low-risk for autism. which were then used to evaluate and design the machine learning algorithms. The study suggested that the ML diagnostic aid was associated with accuracy improvement over the standard screening tools used in measurements of area under the curve (AUC), sensitivity, and specificity. Limitations of the study include the following: the study was a retrospective analysis, the clinical validation sample size was small and was weighted towards an autism diagnosis since the participants were preselected as having a high risk of autism, there was no blinding of the diagnoses made by the clinical center assessments, there was no accurate accounting for the differences that may occur between the testing environments of a structured clinical setting versus the home setting, the authors note the clinical data results have significant statistical limitations, and there is a potential for bias as the study authors were all affiliated with Cognoa.

The third study by the same authors (Abbas et al 2020) consisted of a total of n=375 at-risk children who were seen at a center specializing in neurodevelopmental disorders and were given a clinical diagnosis after undergoing a full clinical examination by a licensed healthcare practitioner and labeled for this study as "autism" or "not autism" and stratified as <4 year of age or ≥ 4 years of age. This clinical validation sample consisted of the same 162 participants from the previously published study (Abbas et al 2018) along with an additional 213 participants for the total of 375. All of the children in the sample were 18 to 72 months of age, with English-speaking parents, and referred to one of three autism centers in the U.S. Each child received standard autism assessment instruments (such as ADOS, M-CHAT-R, and/or CBCL) appropriate for their age. The training data were obtained from redacted historical records of ADI-R and ADOS score sheets of children ages 18 to 84 months from the same five autism treatment centers, consortiums, and data repositories as the previous publication (Abbas et al 2018) and supplemented with 59 low risk children random sampled from Cognoa's user-base. Prior to the children receiving the clinical assessment, parents of the children used the Cognoa app to complete the parent questionnaire and video assessment modules and a clinician completed the Cognoa clinician questionnaire which its results are based on a smaller sample size than the other modules since it was just introduced in this study. Refinements were made post-hoc from the previously published study on the parental module to minimize the bias between the training and application environment. Results suggested that the ML diagnostic aid outperformed baseline screeners by 0.35 (90% CI: 0.26 to 0.43) in AUC and 0.69 (90% CI: 0.58 to 0.81) in specificity when operating at 90% sensitivity. Compared to the baseline screeners evaluated on children less than 48 months of age, the assessment outperformed by 0.18 (90% CI: 0.08 to 0.29 at 90%) in AUC and 0.30 (90% CI: 0.11 to 0.50) in specificity when operating at 90% sensitivity. Limitations of this study are similar to the previous 2018 published study discussed above and include the following: the study was a retrospective analysis, the clinical validation was weighted towards an autism diagnosis since the participants were preselected as having a high risk of autism, the same n=162 validation sample cohort from the 2018 published study which was unblinded was added to a sample of N=213 that was blinded but now in this study a clinician questionnaire was added as well as the SRS-2 was added as a baseline screening tool and so this makes the clinical validation sample of the blinded study for all three modules still very small, the new clinician module was only tested at three academic tertiary care clinical centers so the ability to generalize its accuracy in a primary care setting cannot be made, and there is a potential for bias as the study authors were all affiliated with Cognoa. Prospective, well-designed, randomized studies are needed with larger sample sizes from the general population. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

EndeavorRx™

For children who have attention-deficit hyperactivity disorder (ADHD) who receive treatment with EndeavorRx™, the evidence includes one double blind, randomized controlled trial of 348 patients aged 8 to 12 years who received treatment with the AKL-TO1 (earlier non-prescription version) video game N= 180 compared with an inactive control digital intervention N= 168 in children with ADHD over 4-weeks (Kollins et al, 2020). Only the study coordinator was aware of which video game each child received. The final sample was 329 patients due to loss to follow-up, withdrawal, and invalid test scores. The study reported that scores of validated attention-measurement tools, (Test of Variables of Attention, Attention performance index [TOVA-API]) improved 47% vs 32% with the EndeavorRx™ than with the control inactive digital intervention. However, there were no between-group differences for secondary measures, which included the parent and clinician ratings of ADHD symptoms. The authors note that the trial is insufficient to suggest that AKL-T01 should be used as an alternative to established and recommended treatments for ADHD. Additional RCTs with more than one validated scale, and with longer-term follow-up are needed. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Freespira®

For individuals who have panic disorder or post-traumatic stress disorder who receive treatment with Freespira®, the evidence includes two prospective case series. One reported a 40% or greater symptom reduction in Panic Disorder Severity Scale scores with Freespira® in 76.5% of patients (n= 69) (Tolin et al. 2017) and 91% of patients (n=52) respectively with panic disorder at 12-month follow-up (Kaplan et al. 2020) along with either remission of panic attack in 73% of patients completing Freespira® treatment (Kaplan et al.) or a decrease in the mean number of panic attacks from 2.7 at baseline to 0.9 per week at 12-month follow-up (Tolin et al.). Limitations of these studies include small sample size, lack of control groups, lack of randomization, and lack of blinding. Larger RCTS are needed with longer-term follow-up and with a comparator of other panic disorder treatments. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Halo™AF Detection System

There is no published peer-reviewed evidence for Halo™ AF Detection System.

NightWare®

There is no published peer-reviewed evidence for NightWare®.

Somryst®

For individuals who have chronic insomnia who receive treatment with Somryst®, the evidence includes 5 randomized controlled trials (RCTs). 2 double-blind RCTs reported improvement in Insomnia Severity Index (ISI) scores with SHUTi (the web-based platform of Somryst®) (n=868 and n =95, respectively) than with sleep hygiene education in adult patients at 9-week follow-up (n=853 and n=86, respectively) (Vedaa et al 2020, Hagatun et al 2019). Improvements were maintained in the 6-month nonrandomized follow-up. However, the attrition drop-out rate was high (Hagatun et al 2019). 1 single-blind RCT (Ritterband et al 2017) reported sustained benefits with SHUTi for those with insomnia compared to sleep hygiene education (n=151 and n=152, respectively) at 1 year follow-up. One open-label RCT compared SHUTi to waitlist (no treatment) (n=22 and n=23, respectively) and reported scores on the ISI significantly improved for the internet group but did not change for the control group. The internet group maintained their gains at the 6-month follow-up. One single-blind RCT reported that bedtimes were 30% more regular in SHUTi recipients (n=151) compared to bedtime in sleep hygiene education recipients (n=152) after 1 year. (Shaffer et al 2020). Limitations of the reported trials: 2 of the studies had small sample sizes of < 100 participants, several of the studies had high attrition rates, and because all of the studies assessed the web-based SHUTi platform, it is unknown if there are differences in the patient experience using the Somryst® app on a mobile device. RCTs that compare Somryst® with in-person CBT-I and as an alternative or adjunct to sleep medication would be useful. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Ongoing and Unpublished Clinical Trials

Some currently ongoing and unpublished trials that might influence this policy are listed in **Table 1**.

Table 1. Summary of Key Trials

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			

NCT No.	Trial Name	Planned Enrollment	Completion Date
NCT03844269	Electroencephalogram (EEG) Study of Inattention Following Treatment With AKL-T01	30	Feb 2020 (recruiting)
NCT04897074[a]	A Single Arm Pivotal Trial to Assess the Efficacy of AKL-T01, a Novel Digital Intervention Designed to Improve Attention in Adolescents, Aged 13-17 Years Old, Diagnosed with Attention Deficit Hyperactive Disorder (ADHD).	165	Dec 2022
NCT04326231[a]	Cognoa Autism Spectrum Disorder (ASD) Digital Therapeutic Engagement and Usability Study	30	July 2020 (recruiting)
NCT04325464[a]	A Remote, 9-week Insomnia Treatment Trial to Collect Real World Data for a Digital Therapeutic (DREAM)	1000	Jan 2025
NCT04909229	Prescription Digital Therapeutic for the Treatment of Insomnia (SLEEP-I)	100	Oct 2022
NCT02558647	Overcoming Insomnia: Impact on Sleep, Health and Work of Online CBT-I (NORSE-3)	1500	Dec 2021
NCT04468776	CBT-I or Zolpidem for Insomnia (COZI)	1200	May 2025
NCT03828656	NightWare Open Enrollment Study	400	Feb 2022
NCT03934658	Remote Study of NightWare for PTSD with Nightmares	400	May 2022
Unpublished			
NCT02998502	The Use of a FDA Cleared, Drug-Free, Breathing System for Anxiety and Panic Disorders in Children and Teens	73	Feb 2021 (completed)
NCT03649074	Software Treatment for Actively Reducing Severity of ADHD as Adjunctive Treatment to Stimulant (STARS-ADHD Adjunctive)	203	Feb 2021 (completed)
NCT04104191	The LIVMOR Data Collection Study for the Development and Validation of L-1000 AF System	271	Feb 2019 (completed)

NCT: National Clinical Trial

a Denotes industry sponsored or cosponsored trial.

Practice Guidelines and Position Statements

No guidelines or statements were identified.

Medicare National Coverage

There is no national coverage determination.

Regulatory Status

In 2021, CanvasDx™ (Cognoa ASD Diagnosis Aid) received FDA clearance through the De Novo pathway (DEN200069) under 21 CFR Part 801.109. It is indicated for use by healthcare providers as an aid in the diagnosis of autism spectrum disorder (ASD) for patients ages 18 months through 72 months who are at risk for developmental delay based on concerns of a parent, caregiver, or healthcare provider. FDA Product Code: QPF

In 2020, EndeavorRx™ (Akili Interactive Labs, Inc.) received FDA clearance through the De Novo pathway (DEN200026) under 21 CFR 882.5803. It is defined by FDA as "a software intended to provide therapy for ADHD or any of its individual symptoms as an adjunct to clinical supervised treatment." It is indicated to improve attention function as measured by computer-based testing in children ages 8-12 years old with primarily inattentive or combined-type ADHD, who have a demonstrated attention issue. FDA Product Code: QFT

In 2020, Halo AF Detection System™ (LIVMOR, Inc.) received 510(k) marketing clearance (K201208) as substantially equivalent to a marketed predicate device (FibriCheck). It is indicated for use by patients who have been diagnosed with or are susceptible to developing atrial fibrillation and who would like to monitor and record their pulse rhythms on an intermittent basis and alert their physicians of any detected irregular heart rhythms. It is used in conjunction with the LIVMOR Halo + Home Monitoring System™ and is not validated for use with any other pulse monitoring system. FDA Product Code: DXH.

In 2020, NightWare™ (NightWare, Inc.) received FDA clearance through the De Novo pathway (DEN 200033) under 21 CFR Part 801.109. It is indicated to provide vibrotactile feedback on an Apple Watch based on analysis of heart rate and motion during sleep for the temporary reduction of sleep disturbance related nightmares in adults 22 years or older who suffer from nightmare disorder or have nightmares from posttraumatic stress disorder (PTSD). It is intended for home use. FDA Product Code: QMZ.

In 2020, Somryst® (Pear Therapeutics, Inc.) received 510(k) marketing clearance (K191716) as substantially equivalent to a marketed predicate device (reSET®). It is indicated to provide a neurobehavioral intervention (Cognitive Behavioral Therapy for Insomnia) in patients 22 years of age and older with chronic insomnia. FDA Product Code: PWE.

In 2018, the FDA granted 510(k) marketing clearance (K180173) to Freespira® (Palo Alto Health Sciences) as substantially equivalent to a marketed predicate device. FDA states it is for the intended use as a relaxation treatment for the reduction of stress by leading the user through guided and monitored breathing exercises. The device is indicated as an adjunctive treatment of symptoms associated with panic disorder and/or PTSD to be used under the direction of a healthcare professional, together with other pharmacological and/or nonpharmacological interventions. The initial 510 (k) clearance was in 2013 (K131586) under the name Canary Breathing System. FDA Product code: HCC, CCK.

In 2017, BlueStar® Rx (WellDoc, Inc.) received 510(k) marketing clearance (K162532) as substantially equivalent to a marketed predicate device. FDA states, "It is indicated for use in patients 21 years of age or older who have type 2 diabetes. The software system captures, stores, and transmits blood glucose data and then analyzes and reports the data in support of diabetes self-management by providing coaching messages (motivational, behavioral, educational) based on real-time blood glucose values. The software is for use on mobile phones or personal computers. It also includes an insulin dose calculator which allows patients to calculate a dose of their prescribed insulin regimen for a given amount of carbohydrates and/or blood glucose value". FDA Product Code: LNX, NDC.

In 2019, FDA expanded the indications for use of BlueStar® Rx to patients 18 years of age or older who have type 1 or type 2 diabetes. (K190013). FDA Product Code: MRZ, NDC.

In 2020, FDA expanded the indications for use of BlueStar® Rx to basal insulin users with type 2 diabetes and now includes an Insulin Adjustment Program (IAP) (K193654) which calculates appropriate long-acting basal insulin doses for titrating insulin levels based on configuration by a healthcare provider (the healthcare provider must activate and configure the IAP for patient-specific parameters). FDA Product Code: MRZ, LNX, NDC.

References

1. Abbas H, Garberson F, Glover E, Wall DP. Machine learning approach for early detection of autism by combining questionnaire and home video screening. J AM Med Inform Assoc. 2018; 25(8):1000-1007. PMID: 29741630

2. Abbas H, Garberson F, Liu-Mayo S, et al. Multi-modular AI approach to streamline autism diagnosis in young children. Sci Rep. 2020; 10(1):5014. PMID: 32193406.

3. Agarwal P, Mukerji G, Desveaux L, et al. Mobile app for improved self-management of type 2 diabetes: Multicenter pragmatic randomized controlled trial. JMIR Mhealth Uhealth. 2019; 7(1): e10321. PMID: 30632972.

4. American Medical Association. Proposed guidelines aim for safe, effective mobile health apps. January 22, 2018. Available at: URL: **https://www.ama-assn.org/practice-management/digital/proposed-guidelines-aim-safe-effective-mobile-health-apps** Accessed July 22, 2021.

5. American Psychiatric Association (APA). Mental health apps. Available at URL: **https://www.psychiatry.org/psychiatrists/practice/mental-health-apps/the-app-evaluation-model** , Accessed July 22, 2021.

6. Blue Cross Blue Shield Association. Medical Policy 5.01.35 Prescription Digital Therapeutics for Substance Abuse. Review date August 2021 **https://www.evidencepositioningsystem.com/_w_644c016b956a847ada971f5793debb5bc5716fe12c76d74f/** .Accessed July 22, 2021.

7. BlueStar®Rx (WellDoc, Inc.) Indications for use. Available at URL: **https://www.welldoc.com/indications-for-use/** Accessed July 22, 2021.

8. Canvas Dx (Cognoa inc.). Available at URL: **https://cognoa.com/providers/** Accessed July 22, 2021.

9. Chow PI, Ingersoll KS, Thorndike FP, et al. Cognitive mechanisms of sleep outcomes in a randomized clinical trial of internet-based cognitive behavioral therapy for insomnia. Sleep Med. 2018; 47:77-85. PMID: 29778918.

10. Dang A, Arora D, Rane P. Role of digital therapeutics and the changing future of healthcare. J Family Med Prim Care. 2020; 9(5): 2207-2213. PMID: 32754475.

11. Davis,NO, Bower J, Kollins SH. Proof-of-concept study of an at-home, engaging, digital intervention for pediatric ADHD. PLoS One. 2018; 13(1): e0189749. PMID: 29324745.

12. Digital Therapeutics Alliance. Available at URL: **https://dtxalliance.org/understanding-dtx/** Accessed July 22, 2021.

13. Duda M, Daniels J, Wall D. Clinical evaluation of a novel and mobile autism risk assessment. J Autism Dev Disord. 2016; 46(6):1953-1961. PMID: 26873142.

14. Duda M, Kosmicki JA, Wall, DP. Testing the accuracy of an observation-based classifier for rapid detection of autism risk. Transl Psychiatry. 2014; 4(8): e424. PMID: 25116834.

15. ECRI Institute. Clinical Evidence Assessment. EndeavorRx (Akili Interactive Labs, Inc.) interactive cognitive training software for treating attention-deficit/hyperactivity disorder in children. Plymouth Meeting, PA. ECRI Institute Published July 2020.

16. ECRI Institute. Clinical Evidence Assessment. Freespira digital therapeutic (Palo Alto Health Sciences) for treating panic disorder. Plymouth Meeting, PA. ECRI Institute Published November 2020.

17. ECRI Institute. Clinical Evidence Assessment. Somryst prescription digital therapeutic (Pear Therapeutics, Inc.) for treating chronic insomnia. Plymouth Meeting, PA. ECRI Institute Published October 2020.

18. EndeavorRx. (Alkili Interactive Labs Inc). Available at URL: **https://www.endeavorrx.com/** Accessed July 22, 2021.

19. Fleming GA, Petrie JR, Bergenstal RM, et al. Diabetes digital app technology: Benefits, challenges, and recommendations. A consensus report by the European association for the study of diabetes (EASD) and the American diabetes association (ADA) diabetes technology working group. Diabetes Care. 2020; 43(1): 250-260. PMID: 31806649.

20. Flynn RM, Colón-Acosta N, Zhou J, et al. A game-based repeated assessment for cognitive monitoring: Initial usability and adherence study in a summer camp setting. J Autism Dev Disord 2019; 49 (5): 2003-2014. PMID: 30656527.

21. Freespira. (Palo Alto Health Sciences). Available at URL: **https://freespira.com/** Accessed July 22, 2021.

22. Hagatun, S, Vedaa, Ø, Nordgreen, T, et al. The short-term efficacy of an unguided internet-based cognitive-behavioral therapy for insomnia: A randomized controlled trial with a six-month nonrandomized follow-up. Behav Sleep Med. 2019;17(2):137-155. Available at URL: **https://doi.org/10.1080/15402002.2017.1301941** Accessed July 22, 2021.

23. Halo AF Detection System™ (LIVMOR, Inc.). Available at URL: **https://www.livmor.com/#solutions1** Accessed July 22, 2021.

24. Hayes, Inc. Evidence Analysis Research Brief. EndeavorRx (Akili Interactive Labs Inc.) interactive digital therapy for treatment of ADD/ADHD. Lansdale, PA: Hayes, Inc.; July 2020

25. International Medical Device Regulators Forum. Software as a Medical Device (SaMD): Key Definitions. 2013. **http://www.imdrf.org/docs/imdrf/final/technical/imdrf-tech-131209-samd-key-definitions-140901.pdf** Accessed July 22, 2021.

26. Kaplan, A, Mannarino, AP, and Nickell, PV. Evaluating the impact of Freespira on panic disorder patients' health outcomes and healthcare costs within the Aallegheny Health Network. Appl Psychophysiol Biofeedback. 2020;45(3):175-181. PMID: 32342249.

27. Khirasaria R, Singh V, and Batta A. Exploring digital therapeutics: The next paradigm of modern healthcare industry. Perspect Clin Res. 2020; 11(2): 54-58. PMID: 32670828.

28. Kollins SH, DeLoss DJ, Cañada E, et al. A novel digital intervention for actively reducing severity of paediatric ADHD (STARS-ADHD: a randomized controlled trial. The Lancet Digit Health. 2020 2(4): e168-e178. PMID: 33334505.

29. Kosmicki JA, Sochat V, Duda M, Wall, DP. Searching for a minimal set of behaviors for autism detection through feature selection-based machine learning. Transl Psychiatry. 2015; 5(2): e514. PMID: 25710120.

30. National Institute for Health and Care Excellence (NICE). Evidence standards framework for digital health technologies. Corporate document (ECD7). Published 10 December 2018. Last Updated 23, April 2021. Available at URL: **https://www.nice.org.uk/corporate/ecd7/resources/evidence-standards-framework-for-digital-health-technologies-pdf-1124017457605** Accessed July 22, 2021.

31. NightWare™ (Nightware, Inc.) Available at URL: **https://nightware.com/** Accessed July 22, 2021.

32. Patel NA, Butte AJ. Characteristics and challenges of the clinical pipeline of digital therapeutics. NPJ Digit Med. 2020; 3(1): 159. PMID: 33311567.

33. Quinn CC, Clough SS, Minor JM, et al. WellDoc mobile diabetes management randomized controlled trial: change in clinical and behavioral outcomes and patient and physician satisfaction. Diabetes Technol Ther. 2008; 10(3):160-168. PMID: 18473689.

34. Ritterband LM, Thorndike FP, and Ingersoll Karen S. Effect of a web-based cognitive behavior therapy for insomnia intervention with 1-year follow-up. JAMA Psychiatry. 2017; 74(1):68-75.

35. Ritterband, LM, Thorndike, FP, Gonder-Frederick, LA, et al. Efficacy of an internet-based behavioral intervention for adults with insomnia. Arch Gen Psychiatry. 2009;66(7):692-698.PMiD: 19581560.

36. Shaffer, KM, Hedeker, D, Morin, CM, et al. Intra-individual variability in sleep schedule: Effects of an internet-based cognitive-behavioral therapy for insomnia program and its relation with symptom remission. Sleep. 2020; 43(12). Available at URL: **https://doi.org/10.1093/sleep/zsaa115** Accessed July 22, 2021.

37. Somryst® (Pear Therapeutics, Inc.). Available at URL: **https://peartherapeutics.com/products/somryst/** Accessed June 4, 2021.

38. Tolin, DF, McGrath, PB, Hale, LR, et al. Multisite benchmarking trial of capnometry guided respiratory intervention for panic disorder in naturalistic treatment settings. Appl Psychophysiol Biofeedback. 2017;42(1):51-58. PMID: 28194546.

39. U. S. Food and Drug Administration (FDA). Developing the software precertification program: Summary of learnings and ongoing activities: 2020 Update. Silver Spring, MD. Available at URL: **https://www.fda.gov/media/142107/download** Accessed 22, 2021.

40. U.S. Food and Drug Administration (FDA) Center for Devices and Radiological Health (CDRH) 510(k) Premarket Notification Summary for Freespira, (Palo Alto Health Sciences, Inc.; Kirkland, WA). No. K180173. 2018. Silver Spring, MD. Available at URL: **https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm?id=K180173** Accessed July 22, 2021.

41. U.S. Food and Drug Administration (FDA) Center for Devices and Radiological Health (CDRH) 510(k) Premarket Notification Summary for LIVMOR Halo AF Detection System™. (LIVMOR Inc; Irvine, CA). No. K201208 .2020. Silver Spring, MD. Available at URL: **https://www.accessdata.fda.gov/cdrh_docs/pdf20/K201208.pdf** Accessed July 22, 2021.

42. U.S. Food and Drug Administration (FDA) Center for Devices and Radiological Health (CDRH) 510(k) Premarket Notification Summary for Somryst®, (Pear Therapeutics, Inc; San Francisco, CA). No. K191716. 2020. Silver Spring, MD. Available at URL: **https://www.accessdata.fda.gov/cdrh_docs/pdf19/K191716.pdf** Accessed July 22, 2021.

43. U.S. Food and Drug Administration (FDA) Center for Devices and Radiological Health (CDRH) De Novo Classification Order for Cognoa ASD Diagnosis Aid, (Cognoa, Inc.; Palo Alto, CA) No. DEN200069. 2020 Silver Spring, MD. Available at URL: **https://www.accessdata.fda.gov/cdrh_docs/pdf20/DEN200069.pdf** Accessed July 22, 2021.

44. U.S. Food and Drug Administration (FDA) Center for Devices and Radiological Health (CDRH) De Novo Classification Order for NightWare Kit (Apple iPhone, Apple Watch, Apple iPhone Charging Cable, Apple Watch Charging Cable). (NightWare, Inc.; Minneapolis, MI). No. DEN200033. 2020. Silver Spring, MD. Available at URL: **https://www.accessdata.fda.gov/cdrh_docs/pdf20/DEN200033.pdf** Accessed July 22, 2021.

45. U.S. Food and Drug Administration (FDA) Center for Devices and Radiological Health (CDRH). De Novo Classification Decision Summary for EndeavorRx, (Akili Interactive Labs, Inc.; Boston, MA) No. DEN200026. 2020. Silver Spring, MD. Available at URL: **https://www.accessdata.fda.gov/cdrh_docs/reviews/DEN200026.pdf** Accessed July 22, 2021.

46. U.S. Food and Drug Administration (FDA). Developing a software precertification program: a working model (v1.0). January 2019. Silver Spring, MD. Available at URL: **https://www.fda.gov/media/119722/download** Accessed July 22, 2021.

47. U.S. Food and Drug Administration (FDA). Policy for device software functions and mobile medical applications. September 2019. Silver Spring, MD. Available at URL: **https://www.fda.gov/media/80958/download** Accessed July 22, 2021.

48. U.S. Food and Drug Administration. (FDA). 510(k) Premarket Notification Summary for BlueStar®Rx, (WellDoc, Inc.; Columbia, MD). No. K162532. 2017. Silver Spring, MD. Available at URL: **https://www.accessdata.fda.gov/cdrh_docs/pdf16/K162532.pdf** Accessed June 22, 2021.

49. U.S. Food and Drug Administration. (FDA). 510(k) Premarket Notification Summary for BlueStar®Rx, (WellDoc, Inc.; Columbia, MD). No. K190013. 2019. Silver Spring, MD. Available at URL: **https://www.accessdata.fda.gov/cdrh_docs/pdf19/K190013.pdf** Accessed July 22, 2021.

50. U.S. Food and Drug Administration. (FDA). 510(k) Premarket Notification Summary for BlueStar®Rx, (WellDoc, Inc.; Columbia, MD). No. K193654. 2020. Silver Spring, MD. Available at URL: **https://www.accessdata.fda.gov/cdrh_docs/pdf19/K193654.pdf** Accessed July 22, 2021.

51. U.S. Food and Drug Administration. (FDA). Digital health innovation action plan. Silver Spring, MD. Available at URL: **https://www.fda.gov/media/106331/download** Accessed July 22, 2021.

52. U.S. Food and Drug Administration (FDA). Guidance document. Enforcement policy for digital health devices for treating psychiatric disorders during the Coronavirus disease 2019 (COVID-19) public health emergency. April 14, 2020. Silver Spring, MD. Available at URL: **https://www.fda.gov/regulatory-information/search-fda-guidance-documents/enforcement-policy-digital-health-devices-treating-psychiatric-disorders-during-coronavirus-disease** Accessed July 22, 2021.

53. Vedaa Ø, Kallestad H, Scott J. et al. Effects of digital cognitive behavioural therapy for insomnia on insomnia severity: a large-scale randomized controlled trial. Lancet Digit Health. 2020; 2(8) e.397-e406. PMID: 33328044.

54. Vedaa, Ø, Hagatun, S, Kallestad, H, et al. Long-term effects of an unguided online cognitive behavioral therapy for chronic insomnia. J Clin Sleep Med. 2019;15(1):101-110. PMID: 30621837.

55. Wall DP, Kosmicki J, DeLuca TF, et al. Use of machine learning to shorten observation-based screening and diagnosis of autism. Transl Psychiatry. 2012; 2(4): e100. PMID: 22832900.

History

Date	Comments
08/01/21	New policy, approved July 13, 2021. Add to Miscellaneous section. Medically necessary when criteria are met. Investigational when all criteria are not met.
10/01/21	Updated Related Policies, added policy 3.03.03 Prescription Digital Therapeutics for Attention Deficit/Hyperactivity Disorder.

Disclaimer: This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. The Company adopts policies after careful review of published peer-reviewed scientific literature, national guidelines and local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA).

Scope: Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.

PREMERA | BLUE CROSS

An Independent Licensee of the Blue Cross Blue Shield Association

Discrimination is Against the Law

Premera Blue Cross complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex. Premera does not exclude people or treat them differently because of race, color, national origin, age, disability or sex.

Premera:

- Provides free aids and services to people with disabilities to communicate effectively with us, such as:
  - Qualified sign language interpreters
  - Written information in other formats (large print, audio, accessible electronic formats, other formats)
- Provides free language services to people whose primary language is not English, such as:
  - Qualified interpreters
  - Information written in other languages

If you need these services, contact the Civil Rights Coordinator.

If you believe that Premera has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability, or sex, you can file a grievance with:
Civil Rights Coordinator - Complaints and Appeals
PO Box 91102, Seattle, WA 98111
Toll free 855-332-4535, Fax 425-918-5592, TTY 800-842-5357
Email AppealsDepartmentInquiries@Premera.com

You can file a grievance in person or by mail, fax, or email. If you need help filing a grievance, the Civil Rights Coordinator is available to help you.

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically through the Office for Civil Rights Complaint Portal, available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:
U.S. Department of Health and Human Services
200 Independence Avenue SW, Room 509F, HHH Building
Washington, D.C. 20201, 1-800-368-1019, 800-537-7697 (TDD)
Complaint forms are available at http://www.hhs.gov/ocr/office/file/index.html.

Getting Help in Other Languages

This Notice has Important Information. This notice may have important information about your application or coverage through Premera Blue Cross. There may be key dates in this notice. You may need to take action by certain deadlines to keep your health coverage or help with costs. You have the right to get this information and help in your language at no cost. Call 800-722-1471 (TTY: 800-842-5357).

አማሪኛ (Amharic):
ይህ ማስታወቂያ አስፈላጊ መረጃ ይዟል። ይህ ማስታወቂያ ስለ ማመልከቻዎ ወይም የ Premera Blue Cross ሽፋን አስፈላጊ መረጃ ሊኖረው ይችላል። በዚህ ማስታወቂያ ውስጥ ቁልፍ ቀኖች ሊኖሩ ይችላሉ። የጤናን ሽፋንዎን ለመጠበቅና በአከፋፈል እርዳታ ለማግኘት በተውሰኑ የጊዜ ገደቦች እርምጃ መውሰድ ይገባዎት ይሆናል። ይህን መረጃ እንዲያገኙ እና ያለምንም ክፍያ በቋንቋዎ እርዳታ እንዲያገኙ መብት አለዎት።በስልክ ቁጥር 800-722-1471 (TTY: 800-842-5357) ይደውሉ።

العربية (Arabic):
يحوي هذا الإشعار معلومات هامة. قد يحوي هذا الإشعار معلومات مهمة بخصوص طلبك أو التغطية التي تريد الحصول عليها من خلال Premera Blue Cross. قد تكون هناك تواريخ مهمة في هذا الإشعار. وقد تحتاج لاتخاذ إجراء في تواريخ معينة للحفاظ على تغطيتك الصحية أو للمساعدة في دفع التكاليف. يحق لك الحصول على هذه المعلومات والمساعدة بلغتك دون تكبد أية تكلفة. اتصل بـ800-722-1471 (TTY: 800-842-5357)

中文 (Chinese):
本通知有重要的訊息。本通知可能有關於您透過 Premera Blue Cross 提交的申請或保險的重要訊息。本通知內可能有重要日期。您可能需要在截止日期之前採取行動，以保留您的健康保險或者費用補貼。您有權利免費以您的母語得到本訊息和幫助。請撥電話 800-722-1471 (TTY: 800-842-5357)。

Oromoo (Cushite):
Beeksisni kun odeeffannoo barbaachisaa qaba. Beeksisti kun sagantaa yookan karaa Premera Blue Cross tiin tajaajila keessan ilaalchisee odeeffannoo barbaachisaa qabaachuu danda'a. Guyyaawwan murteessaa ta'an beeksisa kana keessatti ilaalaa. Tarii kaffaltiidhaan deeggaramuuf yookan tajaajila fayyaa keessaniif guyyaa dhumaa irratti wanti raawwattan jiraachuu danda'a. Kaffaltii irraa bilisa haala ta'een afaan keessaniin odeeffannoo argachuu fi deeggarsa argachuuf mirga ni qabaattu. Lakkoofsa bilbilaa 800-722-1471 (TTY: 800-842-5357) tii bilbilaa.

Français (French):
Cet avis a d'importantes informations. Cet avis peut avoir d'importantes informations sur votre demande ou la couverture par l'intermédiaire de Premera Blue Cross. Le présent avis peut contenir des dates clés. Vous devrez peut-être prendre des mesures par certains délais pour maintenir votre couverture de santé ou d'aide avec les coûts. Vous avez le droit d'obtenir cette information et de l'aide dans votre langue à aucun coût. Appelez le 800-722-1471 (TTY: 800-842-5357).

Kreyòl ayisyen (Creole):
Avi sila a gen Enfòmasyon Enpòtan ladann. Avi sila a kapab genyen enfòmasyon enpòtan konsènan aplikasyon w lan oswa konsènan kouvèti asirans lan atravè Premera Blue Cross. Kapab genyen dat ki enpòtan nan avi sila a. Ou ka gen pou pran kèk aksyon avan sèten dat limit pou ka kenbe kouvèti asirans sante w la oswa pou yo ka ede w avèk depans yo. Se dwa w pou resevwa enfòmasyon sa a ak asistans nan lang ou pale a, san ou pa gen pou peye pou sa. Rele nan 800-722-1471 (TTY: 800-842-5357).

Deutsche (German):
Diese Benachrichtigung enthält wichtige Informationen. Diese Benachrichtigung enthält unter Umständen wichtige Informationen bezüglich Ihres Antrags auf Krankenversicherungsschutz durch Premera Blue Cross. Suchen Sie nach eventuellen wichtigen Terminen in dieser Benachrichtigung. Sie könnten bis zu bestimmten Stichtagen handeln müssen, um Ihren Krankenversicherungsschutz oder Hilfe mit den Kosten zu behalten. Sie haben das Recht, kostenlose Hilfe und Informationen in Ihrer Sprache zu erhalten. Rufen Sie an unter 800-722-1471 (TTY: 800-842-5357).

Hmoob (Hmong):
Tsab ntawv tshaj xo no muaj cov ntshiab lus tseem ceeb. Tej zaum tsab ntawv tshaj xo no muaj cov ntsiab lus tseem ceeb txog koj daim ntawv thov kev pab los yog koj qhov kev pab cuam los ntawm Premera Blue Cross. Tej zaum muaj cov hnub tseem ceeb uas sau rau hauv daim ntawv no. Tej zaum koj kuj yuav tau ua qee yam uas peb kom koj ua tsis pub dhau cov caij nyoog uas teev tseg rau hauv daim ntawv no mas koj thiaj yuav tau txais kev pab cuam kho mob los yog kev pab them tej nqi kho mob ntawd. Koj muaj cai kom lawv muab cov ntshiab lus no uas tau muab sau ua koj hom lus pub dawb rau koj. Hu rau 800-722-1471 (TTY: 800-842-5357).

Iloko (Ilocano):
Daytoy a Pakdaar ket naglaon iti Napateg nga Impormasion. Daytoy a pakdaar mabalin nga adda ket naglaon iti napateg nga impormasion maipanggep iti apliksayonyo wenno coverage babaen iti Premera Blue Cross. Daytoy ket mabalin dagiti importante a petsa iti daytoy a pakdaar. Mabalin nga adda rumbeng nga aramidenyo nga addang sakbay dagiti partikular a naituding nga aldaw tapno mapagtalinaedyo ti coverage ti salun-atyo wenno tulong kadagiti gastos. Adda karbenganyo a mangala iti daytoy nga impormasion ken tulong iti bukodyo a pagsasao nga awan ti bayadanyo. Tumawag iti numero nga 800-722-1471 (TTY: 800-842-5357).

Italiano (Italian):
Questo avviso contiene informazioni importanti. Questo avviso può contenere informazioni importanti sulla tua domanda o copertura attraverso Premera Blue Cross. Potrebbero esserci date chiave in questo avviso. Potrebbe essere necessario un tuo intervento entro una scadenza determinata per consentirti di mantenere la tua copertura o sovvenzione. Hai il diritto di ottenere queste informazioni e assistenza nella tua lingua gratuitamente. Chiama 800-722-1471 (TTY: 800-842-5357).

日本語 (Japanese):
この通知には重要な情報が含まれています。この通知には、Premera Blue Cross の申請または補償範囲に関する重要な情報が含まれている場合があります。この通知に記載されている可能性がある重要な日付をご確認ください。健康保険や有料サポートを維持するには、特定の期日までに行動を取らなければならない場合があります。ご希望の言語による情報とサポートが無料で提供されます。800-722-1471 (TTY: 800-842-5357)までお電話ください。

한국어 (Korean):
본 통지서에는 중요한 정보가 들어 있습니다. 즉 이 통지서는 귀하의 신청에 관하여 그리고 Premera Blue Cross 를 통한 커버리지에 관한 정보를 포함하고 있을 수 있습니다. 본 통지서에는 핵심이 되는 날짜들이 있을 수 있습니다. 귀하는 귀하의 건강 커버리지를 계속 유지하거나 비용을 절감하기 위해서 일정한 마감일까지 조치를 취해야 할 필요가 있을 수 있습니다. 귀하는 이러한 정보와 도움을 귀하의 언어로 비용 부담없이 얻을 수 있는 권리가 있습니다. 800-722-1471 (TTY: 800-842-5357) 로 전화하십시오.

ລາວ (Lao):
ແຈ້ງການນີ້ມີຂໍ້ມູນສຳຄັນ. ແຈ້ງການນີ້ອາດຈະມີຂໍ້ມູນສຳຄັນກ່ຽວກັບຄຳຮ້ອງສະໝັກ ຫຼື ຄວາມຄຸ້ມຄອງປະກັນໄພຂອງທ່ານຜ່ານ Premera Blue Cross. ອາດຈະມີວັນທີສຳຄັນໃນແຈ້ງການນີ້. ທ່ານອາດຈະຈຳເປັນຕ້ອງດຳເນີນການຕາມກຳນົດເວລາສະເພາະເພື່ອຮັກສາຄວາມຄຸ້ມຄອງປະກັນສຸຂະພາບ ຫຼື ຄວາມຊ່ວຍເຫຼືອເລື່ອງຄ່າໃຊ້ຈ່າຍຂອງທ່ານໄວ້. ທ່ານມີສິດໄດ້ຮັບຂໍ້ມູນນີ້ ແລະ ຄວາມຊ່ວຍເຫຼືອເປັນພາສາຂອງທ່ານໂດຍບໍ່ເສຍຄ່າ. ໃຫ້ໂທຫາ 800-722-1471 (TTY: 800-842-5357).

ភាសាខ្មែរ (Khmer):
សេចក្តីជូនដំណឹងនេះមានព័ត៌មានយ៉ាងសំខាន់។ សេចក្តីជូនដំណឹងនេះប្រហែលជាមានព័ត៌មានយ៉ាងសំខាន់អំពីទម្រង់បែបបទ ឬការរ៉ាប់រងរបស់អ្នកតាមរយៈ Premera Blue Cross ។ ប្រហែលជាមាន កាលបរិច្ឆេទសំខាន់នៅក្នុងសេចក្តីជូនដំណឹងនេះ។ អ្នកប្រហែលជាត្រូវការបញ្ចេញសមត្ថភាព ដល់កំណត់ថ្ងៃជាក់ច្បាស់នានា ដើម្បីនឹងរក្សាទុកការជានាវ៉ាប់រងសុខភាពរបស់អ្នក ឬប្រាក់ជំនួយចេញផ្លែ។ អ្នកមានសិទ្ធិទទួលព័ត៌មាននេះ និងជំនួយនៅក្នុងភាសារបស់អ្នកដោយមិនអស់លុយឡើយ។ សូមទូរស័ព្ទ 800-722-1471 (TTY: 800-842-5357)។

ਪੰਜਾਬੀ (Punjabi):
ਇਸ ਨੋਟਿਸ ਵਿਚ ਖਾਸ ਜਾਣਕਾਰੀ ਹੈ. ਇਸ ਨੋਟਿਸ ਵਿਚ Premera Blue Cross ਵਲੋਂ ਤੁਹਾਡੀ ਕਵਰੇਜ ਅਤੇ ਅਰਜੀ ਬਾਰੇ ਮਹੱਤਵਪੂਰਨ ਜਾਣਕਾਰੀ ਹੋ ਸਕਦੀ ਹੈ . ਇਸ ਨੋਜਿਸ ਜਵਚ ਖਾਸ ਤਾਰੀਖਾ ਹੋ ਸਕਦੀਆਂ ਹਨ. ਜੇਕਰ ਤੁਸੀ ਜਸਹਤ ਕਵਰੇਜ ਰਿੱਖਣੀ ਹੋਵੇ ਜਾ ਓਸ ਦੀ ਲਾਗਤ ਜਵਿੱਚ ਮਦਦ ਦੇ ਇਛੁੱਕ ਹੋ ਤਾਂ ਤੁਹਾਨੂੰ ਅੰਤਮ ਤਾਰੀਖ਼ ਤੋਂ ਪਹਿਲਾਂ ਕੁੱਝ ਖਾਸ ਕਦਮ ਚੁੱਕਣ ਦੀ ਲੋੜ ਹੋ ਸਕਦੀ ਹੈ ,ਤੁਹਾਨੂੰ ਮੁਫ਼ਤ ਵਿੱਚ ਤੇ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿੱਚ ਜਾਣਕਾਰੀ ਅਤੇ ਮਦਦ ਪ੍ਰਾਪਤ ਕਰਨ ਦਾ ਅਧਿਕਾਰ ਹੈ ,ਕਾਲ 800-722-1471 (TTY: 800-842-5357).

فارسی (Farsi):
این اعلامیه حاوی اطلاعات مهم میباشد .این اعلامیه ممکن است حاوی اطلاعات مهم درباره فرم تقاضا و یا پوشش بیمه ای شما از طریق Premera Blue Cross باشد. به تاریخ های مهم در این اعلامیه توجه نمایید .شما ممکن است برای حفظ پوشش بیمه تان یا کمک در پرداخت هزینه های درمانی تان، به تاریخ های مشخصی برای انجام کارهای خاصی احتیاج داشته باشید .شما حق این را دارید که این اطلاعات و کمک را به زبان خود به طور رایگان دریافت نمایید. برای کسب اطلاعات با شماره 800-722-1471 (کاربران TTY تماس باشماره 800-842-5357) تماس برقرار نمایید.

Polskie (Polish):
To ogłoszenie może zawierać ważne informacje. To ogłoszenie może zawierać ważne informacje odnośnie Państwa wniosku lub zakresu świadczeń poprzez Premera Blue Cross. Prosimy zwrócic uwagę na kluczowe daty, które mogą być zawarte w tym ogłoszeniu aby nie przekroczyć terminów w przypadku utrzymania polisy ubezpieczeniowej lub pomocy związanej z kosztami. Macie Państwo prawo do bezpłatnej informacji we własnym języku. Zadzwońcie pod 800-722-1471 (TTY: 800-842-5357).

Português (Portuguese):
Este aviso contém informações importantes. Este aviso poderá conter informações importantes a respeito de sua aplicação ou cobertura por meio do Premera Blue Cross. Poderão existir datas importantes neste aviso. Talvez seja necessário que você tome providências dentro de determinados prazos para manter sua cobertura de saúde ou ajuda de custos. Você tem o direito de obter esta informação e ajuda em seu idioma e sem custos. Ligue para 800-722-1471 (TTY: 800-842-5357).

Română (Romanian):
Prezenta notificare conține informații importante. Această notificare poate conține informații importante privind cererea sau acoperirea asigurării dumneavoastre de sănătate prin Premera Blue Cross. Pot exista date cheie în această notificare. Este posibil să fie nevoie să acționați până la anumite termene limită pentru a vă menține acoperirea asigurării de sănătate sau asistența privitoare la costuri. Aveți dreptul de a obține gratuit aceste informații și ajutor în limba dumneavoastră. Sunați la 800-722-1471 (TTY: 800-842-5357).

Русский (Russian):
Настоящее уведомление содержит важную информацию. Это уведомление может содержать важную информацию о вашем заявлении или страховом покрытии через Premera Blue Cross. В настоящем уведомлении могут быть указаны ключевые даты. Вам, возможно, потребуется принять меры к определенным предельным срокам для сохранения страхового покрытия или помощи с расходами. Вы имеете право на бесплатное получение этой информации и помощь на вашем языке. Звоните по телефону 800-722-1471 (TTY: 800-842-5357).

Fa'asamoa (Samoan):
Atonu ua iai i lenei fa'asilasilaga ni fa'amatalaga e sili ona taua e tatau ona e malamalama i ai. O lenei fa'asilasilaga o se fesoasoani e fa'amatala atili i ai i le tulaga o le polokalame, Premera Blue Cross, ua e tau fia maua atu i ai. Fa'amolemole, ia e iloilo fa'alelei i aso fa'apitoa olo'o iai i lenei fa'asilasilaga taua. Masalo o le'a iai ni feau e tatau ona e faia ao le'i aulia le aso ua ta'ua i lenei fa'asilasilaga ina ia e iai pea ma maua fesoasoani mai ai i le polokalame a le Malo olo'o e iai i ai. Olo'o iai iate oe le aia tatau e maua atu i lenei fa'asilasilaga ma lenei fa'amatalaga i legagana e te malamalama i ai aunoa ma se togiga tupe. Vili atu i le telefoni 800-722-1471 (TTY: 800-842-5357).

Español (Spanish):
Este Aviso contiene información importante. Es posible que este aviso contenga información importante acerca de su solicitud o cobertura a través de Premera Blue Cross. Es posible que haya fechas clave en este aviso. Es posible que deba tomar alguna medida antes de determinadas fechas para mantener su cobertura médica o ayuda con los costos. Usted tiene derecho a recibir esta información y ayuda en su idioma sin costo alguno. Llame al 800-722-1471 (TTY: 800-842-5357).

Tagalog (Tagalog):
Ang Paunawa na ito ay naglalaman ng mahalagang impormasyon. Ang paunawa na ito ay maaaring naglalaman ng mahalagang impormasyon tungkol sa iyong aplikasyon o pagsakop sa pamamagitan ng Premera Blue Cross. Maaaring may mga mahalagang petsa dito sa paunawa. Maaring mangailangan ka na magsagawa ng hakbang sa ilang mga itinakdang panahon upang mapanatili ang iyong pagsakop sa kalusugan o tulong na walang gastos. May karapatan ka na makakuha ng ganitong impormasyon at tulong sa iyong wika ng walang gastos. Tumawag sa 800-722-1471 (TTY: 800-842-5357).

ไทย (Thai):
ประกาศนี้มีข้อมูลสำคัญ ประกาศนี้อาจมีข้อมูลที่สำคัญเกี่ยวกับการการสมัครหรือขอบเขตประกันสุขภาพของคุณผ่าน Premera Blue Cross และอาจมีกำหนดการในประกาศนี้ คุณอาจจะต้องดำเนินการภายในกำหนดระยะเวลาที่แน่นอนเพื่อจะรักษาการประกันสุขภาพของคุณหรือการช่วยเหลือที่มีค่าใช้จ่าย คุณมีสิทธิที่จะได้รับข้อมูลและความช่วยเหลือนี้ในภาษาของคุณโดยไม่มีค่าใช้จ่าย โทร 800-722-1471 (TTY: 800-842-5357)

Український (Ukrainian):
Це повідомлення містить важливу інформацію. Це повідомлення може містити важливу інформацію про Ваше звернення щодо страхувального покриття через Premera Blue Cross. Зверніть увагу на ключові дати, які можуть бути вказані у цьому повідомленні. Існує імовірність того, що Вам треба буде здійснити певні кроки у конкретні кінцеві строки для того, щоб зберегти Ваше медичне страхування або отримати фінансову допомогу. У Вас є право на отримання цієї інформації та допомоги безкоштовно на Вашій рідній мові. Дзвоніть за номером телефону 800-722-1471 (TTY: 800-842-5357).

Tiếng Việt (Vietnamese):
Thông báo này cung cấp thông tin quan trọng. Thông báo này có thông tin quan trọng về đơn xin tham gia hoặc hợp đồng bảo hiểm của quý vị qua chương trình Premera Blue Cross. Xin xem ngày quan trọng trong thông báo này. Quý vị có thể phải thực hiện theo thông báo đúng trong thời hạn để duy trì bảo hiểm sức khỏe hoặc được trợ giúp thêm về chi phí. Quý vị có quyền được biết thông tin này và được trợ giúp bằng ngôn ngữ của mình miễn phí. Xin gọi số 800-722-1471 (TTY: 800-842-5357).