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Prescription Digital Therapeutics and Value Assessment

Not Your Typical New Drug Review

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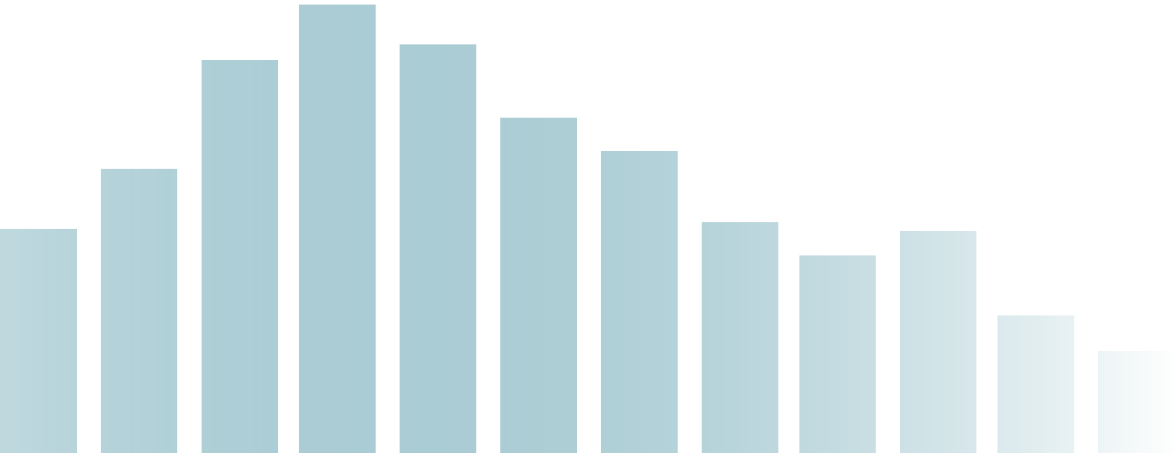


November 15th, 2022

Statement of Disclosure

Mahsa Salsabili has no relevant conflicts of interest to report.

Learning Objectives

- Describe the potential value of digital therapeutics for various stakeholders
- Review features of current and pipeline prescription digital therapeutic products
- Apply criteria-based assessment in reviewing the value of prescription digital therapeutics

Learning Assessment Questions

1. True or False?

Prescription digital therapeutics can enhance and support current medical treatments.

Learning Assessment Questions

2. Which of the following prescription digital therapeutic products is indicated for chronic insomnia?

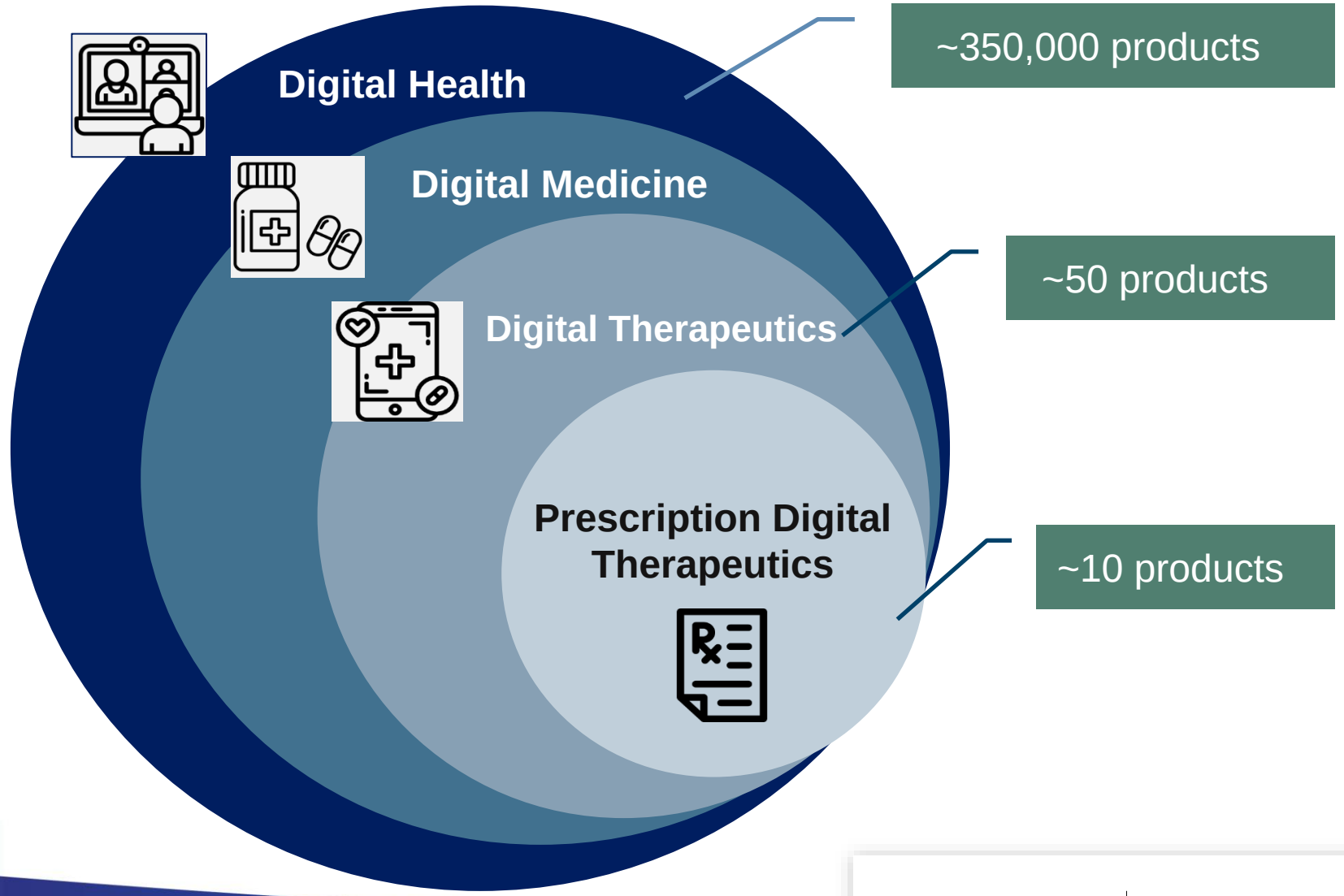
a. ReSET-O®
b. Parallel®
c. EaseVRx®
d. Somryst®

Learning Assessment Questions

3. True or False?

Disease prevalence, efficacy, safety, and reduction in acute care utilization are core criteria to consider when reviewing prescription digital therapeutics.

What are Digital Therapeutics?



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What are Digital Therapeutics?

Digital Therapeutics (DTx) are evidence-based, clinically evaluated software products to treat, manage, or prevent diseases, with some requiring a prescription

DTx can be used both as monotherapy or in conjunction with traditional therapies

Common products target behavior change through mobile applications for:

Behavioral health conditions	Musculoskeletal disorders	Other chronic conditions

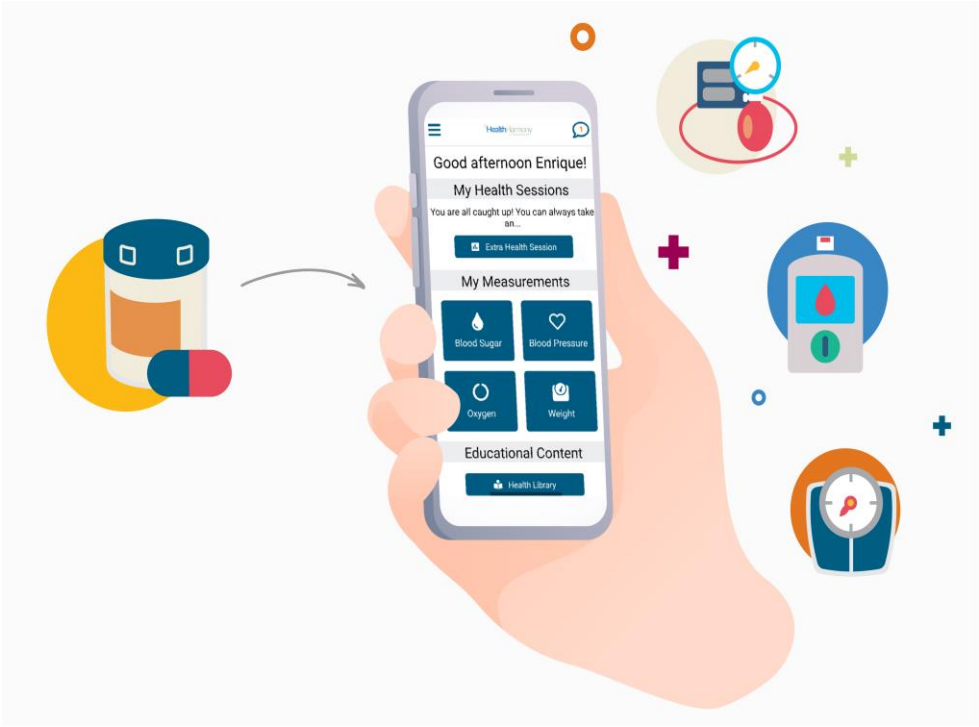


Image: https://news.careinnovations.com/blog/crossing-the-chasm-for-digital-therapeutics-dtx-in-pharmaceuticals

FDA-Approved Prescription Digital Therapeutic Products

Company	Product	Domain	Indication
Akili Interactive	EndeavorRx®	Video game via Apple products	Treatment of ADHD in patients 8-12 years old
Freespira	Freespira®†	Handheld tablet	Treatment of PTSD, panic disorder, panic attacks, and other panic symptoms
NightWare	NightWare®	Mobile application via Apple watch	Reduction of sleep disturbance related to ND or nightmares from PTSD in patients ≥22 years old
Pear Therapeutics	ReSET®	CBT on mobile application	Treatment of SUD in patients ≥18 years old
	ReSET-O®		Treatment of OUD in patients ≥18 years old
	Somryst®*		Treatment of chronic insomnia in patients ≥22 years old

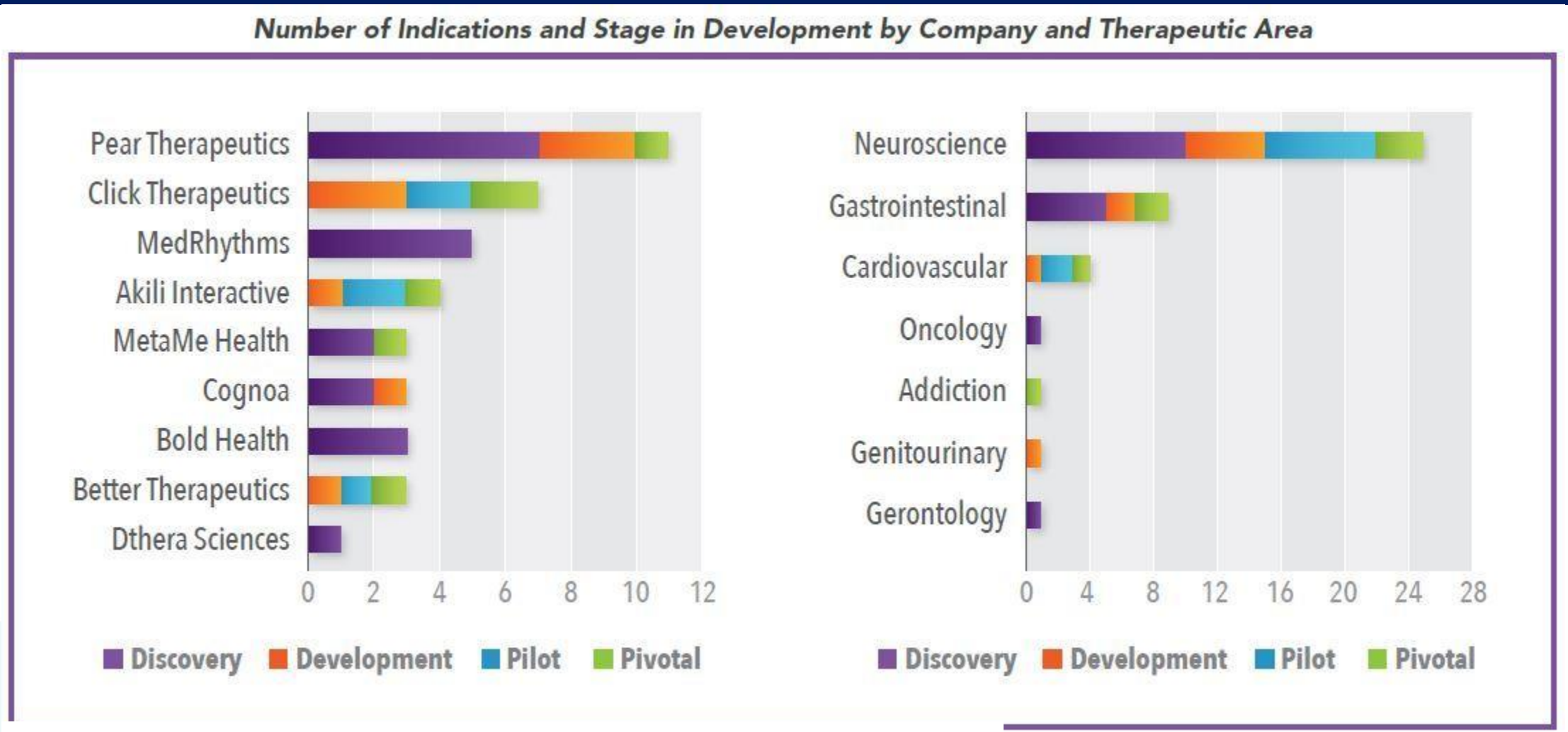
This is a sample list of available prescription DTx products and is not inclusive of all prescription DTx in the US market.
*This product was cleared based on FDA's Enforcement Policy for Digital Health Devices for Treating Psychiatric Disorders During the COVID-19 Public Health Emergency policy.
†Authorization from a licensed healthcare provider is required. A prescription from a physician is not necessary.
ADHD=Attention-deficit/hyperactivity disorder, CBT=computerized behavioral therapy, FDA=Food and Drug Administration, HCP=healthcare professional, MD=medical device, ND=night disorder, OUD=opioid use disorder, PTSD=post-traumatic stress disorder, SUD=substance use disorder

FDA-Approved Prescription Digital Therapeutic Products

Company	Product	Domain	Indication
Amalgam Rx	ISage Rx®	Mobile application	Self-management of type II DM in patients ≥21 years old
AppliedVR	EaseVRx®	CBT on virtual reality headset and controller plus a breathing amplifier	Treatment of chronic lower back pain in patients >18 years old
Luminopia	Luminopia One®	Virtual reality headset	Improved visual acuity in children ages 4-7 with amblyopia associated with anisometropia or mild strabismus
Mahana Therapeutics	Parallel®	CBT on mobile application	Treatment of IBS in patients ≥22 years old
MetaMe Health	Regulora®	Mobile application	Treatment of abdominal pain due to IBS in patients >22 years old
Renovia	Leva®	Mobile application	Strengthening of the pelvic floor muscle; treatment of stress, mixed, and mild to moderate urgency urinary incontinence/overactive bladder in women
Voluntis	Insulia®	Mobile application	Management of type II DM in adults treated with long-acting insulin analogs
WellDoc	BlueStar®‡	Mobile application and web version	Self-management of type I and type II DM in patients ≥18 years old

This is a sample list of available prescription DTx products and is not inclusive of all prescription DTx in the US market.
*product was cleared based on FDA's Enforcement Policy for Digital Health Devices for Treating Psychiatric Disorders During COVID-10 Public Health Emergency policy.
‡BlueStar does not require a prescription unless patients intend to use BlueStar with an insulin titration system, clinical studies conducted were only for Type II diabetes.
CBT=computerized behavioral therapy, DM=diabetes mellitus, FDA=Food and Drug Administration, HCP=healthcare professional, IBS=irritable bowel syndrome

Pipeline of Digital Therapeutics



https://www.evidera.com/wp-content/uploads/2020/04/Fig03-RD-Pipeline-Overview-for-a-Selection-of-Leading-DTx-Companies.jpg

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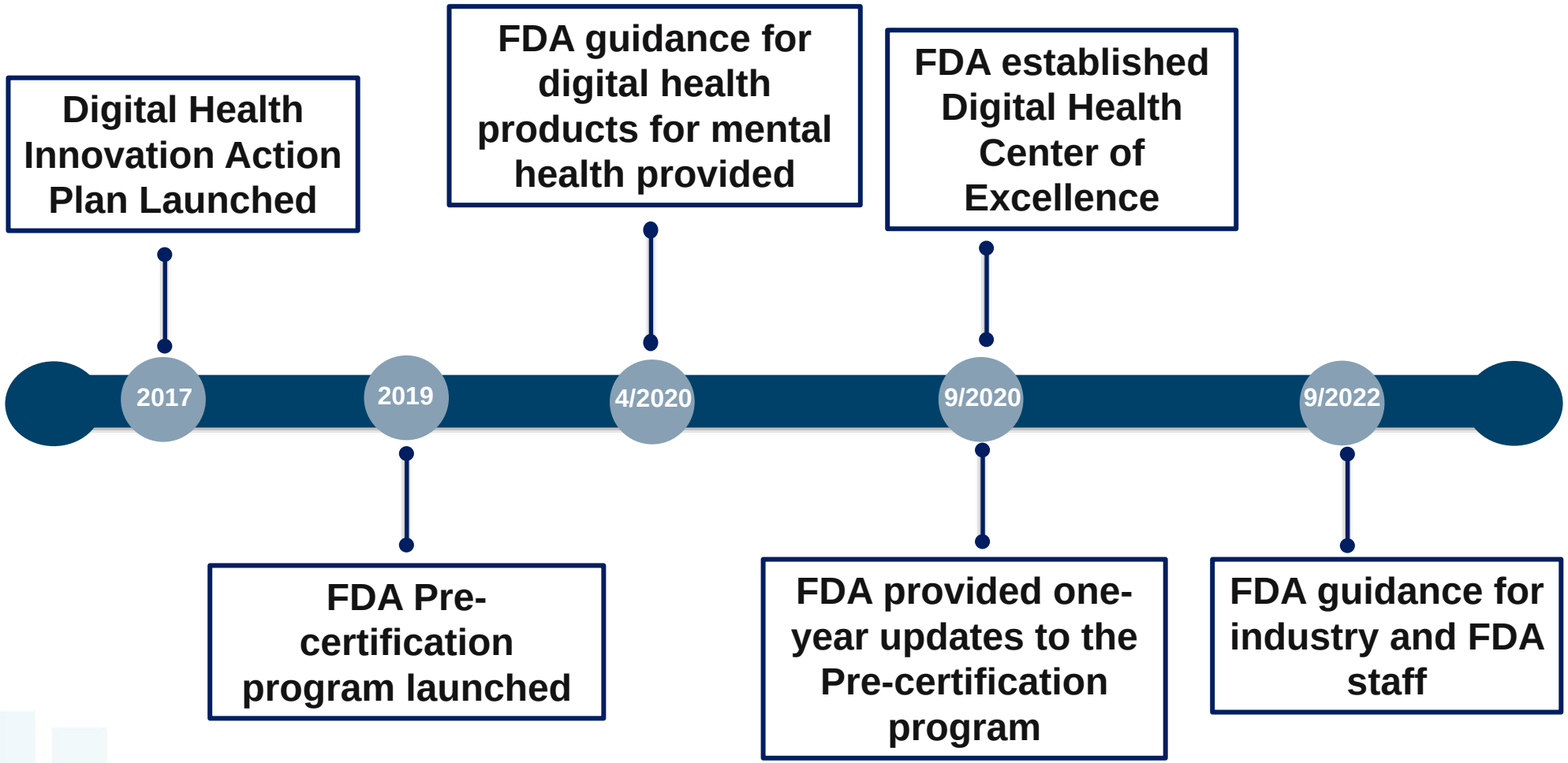
FDA Pathways for Prescription Digital Therapeutics

FDA Pathway	Description	Examples
Premarket Approval Application	Evaluates the safety and effectiveness of Class III medical devices	N/A
De Novo Classification Request	Classifies and evaluates novel medical devices for safety and effectiveness for which there is no legally marketed predicate device	EndeavorRx®, Parallel®, reSET®
510(k) Premarket Notification	Submission to demonstrate the device is as safe and effective as and substantially equivalent to a legally marketed device	reSET-O®, Somyrst®
Breakthrough Device	Expediated review for life-threatening or irreversibly debilitating diseases	DTHR-ALZ, NightWare®
513(g) Request	Submission seeking FDA guidance on how to appropriately classify DTx products for review	Vorvida®

DTx=digital therapeutic, FDA=Food and Drug Administration, N/A=not applicable

Regulatory Oversight of Digital Therapeutic Products



Regulations around Digital Therapeutics

The Access to Prescription Digital Therapeutics Act of 2022

- Adds prescription DTx to the list of services and products eligible for coverage under Medicare and Medicaid
- Directs CMS to establish payment methodologies and product-specific Healthcare Common Procedure Coding System codes for prescription DTx

CMS has already created one billable procedure code, in effect as of April 2022, for “prescription digital behavioral therapy, FDA cleared, per course of treatment”

Various entities are encouraging CMS to develop additional billing codes for prescription DTx

Value of Digital Therapeutics

Stakeholder	Value
Patient	• Enhance and/or support current medical treatments • Improve engagement, experience, and satisfaction in care • Increase access to care via patient-owned devices
Provider	• Enhance and/or support current medical treatments • Improve patient engagement, experience, and satisfaction in care • Access to additional patient-level data to monitor progress and improve disease management
Payer	• Provide insight into disease management • Reduce the overall cost of care • Support value- and outcomes-based care initiatives • Improve patient and provider experience and satisfaction

Current Coverage Landscape for Digital Therapeutics

- CVS and Express Scripts
  - Digital health formularies
- Highmark
  - Coverage of some prescription digital therapeutics
- States with Evaluation Processes
  - Louisiana Medicaid
  - Massachusetts Medicaid
  - Pennsylvania Medicaid
  - Washington Health Technology Assessment

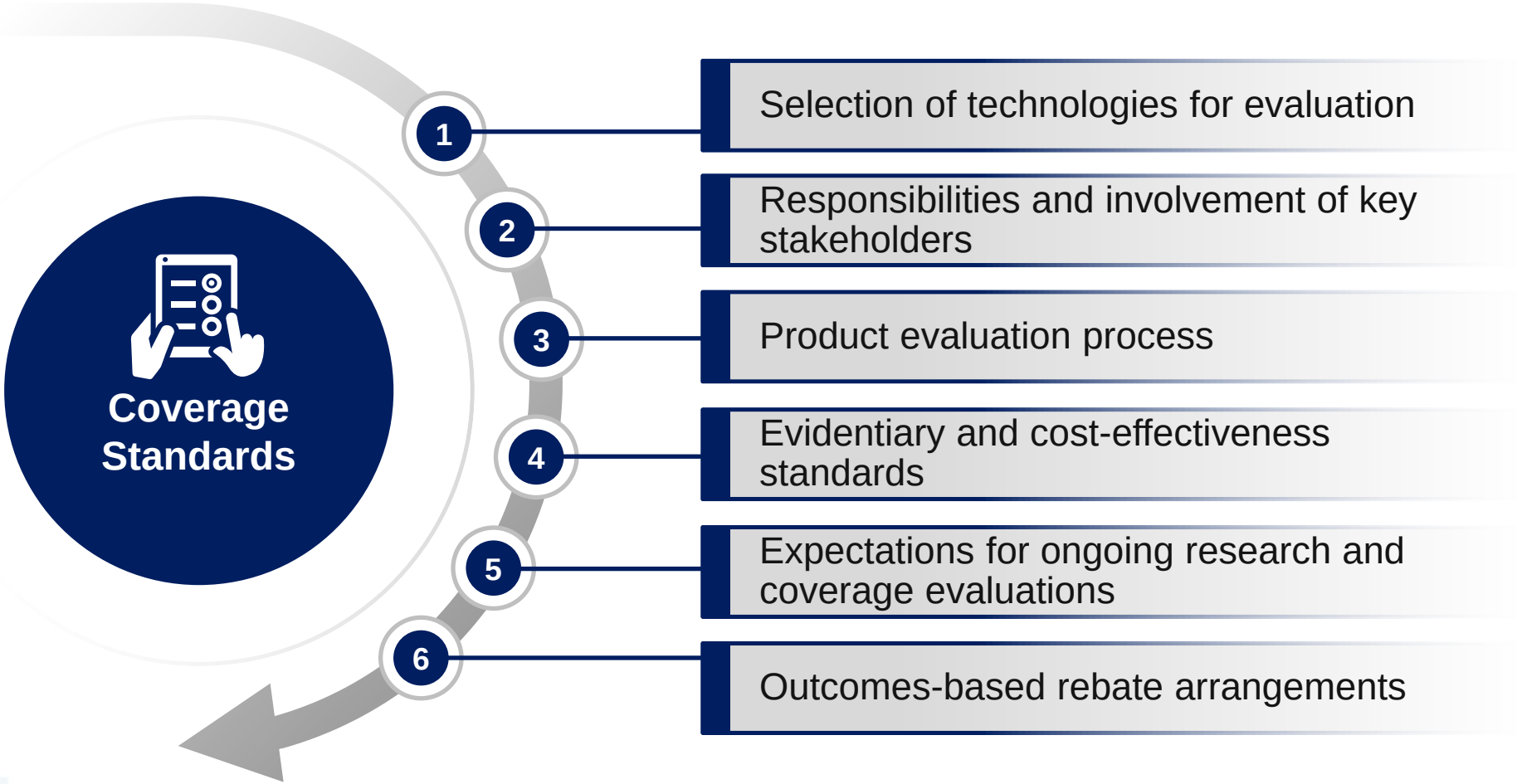
Express Scripts. Evernorth Digital Health Formulary. Available from: https://my.express-scripts.com/digital-health-formulary.html.
CVS Health. Point Solutions Management. Available from: https://payorsolutions.cvshealth.com/point-solutions-management
HIGHMARK. Highmark commercial medical policy- Pennsylvania. Available from: https://securecms.highmark.com/content/medpolicy/en/highmark/pa/commercial/policies/Miscellaneous/Z-105/Z-105-001.html
Ostrovsky A, Simko M. Accelerating Science-Driven Reimbursement for Digital Therapeutics In State Medicaid Programs. https://www.healthaffairs.org/do/10.1377/hblog20201029.537211/full/
Mahon S, Mistry S. Digital Therapeutics Formulary: Value of Applying Traditional Management Tool. Education session presented at: Academy of Managed Care Pharmacy Annual Meeting; 2021

State Assessments of Digital Therapeutics

Criteria	LA Medicaid	PA Medicaid	Washington HTA
Effectiveness	✓	✓	✓
Safety	✓		✓
Potential Cost & Value	✓		✓
Prevalence of Disease	✓	✓	
Usability and Acceptability	✓	✓	
Potential to Improve Health and Reduce Health Disparities	✓		
Potential to Reduce Variation in Clinical Practice	✓		

HTA=Health Technology Assessment, LA=Louisiana, PA=Pennsylvania

Digital Therapeutics Coverage Standards



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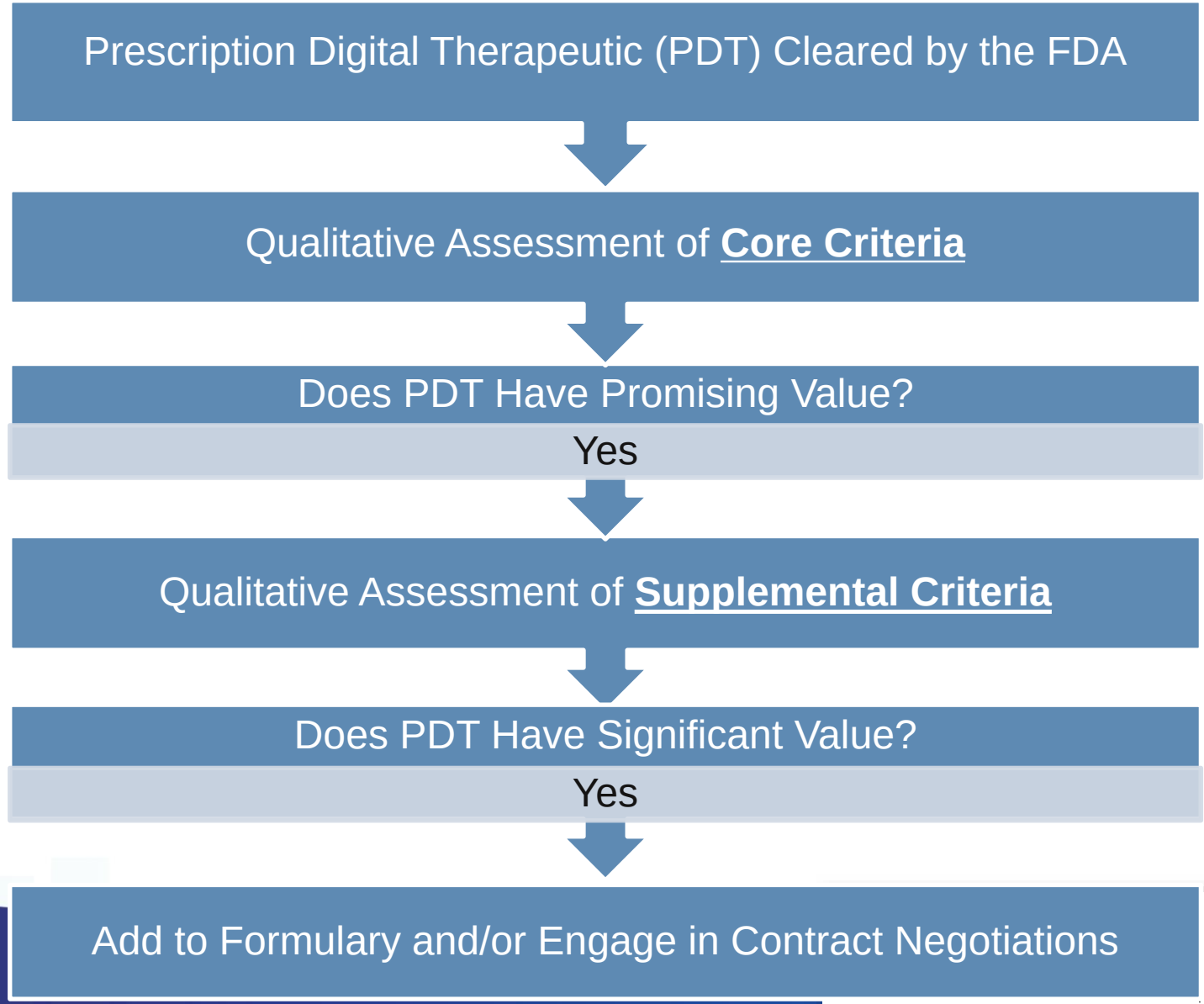
Proposed Process for Evaluation of Prescription Digital Therapeutics



Evaluation Criteria– Core Criteria

Criteria	Description
Disease Prevalence	Number of members with the disease and that may use product for the therapeutic indication
Efficacy	• RCT results • Clinical benefit/medical necessity justification • Optimal level of exposure (Duration of effect and level of engagement) • Efficacy compared to other available treatments for indication
Safety	• Potential adverse effects in RCT and real world • Impact of discontinuation/change of prior therapy due to DTx • Drug/DTx or DTx/DTx interaction
Cost	Per member per year; low-, moderate-, or high-cost threshold

DTx= digital therapeutic, RCT=randomized controlled trial

Evaluation Criteria– Supplemental Criteria

Criteria	Description
Drug Adherence	Significantly improves medication adherence during and/or after use
Quality and Quantity of Evidence	• Multiple trial results with clinically meaningful outcomes • Presence of real-world evidence in peer-reviewed journals
Consistency of Evidence	• Consistency of RCT results • Real-world evidence in alignment with RCT
Evidence Specific to Payer's Population	Trials and observational studies conducted in populations that are similar to a payer's member population
Addresses Gaps in Care	DTx targeted towards population with limited care options
Health Equity	Potential to promote health equity

DTx= digital therapeutic, RCT=randomized controlled trial

Evaluation Criteria – Supplemental Criteria

Criteria	Description
Dynamic Intervention	Therapy adjusted based on severity and state of disease
Reduces Acute Care Utilization	Reduces hospitalizations and emergency department visits
Provider Education	Courses/certifications that can be tracked and shared with payer
Accessibility and Engagement	• Easy to adopt by patients • High patient and provider engagement • Accessible through patient-owned devices
Societal/ Psychological Outcomes	Improves quality of life
Health Information Technology Integration	Necessary considerations made on the dissemination strategy of DTx and integration with electronic health records, decision support systems, population health management platforms, and patient portals

Some Challenges in Managing Digital Therapeutics

Quality and Quantity of Evidence

Determining Value

Training and Education

Integration into Clinical Workflow

Accessibility

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Potential Solutions to Challenges

Quality and Quantity of Evidence

- **Manufacturers and payers should align on set standards**
- **Follow best practices for clinical trial and real-world evidence development**
- **Publish research protocols prior to study initiation**
- **Publish findings in high-quality peer-reviewed journals**

Determining Value

Outcome-based agreements

- Shared risk
- Accumulate additional real-world data

Proactive pipeline and product evaluation process

Training and Education

Manufacturers in collaboration with clinicians provide continuing education and training programs

Integration into Clinical Workflow

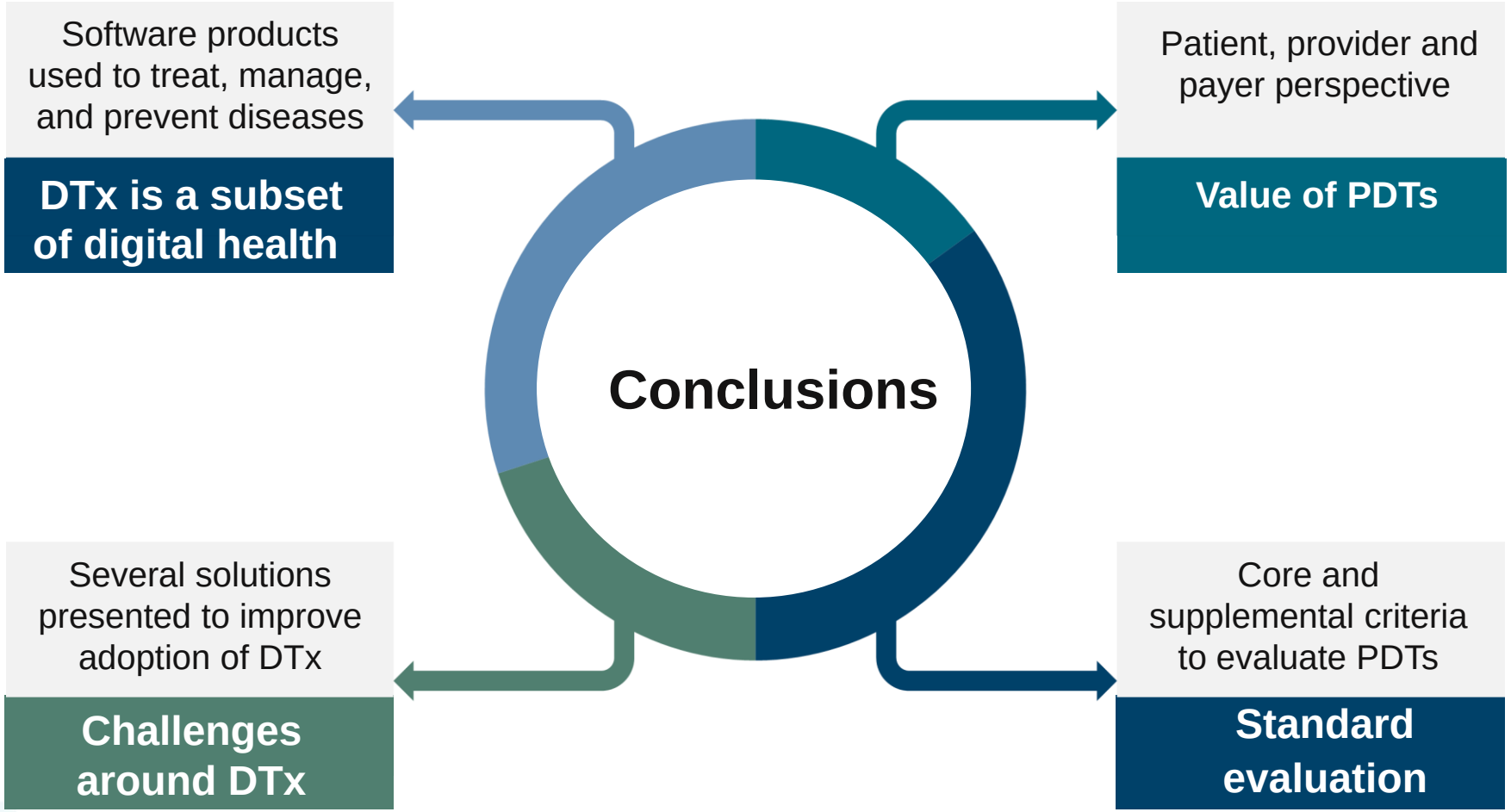
Integration into electronic health records (EHR)

- Manufacturers to pilot products in EHR platforms before launch

Accessibility

- **Expand available languages and reading levels**
- **Use appropriate cross-cultural translation**

In Summary



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Questions

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