



DIGITAL
THERAPEUTICS:

Routes to Market

January 2022



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About HealthXL

Connecting global leaders to solve healthcare challenges

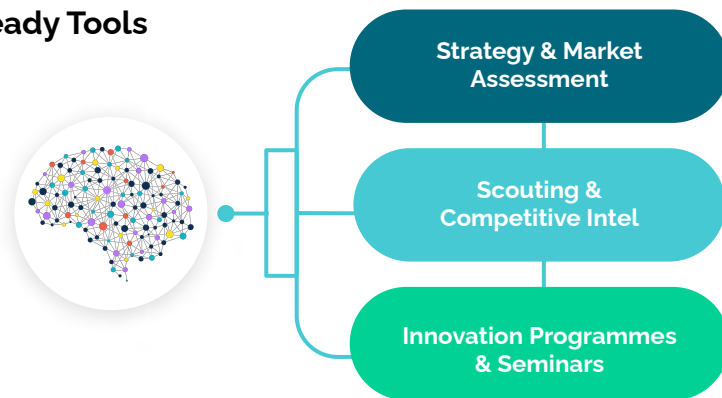
Previous HealthXL reports:

- Prescription Digital Therapeutics
- Clinical Trials Innovation Community Insights
- Digital Therapeutics Community Insights
- Evaluating (US) Digital Payer Adoption of Digital Health Solutions
- Clinical Trials Optimisation with Digital Health
- Measuring Digital Health Maturity

and much more...

Our Market Ready Tools

We use 3 **categories** to showcase our broad range of **market ready tools**



Our Members



About This Report

The Challenge



While significant advancements have been made in the field of digital therapeutics over the last number of years, implementing a successful go to market strategy remains a key challenge. We have seen a lot of trial and error, as well as migration between commercialization pathways. However, there is no silver bullet.

Our Goal



In this report we examine potential routes to market for digital therapeutics and provide our insights on how each of these avenues will likely develop, which one you should choose, when and why. The report is peppered with inputs from the HealthXL DTx community too.

The routes to market for digital therapeutics that are covered in this report include direct to consumer, pharma partnerships and also launch via employers alongside alternative routes.

Why Now?

The digital therapeutics market is evolving rapidly.

In 2018 we published our first report in this space to familiarising the industry with what exactly is a digital therapeutic.

Our 2021 report focused on the subset of prescription digital therapeutics, highlighting the unique opportunity they present.

The aim of this report is to understand exactly how all of this translates into commercially viable businesses. Read on to find out more.

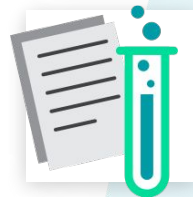
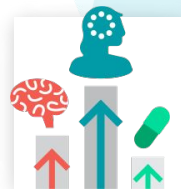


SECTION ONE

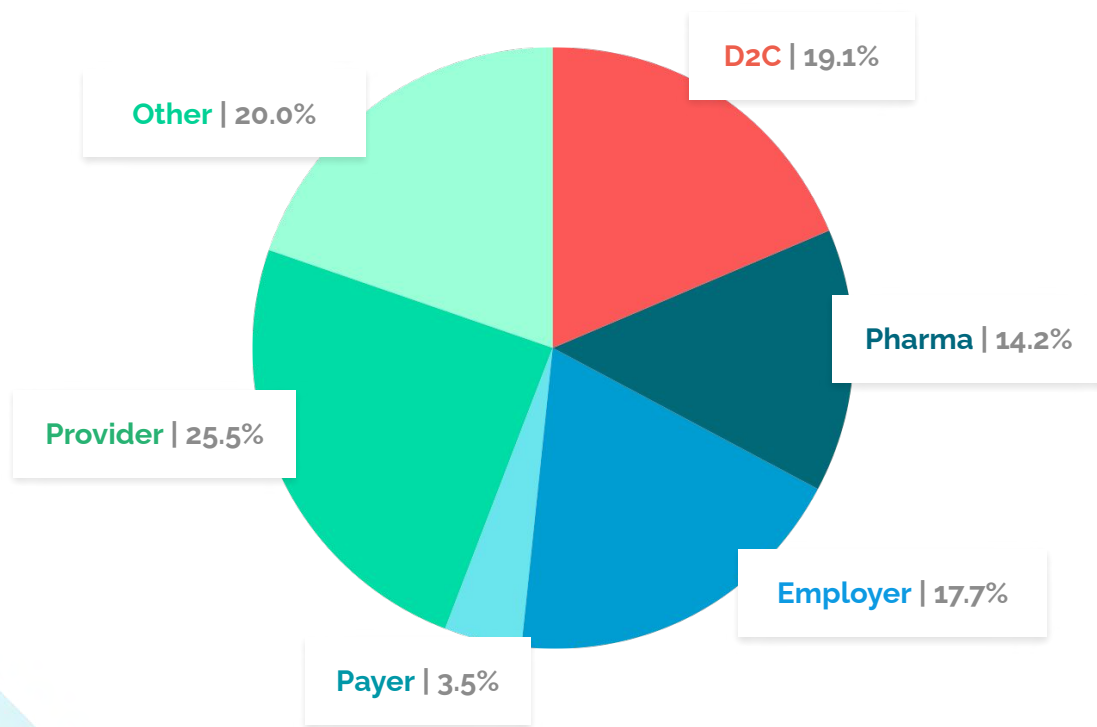
Current Approaches to Commercialization

What are the current commercialization strategies for DTx?

- In comparison with our previous HealthXL DTx Report (2018), we can see an almost two-fold increase in the number of DTx solutions currently on the market. Mental Health & Cardiometabolic disease areas continue to remain among the top therapeutic areas. However, we are now **seeing an expansion into newer therapeutic areas such as Gastroenterology, Nephrology and Ophthalmology.**
- Many 'Route to Market' **commercialization strategies exist for DTx** including D2C, pharma or employer routes, which will all be discussed in this report. Additionally, other routes to market include the DiGA pathway and through online platforms such as Pear Connect.
- **The categories of mental health and neurology along with cardiometabolic have the highest number of DTx solutions.** The majority of these solutions are available to the customer through the employer route, followed by the D2C route.
- According to the HealthXL database, the **'Over-the-counter' DTx solutions are more prevalent than 'Prescription' DTx**, and 'Standalone' DTx products are more popular 'Combination' DTx (see [glossary](#) for definitions).
- Almost **20%** of DTx solutions are **still in development and clinical trial stages.**



DTx Commercialization: Route to Market



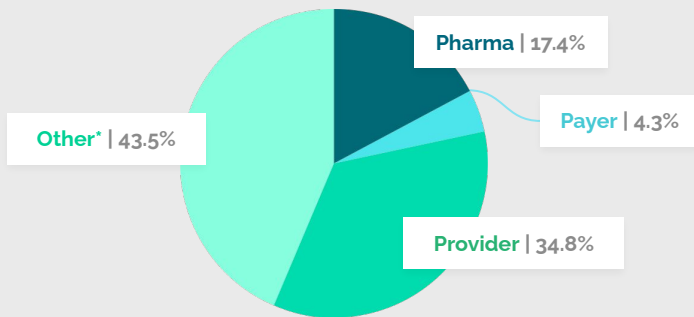
Provider, **employer** and **D2C** are the **leading 'Route To Market' strategies** in the commercialization of DTx.

Interestingly, **only 14.2% of DTx companies have adopted the pharma route**, possibly due to their rigorous clinical evidence and regulatory requirements.

SECTION ONE | Current approaches to commercialization - DTx categories

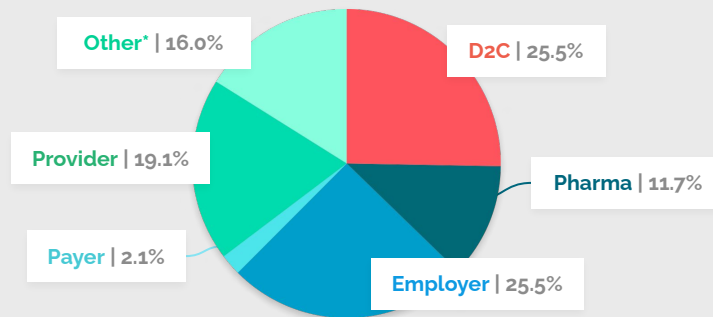


STANDALONE - PDT**



STANDALONE

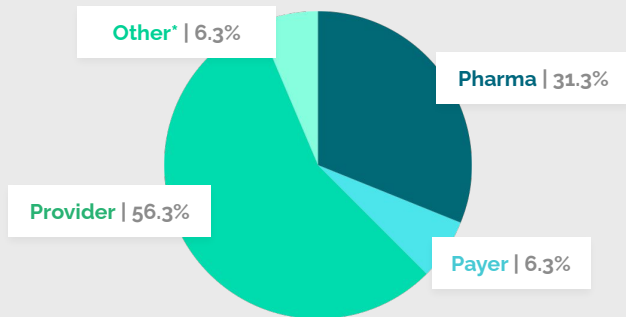
STANDALONE - OTC**



OTC

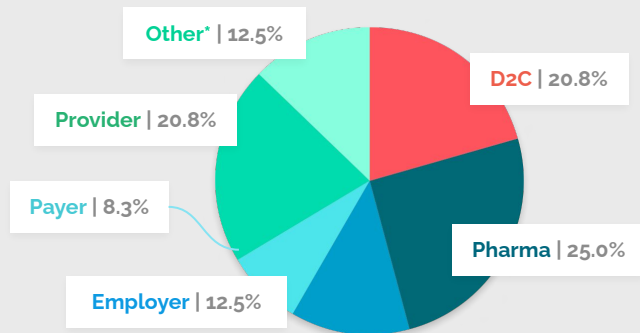
PDT

COMBO - PDT**



COMBO

COMBO - OTC**




* Other includes; Healthplan, DiGA, Pear Connect, Government sponsored

** Refer to Glossary for definitions

SECTION ONE | DTx - Assessment of Therapeutic Areas

List non-exhaustive

DTx Types		Therapeutic Areas				
		Mental Health/ Neurology	Oncology	Cardiovascular/ Metabolic	Substance Abuse	Other
PDT	Standalone					
	Combo					
OTC	Standalone					
	Combo					

* Available through DiGA route as a PDT.

Refer to glossary for definitions of combo, standalone, PDT and OTC.

Therapeutic Areas

Source: HealthXL DTx Database

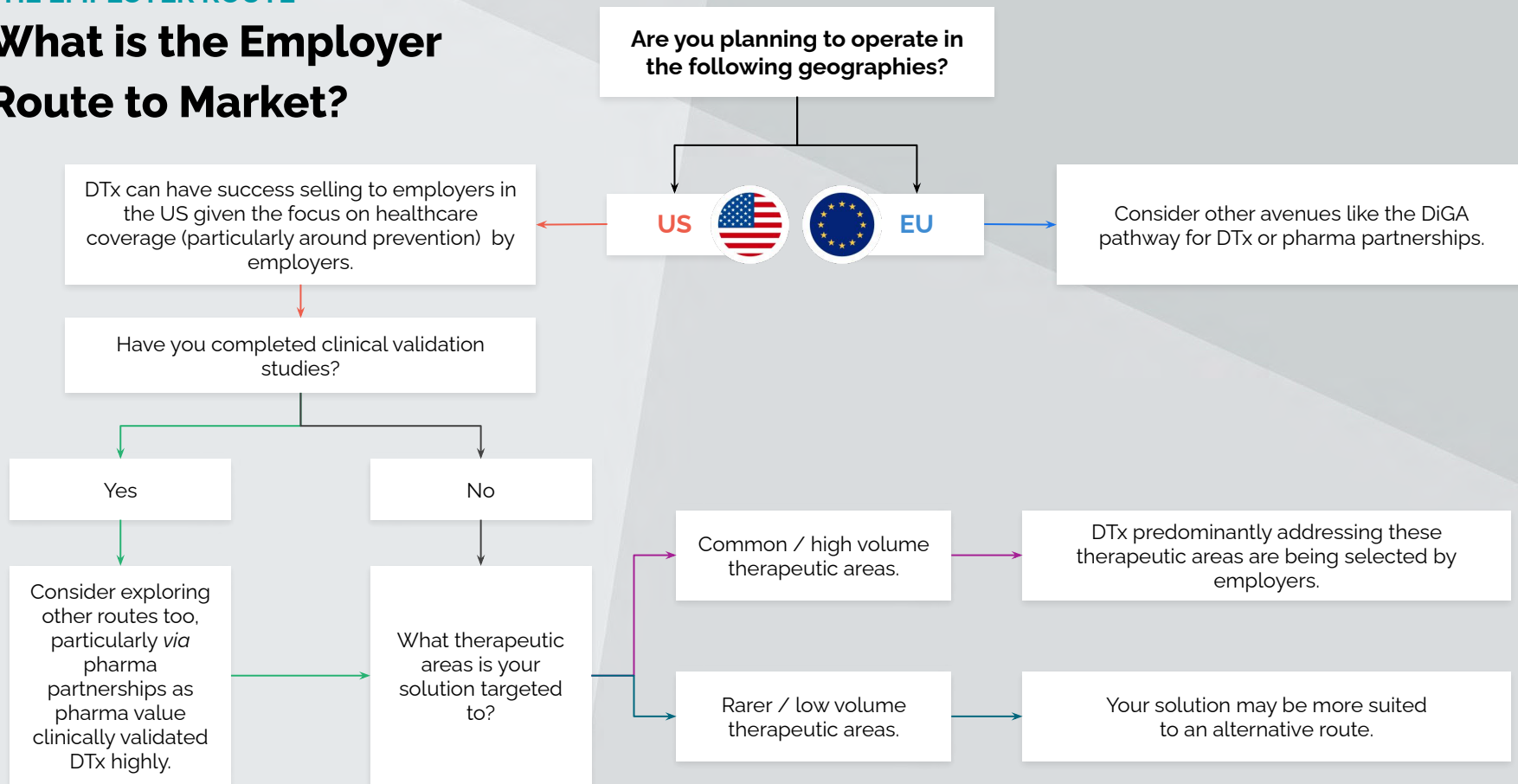


SECTION ONE

Routes to Market 1 : The Employer



What is the Employer Route to Market?



THE EMPLOYER ROUTE

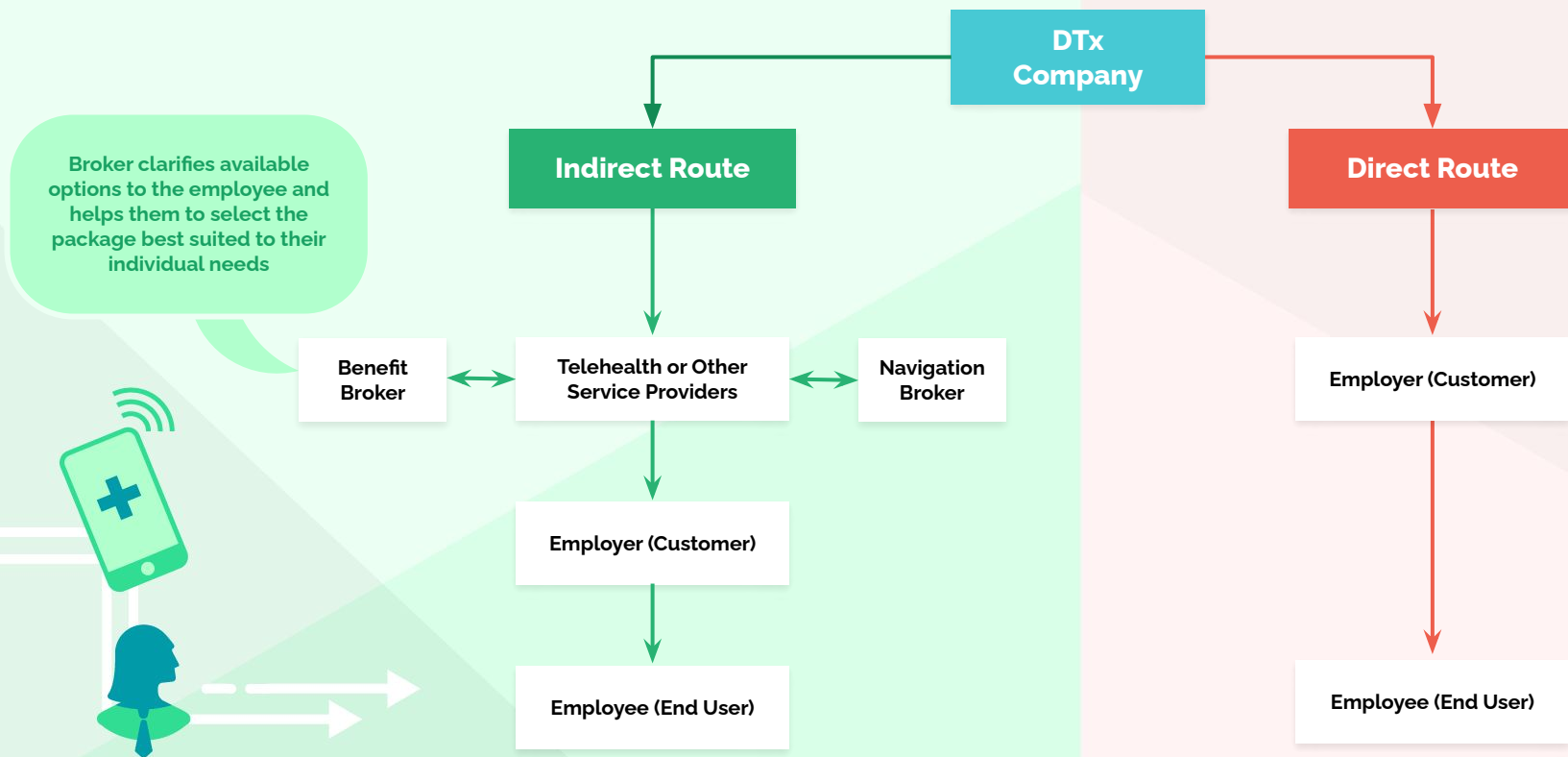
What is the Employer Route to Market?

- The employer route to market for DTx is a **"B2B2C" entry point** in which a digital therapeutic company will target employers as their customer base.
- They may do so directly, wherein the **employer will cover all or partial costs of the solution** which they will then offer to their customers as a standalone, voluntary benefit. **Alternatively, they may offer the DTx as an off-cycle benefit to be billed through medical claims**, which would mean it could be implemented at any time throughout the year.
- Another, and increasingly popular route to market via employers, is through the **bundling of DTx solutions within group medical coverage schemes**.
- Solutions in this market **must demonstrate their ability to reduce medical spend** for employers and consequently allow for tangible financial savings. Ideally they would also positively impact employee productivity.

This market route depends greatly on **regional variations in healthcare infrastructure and workplace cultures**. It is a **strong market entry route in the US specifically** (which will be discussed later in this section), particularly through brokering agencies helping employers choose best in class solutions for their employee base.



What is the Employer Route to Market?



THE EMPLOYER ROUTE

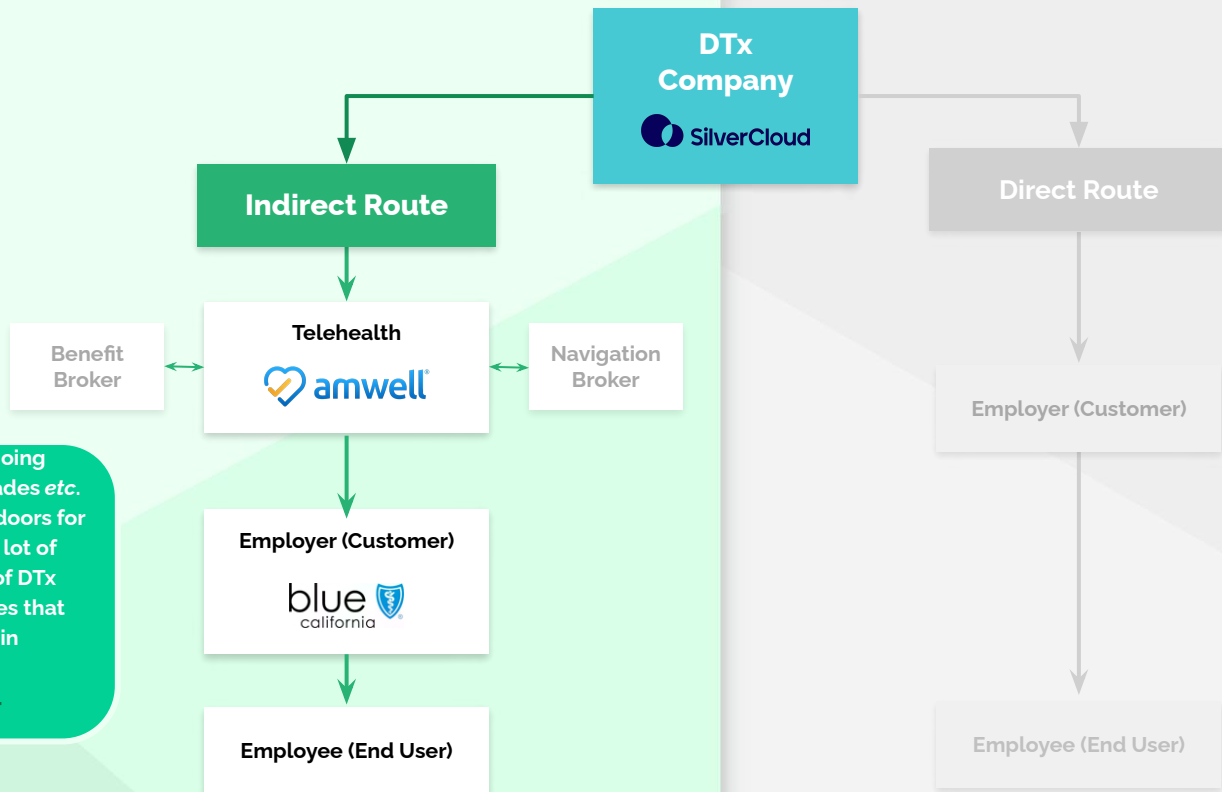
What is the Employer Route to Market?

Telehealth Spotlight

Telehealth platform **Amwell** recently announced the acquisition of DTx company **Silvercloud Health** (in addition to patient engagement solution Conversa Health). This move **highlights M&As as a key part of Amwell's strategy** and an opportunity for telehealth companies to differentiate themselves through expanded offerings and speciality services (similar to Livongo-Teladoc).

"The telemed companies are going to start competing with the Accolades etc. They're going to act like the front doors for employers. We're going to see a lot of consolidation and acquisitions of DTx companies by telemed companies that will then become a channel in themselves."

HXL COMMUNITY INSIGHT



What is the Employer Route to Market?

Differentiation from other routes - Benefits

- The employer route to market is an attractive entry point as it **demands lower clinical evidentiary thresholds** than other routes, favouring case studies over randomised control trials. However, evidence barriers in terms of engagement, implementation and health economics must still be addressed.
- In general, employers are willing to help companies get data together for RCTs to help them move into other channels. Indeed, they can provide their own **employee base to generate real world evidence** for use of the service.
- The employer market is enormous. If digital health companies can successfully enter through this channel, they are tapping into a **massive potential user base**. In the US alone, employers who provide self-insured, or self-funded plans currently cover an estimated 94 million of the country's 156 million employees ([2019 estimates](#)).
- Finally, the **employer route to market is a relatively secure one**. If navigated correctly, the DTx company will gain access to a dependable and recurring revenue stream.

“

“Mercer found that **63%** of employees are more confident in a digital health tool if it is promoted or sponsored by their employer. Similarly, once an investor sees a success case with a reputable employer, they are more likely to invest.”

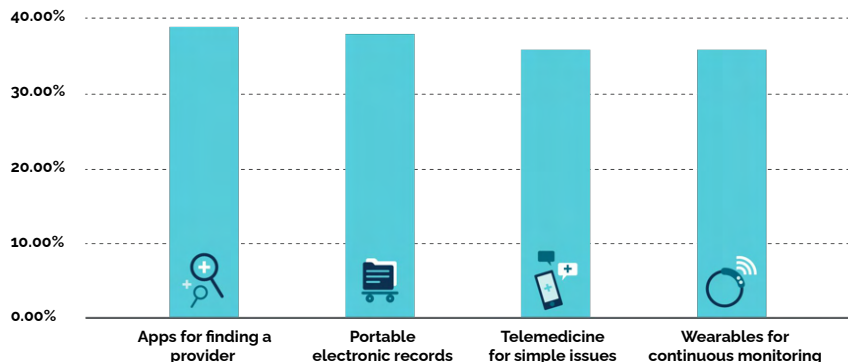
THE EMPLOYER ROUTE

What is the Employer Route to Market? *Who is the target?*

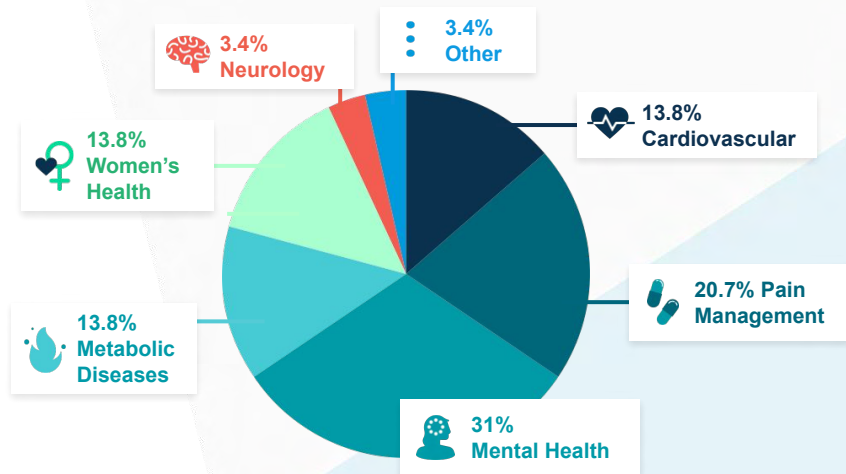
→ Employers use benefits as a differentiator to attract top talent, competitive salaries aren't enough anymore when attracting highly skilled workforces or niche professions.

→ For this route to market, the key factor to success appears to be the therapeutic area which is largely driven by the size of the cost burden undertaken by employers for a given condition or indeed set of conditions.

"Highly" or "Extremely" Valuable



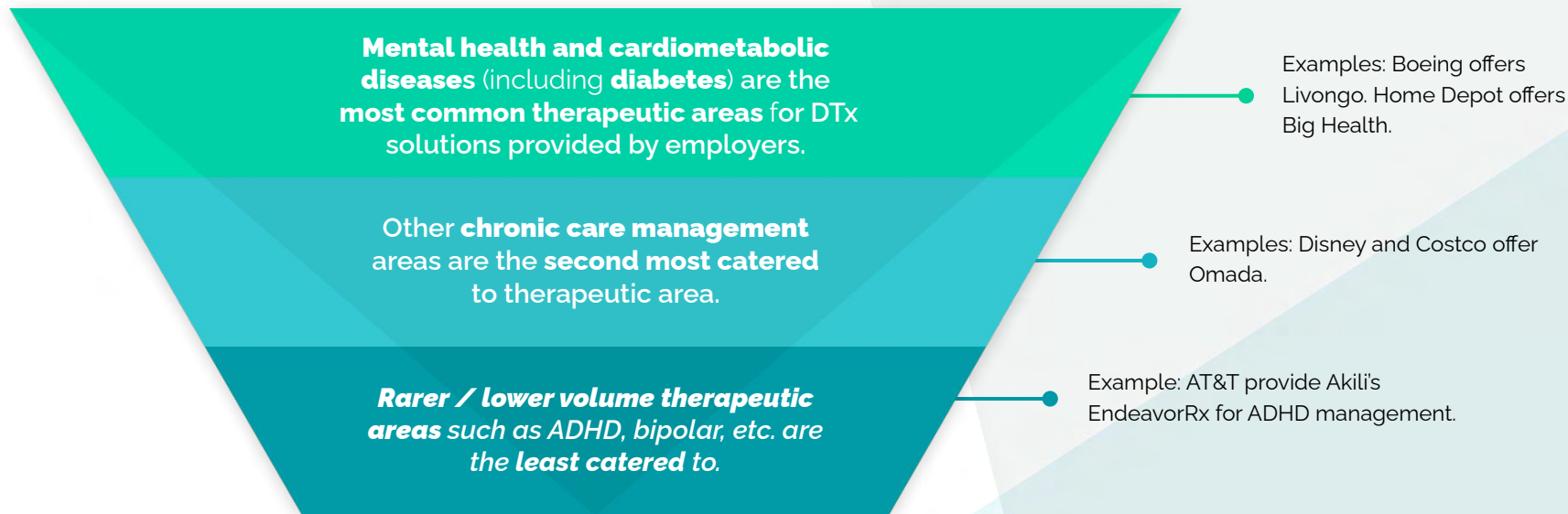
Data Source: US employee perception of the most valuable digital health benefits according to findings from the [Mercer Health on Demand 2020 report](#).



Recent insights from a HealthXL meeting focused on DTx-employer partnerships found mental health and pain management to be top therapeutic areas suited to the employer route to market.

Therapeutic Areas

Mental health, cardiometabolic disease and diabetes are the most catered to therapeutic areas in employer plans. The employer plan route to market is more challenging for DTx solutions addressing rare/low volume therapeutic areas such as ADHD and bipolar.



Differentiation from other routes - Approach Checklist

The employer route to market is a **unique B2B2C route** that requires specific considerations before approach:



Can your solution integrate?

- DTx solutions proposed for this entry route **must be able to integrate into other platforms** - employers don't want to deal with multiple isolated solutions, they want everything bundled together.



Can it reduce medical spend?

- Outcomes are different in the employer route when compared to other routes such as pharma. Success is **measured in reduced medical spend and financial savings for the employer.**



Do you have tangible proof?

- The **burden of proof is all encompassing for the DTx company in this route**, employers need to be convinced that the offered solution will have a tangible impact before they get involved.



Does it facilitate family inclusion?

- Consideration needs to be given to **users as groups**, many employee's co-dependents or spouses are also included in their health plan, which can complicate price modelling. This also presents an opportunity to leverage family inclusion as a tool for both recruitment and retention.

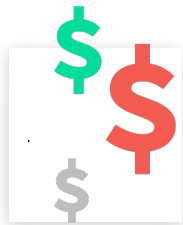
Challenges | #1 - Pre-Market Hurdles



Employer/Employee Engagement

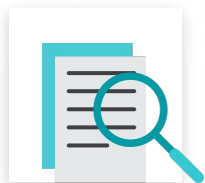
- **Employers** can be slow to get on board with new technologies or systems, particularly point solutions targeted at individual conditions. There is more of an interest in broader platform solutions.
- Reportedly, the **biggest challenge** for digital health companies working with the B2B2C payment model is **securing the first employer partnership**. However, once a first partnership has been established, the digital solution automatically has a new segment — tens or hundreds to even thousands — of users who have very little barrier to entry.
- There may be an **opportunity to leverage the employee first route** too - getting enough employees on the solutions and then leveraging this to get employers to buy in via a hybrid D2C approach.
- **Employees as end users can be extremely diverse**. For example, they may have vastly different lifestyles, behaviours, motivations, comorbidities and also family members that are included in their benefits packages. It can be a challenge to widely implement a solution across a user base who's commonality is their place of employment, as opposed to a specific disease, therapeutic or interest area.

Challenges | #1 - Pre-Market Hurdles



Pricing

- **Pricing models** for employers choosing to offer DTx as a benefit are **still being worked out**. There is no consensus on the optimal pricing model for employers, however the shifting industry focus to value based payment agreements may influence how this space evolves.



Burden of Proof

- For this route to market, the **onus is on the digital health company to provide tangible proof that their solution can provide significant financial savings** for the employer in terms of reduced medical spend and improved performance.
- This evidence can be hard to generate initially and also **requires a different approach to more traditional routes** (such as evidence generation for regulatory clearance or pharma partnership).

Challenges | #2 Geographies | United States vs. European Union

DTx employer route to market is much more common and advanced in the US than in the EU

USA



- ★ It is estimated that close to **50% of the US total population receive employer-sponsored health insurance**. With the passing of things like the Affordable Care Act, there is a growing requisite for employers to provide health insurance to their employees, and with this comes a desire to manage employee health and costs from employers.
- ★ **DTx presents an opportunity** to support both employers and employees in achieving their healthcare goals, particularly around **chronic disease management** - CVD and diabetes have been top areas of focus and vendors in this space have been very successful.
- ★ Some **large corporations** are looking for ways to **pilot these initiatives with DTx** specifically, shifting from providing tools in the 'wellness' space to more disease specific products by DTx.

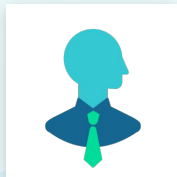


EU

- ★ The **employer market is much less prevalent in the EU**, with most countries having a single payer system of national coverage, hence a smaller pool of individuals receiving cover from their employer. This presents a **limited opportunity for DTx** to gain traction in this space beyond targeting large multinational companies.
- ★ Companies active in the EU are more **focused on NICE, DiGA and Belgium systems** as routes to market over the small pool of employers they may be able to sell to.

Market Trends | *Overview of Market Strategy*

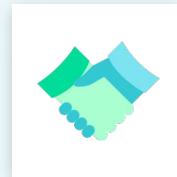
In large organizations, some benefit management structures are very rigid, and others are more decentralised. There may not be a direct B2B sales team in relation to healthcare benefits and so relationships must be carefully managed.



Employers are key stakeholders in the U.S. healthcare ecosystem. They are instrumental in arranging for coverage of the bulk of employee's healthcare costs.



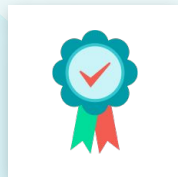
To date, employers have largely limited their influence to wellness and disease management programs alongside contract negotiation with insurance companies.



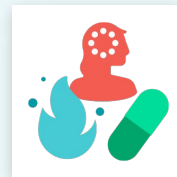
Some large employers are directly collaborating with provider systems to design new benefit programs.



Employers are attracted to vendors that offer bundled solutions to minimise their risks.



This route to market is a solid entry point for generating evidence and gaining FDA approval through real world use cases.



Areas best suited to the employer route to market are mental health, cardiometabolic disease, pain management, and women's health.

Market Trends

Moving Toward Consolidation

- In the coming years, employers are projected to move away from point solutions such as single chronic health condition platforms.
- Instead, like in many other areas of health, the focus is shifting towards larger platforms that cover a range of behavioural and medical health conditions.
- These larger offerings simplify access to care and allow for a single entry point to digital care which is increasingly being recognised as pivotal given the dawn of knowledge around the interconnectedness of medical conditions and also given the rise of interest in comorbidity management.
- For employers, this simplification is key, an employee base is diverse in needs, consolidated solutions offering a range of applications will be the most attractive.

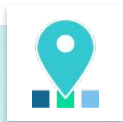
A survey conducted by Willis Towers Watson in March of 2020 found that in the wake of Covid-19, **86% of employers are promoting telemedicine and 58% are increasing access to telebehavioral health.** The survey was carried out on 654 employers in the U.S.



~ 60% of U.S. adults
have at least one
chronic condition

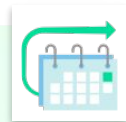
~ 40% of U.S. adults
have multiple chronic
conditions

Routes to Market | Where We're At and Where We're Going



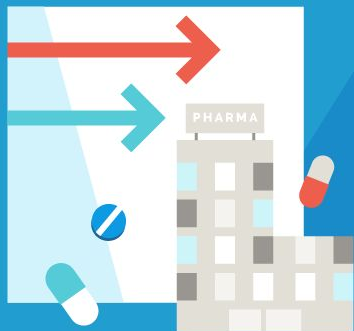
Where are we now?

- The employer route to market is **most well established in the US**, where employers provide a large portion of health insurance. The market is much smaller in other regions like the EU.
- Therapeutic areas best suited to the employer route to market are **mental health, cardiometabolic disease, metabolic disease, pain management, and women's health**. It is more difficult for low volume therapeutic areas to gain traction in this route to market.
- The **employer route to market** is an attractive entry point as it has a **low barrier to entry**. It [demands lower evidence thresholds](#) than other routes, favouring case studies over randomised control trials.



Where are we going?

- As a result of Covid19's impact on physical and mental health, **employers in the EU are increasingly recognising the value of employee wellbeing**. They are seeking ways to deliver on this which represents a growing market opportunity for DTx companies.
- Rather than point solutions for individual therapeutic areas, there's a **shift towards consolidated platforms offering a holistic approach to cater to the varying needs of an employee base**. For DTx companies considering the employer route, there is an opportunity to **combine with a telehealth platform or brokerage manager** to make a more attractive offering for employers.
- Despite the low barrier to entry, it may be difficult to retain end users as employees may eventually move companies or retire. As this area is still quite new, **it's yet to be seen how this entry route performs long term and if end users will see enough benefit to pay for DTx out-of-pocket**, having previously had them covered their employer.

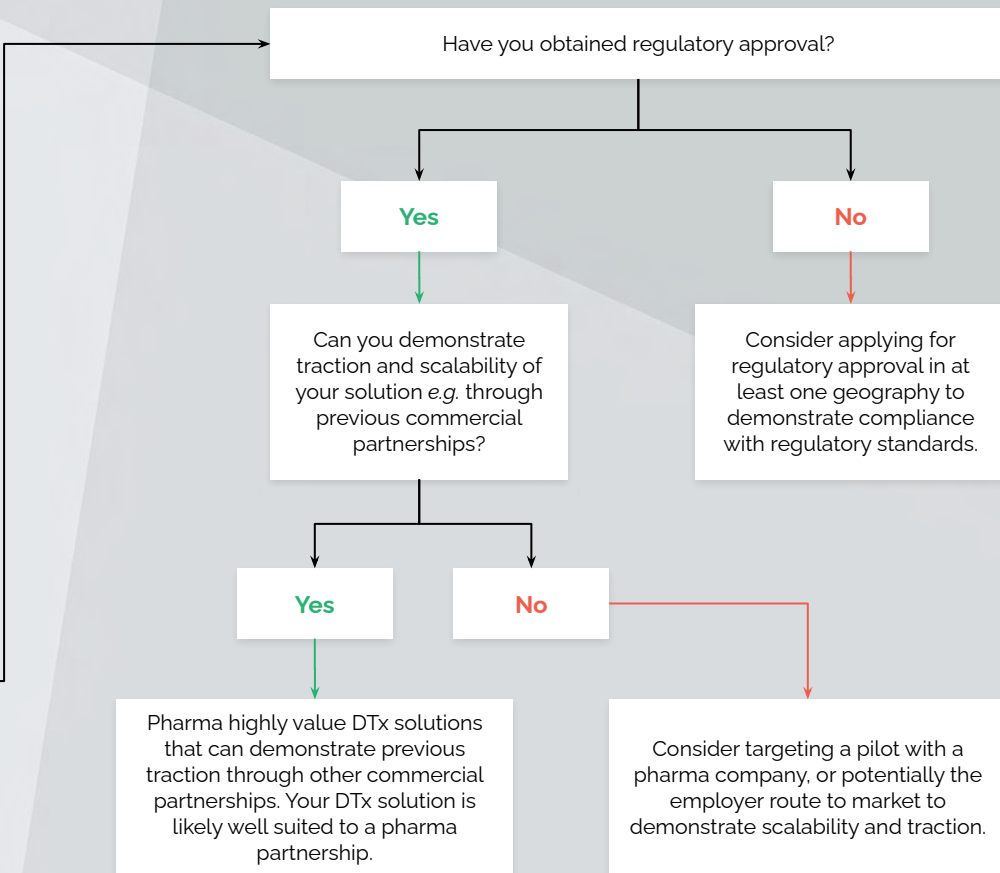
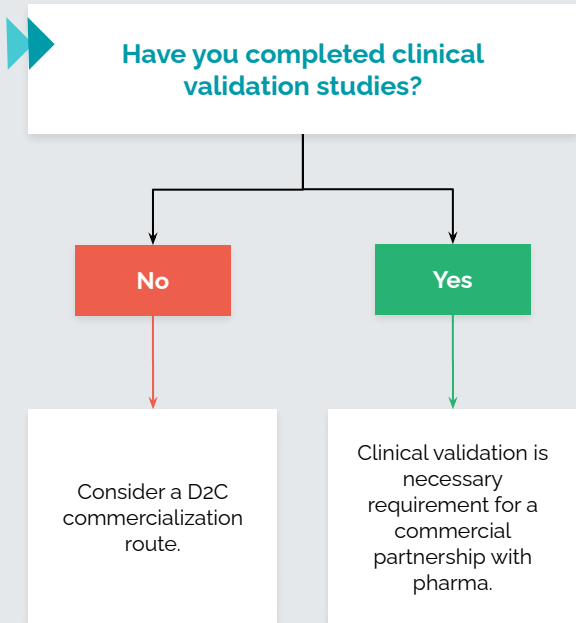


SECTION TWO

Routes to Market 2 : Pharma



What is the Pharma Route to Market?



What is the value of DTx for Pharma?

'In the United States, more than 80 percent of healthcare costs - \$3.4 trillion, almost 20 percent of the whole economy - is spent on diseases that could be modified or even reversed through behavior change. So yes, the world does need digital therapeutics.' - **Bozidar Jovicevic, Head of Digital Therapeutics, Sanofi**

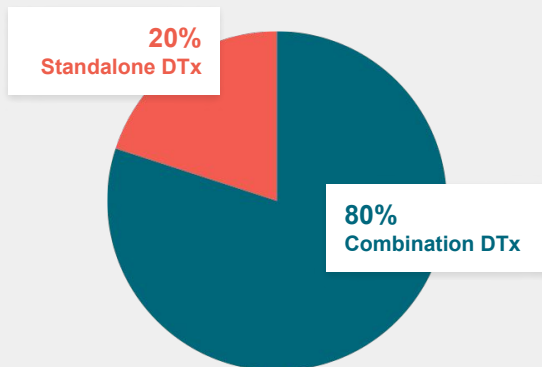
Standalone DTx:

A DTx which is used independently of drugs, often as step one in a treatment algorithm targeting diet, exercise, and/or lifestyle, etc.

Drug/Device "Combination DTx":

A DTx which is combined with a drug to improve the treatment experience. They deliver their results in ways such as helping patients taking the right dose at the right time or better managing symptoms and side effects of their disease or treatment.

What will be the focus for pharmaceutical companies in the next 18-24 months?



Insights from a meeting on DTx-pharma partnerships



When we asked consumers, only **2% of survey respondents*** said the greatest influence in their decision to use a DTx or not would be if it accompanied a pharmaceutical product they were already using.

*n=92 respondents; Individuals were eligible to participate in the survey if they were located in the US, EU, UK, or APAC region. A specific breakdown of participants by territory is not available.

What is the value of DTx for Pharma?

What Each Party Brings to the Partnership

"At present, commercial pharma partnerships stand to benefit the DTx company more so than the pharma partner. A lot of DTx partnerships have been signed with the promise of future rewards; however, long production cycles and the protracted process of achieving scale mean that the promise cannot be achieved immediately and may require more time than originally anticipated. Learning from these partnerships has changed pharma behavior and they are becoming more risk aware and realistic in terms of expectations." **HealthXL Community Insights**

The Value of DTx to Pharma



Patient outcome: The intrinsic, therapeutic effect of the DTx as well as the potential to manage and impact the side-effect profile of a traditional drug.



Data: DTx vendors have constant access to real-time patient data which is difficult for pharma to access through other routes (e.g. surveys/registries).



Agility: DTx companies are agile and nimble, with experience in the rapid product development lifecycle of digital products.



Patient interaction: DTx provide pharma an opportunity for greater interaction with patients and deeper understanding of needs on the patient journey.

The Value of Pharma to DTx



Financial value: Pharma brings attractive economical value to the partnership for a DTx company.



Commercial traction: Beyond financial value, a pharma partnership demonstrates commercial traction for a DTx.



Experienced salesforce: Pharma has huge capacity to scale with strong sales and marketing capabilities that can support scale-up of DTx.



Regulatory and scientific expertise: Pharma has a wealth of regulatory and scientific expertise that can benefit the future development of a DTx.

What is Value of DTx for Pharma?

The Opportunity Across the Product Life Cycle

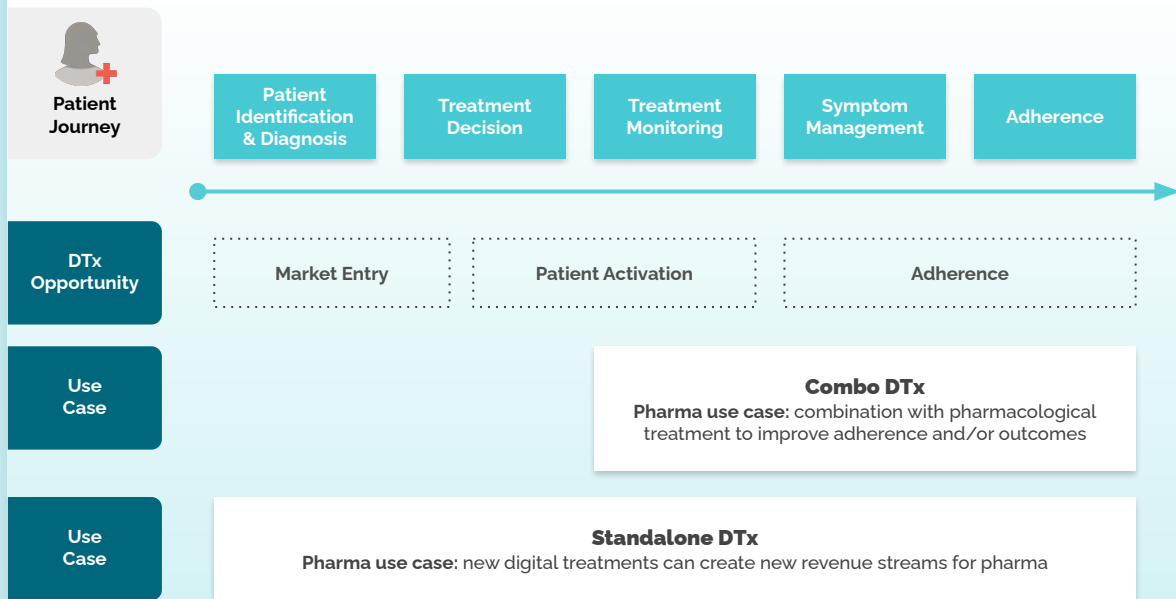
Combination DTx products can be incorporated across numerous stages of existing therapy lifecycles to **improve patient care** (e.g. through management of side effect profiles) as well as to **extend revenue streams**. Despite these opportunities, not all pharma organizations have incorporated digital health into their strategies.

For those that do, the general trend for pharma is to **retrofit digital to their drug only when there is a need to differentiate**. Developing these digital products alongside a drug will likely provide more valuable products, thereby fueling the growth of these pharma-DTx partnerships.

*HealthXL Community Insights 2021

THE DTx OPPORTUNITY ACROSS PHARMA'S PATIENT JOURNEY

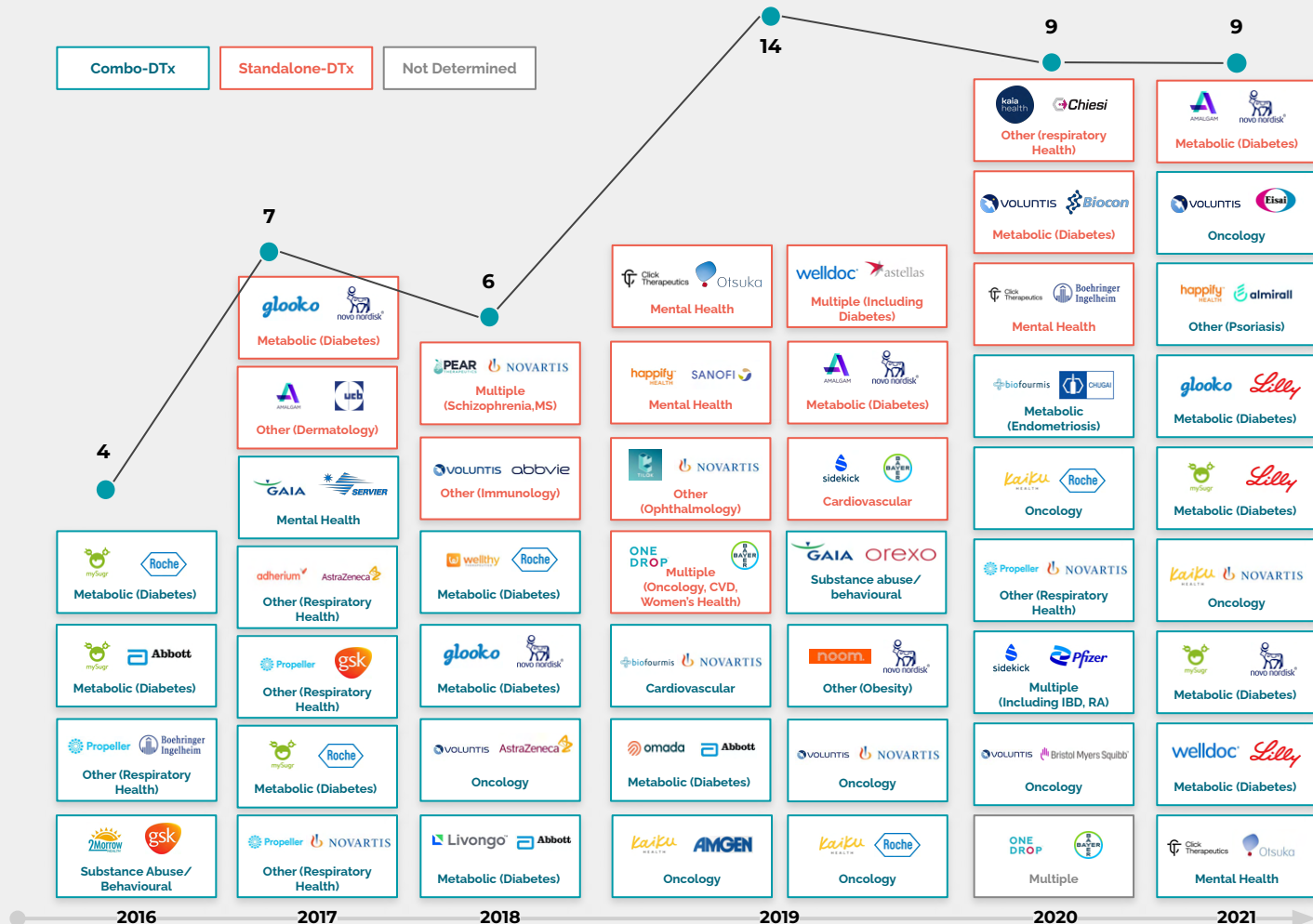
Standalone and Combination DTx present different opportunities for pharma



Where are we now?

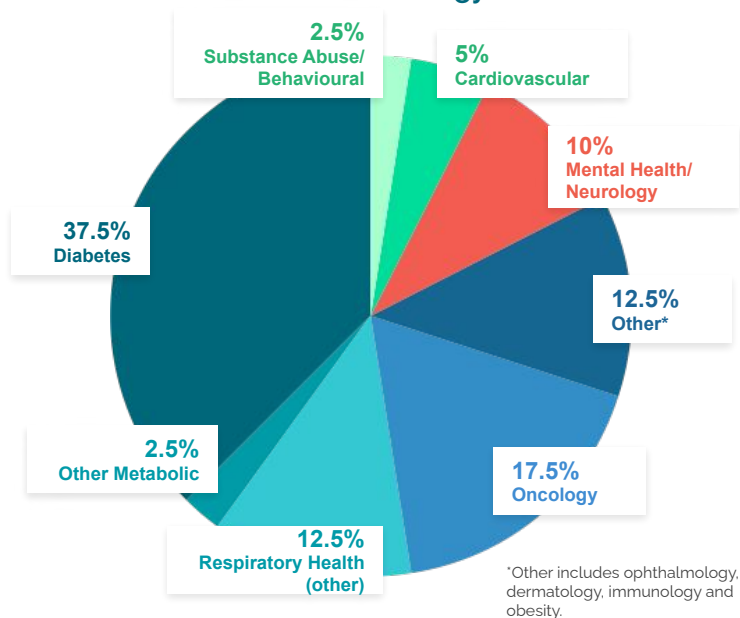
The Current State of the Pharma-DTx Market

Industry trends show that pharma is beginning to explore the digital opportunity a lot more, to the point of considering standalone digital revenue models. During the time-period of Jan. 2016-Aug. 2021, **67%** of partnerships focused on **digital companions**, while **29%** centered on **standalone DTx**.

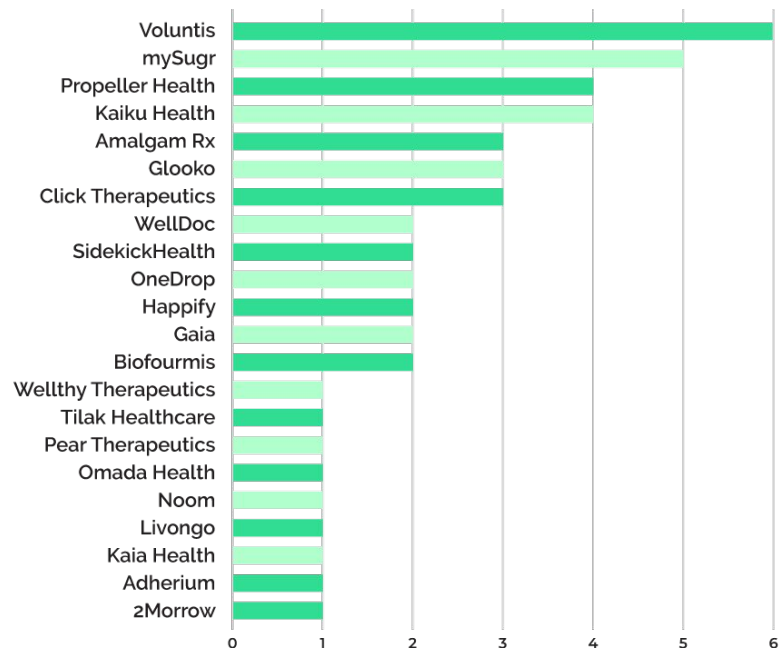


Where are Pharma-DTx partnerships Gaining Most Traction?

During the time-period of Jan. 2016- Aug. 2021, the highest focus for commercial pharma-DTx partnerships were in the areas of Diabetes, Oncology, Respiratory Health and Mental Health/Neurology...



...with vendors MySugr, Propeller Health, Voluntis and Kaiku highly successful in establishing pharma-DTx partnerships.



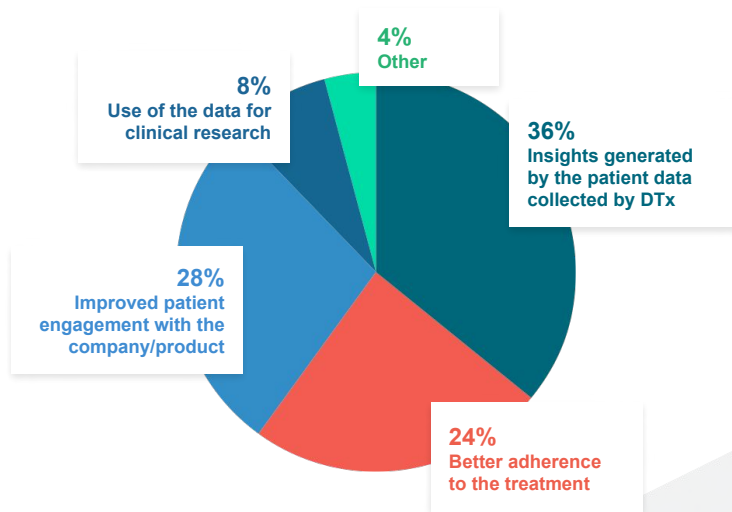
The Value of Data in Pharma-DTx Partnerships | *How pharma can leverage data*

Examples of how pharma companies are leveraging RWE include:

- Pfizer's use of electronic medical record (EMR) data in obtaining approval for Ibrance to treat male breast cancer
- Roche's use of a synthetic trial arm to secure reimbursement for its lung cancer drug Alecensa
- AstraZeneca's use of real-world data to demonstrate the real-world effectiveness of its diabetes therapy Farxiga compared to competitors.

It is estimated that an average top-20 pharma company that has adopted advanced RWE analytics across its whole value chain for in-market and pipeline products could unlock more than \$300 million a year over the next three to five years.

But beyond hypothesis, what does the industry think?



Partnerships with DTx companies have the potential to provide pharma with constant access to real time patient data at no incremental cost, providing them with an opportunity to unlock this value.

The Path to Partnership: Case Studies

Dthera's Route to Market was a thoroughly considered approach. Why did it fail, and what can we learn?



Consider your target market: The target market for Dthera's Alzheimer solution was ailing seniors. Dthera carried out commercial testing among hundreds of individuals which showed that families and caregivers of Dthera's target market were unable to pay for the solution, ruling out the D2C or B2B2C approach and highlighting the B2B approach as the most viable route.



Obtain regulatory approval: Dthera was the first standalone digital therapeutic to receive breakthrough designation status from the FDA. Despite this, regulatory approval alone proved insufficient to lead Dthera to success.



Evaluate the evolving digital health market landscape: Dthera was targeting direct reimbursement through CMS, however at that time CMS did not yet have a benefits category for SaMD (2018/2019). Ultimately, these reimbursement setbacks resulted in Dthera running out of capital before commercialization pathways opened up.



Know your customer: Due to limited funds, Dthera targeted a partnership with a pharmaceutical company that had an upcoming Alzheimer's drug in the Combo-DTx approach. Unfortunately the drug failed, and similar candidate-drug failures among potential partners ultimately impacted Dthera's chance for success.

Dthera was an Alzheimer's DTx utilizing reminiscence therapy to curb agitation and depression among Alzheimer's patients. The solution used a custom-built tablet to replay memorable photos and voice clips from family members *via* an automated chatbot.

Despite a thoroughly considered commercialization approach, Dthera ultimately failed to secure a substantive licensing or acquisition deal and wound operations down in 2019.

The Path to Partnership: Case Studies

The key to Happify's success in implementing pharma partnerships.



Product-market fit: Happify is best known for its digital mental health programs, intended to be affordable and accessible. They were quickly adopted by employers, gaining commercial success beyond D2C.



Robust clinical evidence: Happify recognised the importance of clinical evidence long before they launched their first pharma-DTx partnership. They are one of the few DTx companies on the market with a [placebo-controlled RCT](#), demonstrating 25-30% reduction in symptoms of anxiety or depression over 8 weeks.



The value of data: Happify recognises that their data is incredibly valuable, and they are willing to leverage this in the right partnerships, using this information for targeted ad campaigns or sponsored content.



Optimized pricing models: For B2B with pharma, they explore flat-fee business models using KPIs of user exposure. Their business models are heavily reliant on engagement with pharma companies.

Happify is a behavioral change technology company that drives personal, business and healthcare outcomes through improved emotional health. Over 8 years, Happify have established three well developed routes to market through which they have gained a wide customer base: D2C, B2B and PDT.

The Kopa app launched in July 2020 and has organically obtained 22,000 users via their D2C channel and are rated no. 1 on the app store.

3 of the top 10 global pharma companies



4 of the 5 largest health plans



3 out of 5 largest tech giants



Choosing the Perfect DTx Partner

Insights from Pharma

From a pharma point of view, it is still difficult to discuss longer term commercial partnerships with DTx, as the commercialization and estimation of what the true value of the partnership will be is not well-established.

Pilots and funding for clinical trials are the preferred way to get to know a DTx partner while synergies and the value-add of a partnership are being explored.

DTx partners should be able to build a value model that can work with pharma e.g increase adherence, reduce adverse events *etc.*

*HealthXL Community insights 2021

Pharma DTx Partnership Checklist



Addresses unmet needs: Technology addresses unmet needs of patients and clinicians.



Clear application of value proposition: Clear internal views on the value proposition of underlying data and insights generated.



Evidence and regulation: Demonstration of clinical and regulatory success.



Proof-of-concept: Demonstrated ability to identify, activate and impact relevant patient population.



Adoption and reimbursement: Probability of technical and commercial success.

Keys To Success for the Pharma-DTx Partnership

A View from Both Sides of the Table



Align on KPIs: Evidence standards for validation of the partnership (clinical or commercial) must be agreed and clear.



Buy-in from C-suite Leadership: Pharma leadership need to be in agreement on their digital strategy and champion these DTx partnerships internally in order to secure the resources and budget for their success.



Be Transparent: For DTx companies, openness on capabilities and what's achievable is a good way to kick start conversations with pharma, as due diligence is a core strength for pharma companies. Being clear on where each party is willing to take risk, and where you would invest to expand on some capabilities is also important. Both parties involved need speak the same language and fit together in a cultural level.



Flexible Pricing Models: The pricing of DTx should ideally be outcomes-based, priced on the value the DTx demonstrates in terms of improvement of disease and quality of life - all the same measures that would be used on a biological or small-molecule therapeutic. Agile startups are best suited to try out flexible pricing models as the traditional pharmaceutical commercialization model does not have enough internal data to price digital therapeutics.

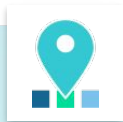


Focus on Strengths: Ensure there are agreed and shared value propositions for identified stakeholders of the partnership. To succeed, each party must value what the other brings to the partnership. For pharma, the DTx partner is agile and nimble, experienced in the rapid product development life cycle of digital products. For DTx companies, pharma have strong research experience and huge capacity to scale.



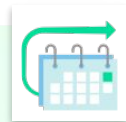
Focus on The Long Game: There must be a view on what the sustainable business model will be for the partnership. The larger organization must commit to the project and resources should be available when needed.

Routes to Market | Where We're At and Where We're Going



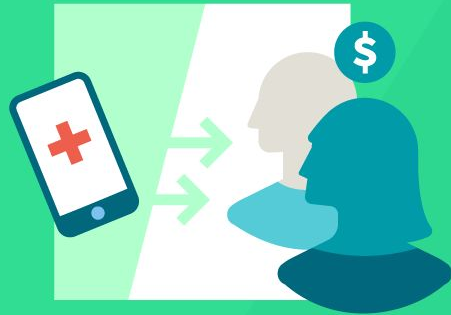
Where are we now?

- The number of pharma-DTx partnerships have been **steadily growing since 2016** with 67% of these commercial partnerships currently focusing on digital companions, and 29% on standalone DTX. The **most active therapeutic areas** for these partnerships are **diabetes, oncology and respiratory health** respectively.
- It is widely agreed upon that **pricing models for DTX will in many cases become outcomes-based** and that **start-ups are best positioned** to explore these flexible pricing models. Pharma companies do not have enough internal data to price these digital therapeutics.
- Pharma companies are **increasing their internal expertise in digital health**, however, there is still more that can be done to have AI and software developers from the pharma side involved in these collaborations with DTX companies in order **to ensure appropriate technical collaboration is possible, on top of commercial collaboration.**



Where are we going?

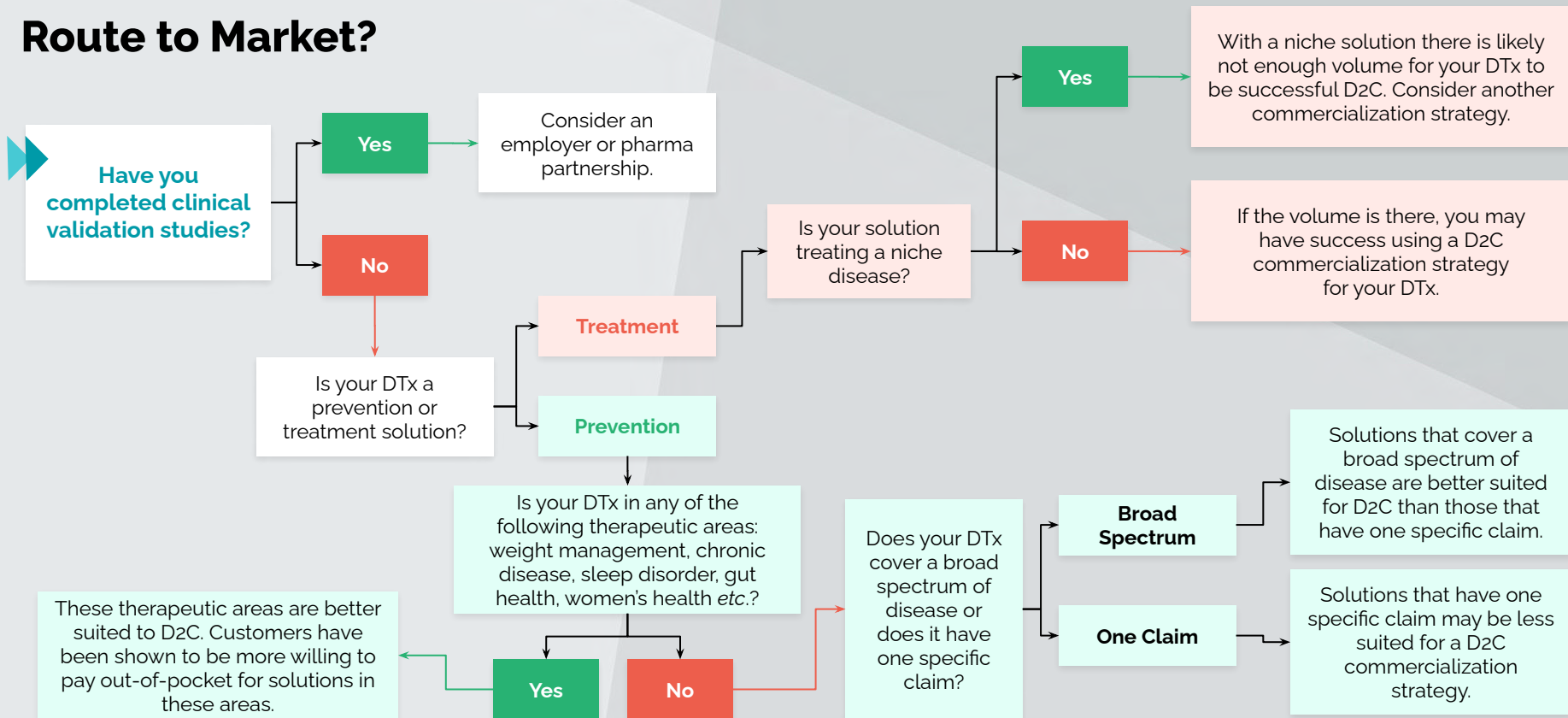
- The current trend for pharma-DTX commercialization strategies is for pharma to **retrofit digital products to their drug when there is a need to differentiate**, as this is when budgeting tends to open up for digital. Developing these digital products alongside a drug will **likely yield more valuable products**, but this will require a change in mindset from the top down.
- The widespread **adoption of standalone DTX** by pharma companies is **far down the evolutionary road**. To get there, **reimbursement** for these solutions **must become comparable to existing therapies**, otherwise it is not a viable business model for pharma. Assuming that these DTX solutions are potent interventions that are on par with traditional drugs, they will need to be **prescription-based products**.
- **Patient data collection** is widely considered to be one of the **most valuable asset** that DTX can bring to pharma, yet presently its usage is **underexplored**. Pharma need to **leverage this real world data to drive better patient outcomes** as the healthcare ecosystem continues to **drive towards value**.



SECTION THREE

Routes to Market 3 : Direct to Consumer

What is the Consumer Route to Market?



THE CONSUMER ROUTE

Direct to Consumer Commercialization

A **direct to consumer (D2C)** route to market is one in which a digital therapeutic company will offer a non-prescription solution that individuals can directly access on their own. As a prescription is not needed for D2C solutions, less evidence is needed to go to market and therefore the barrier to entry for this strategy is lower.

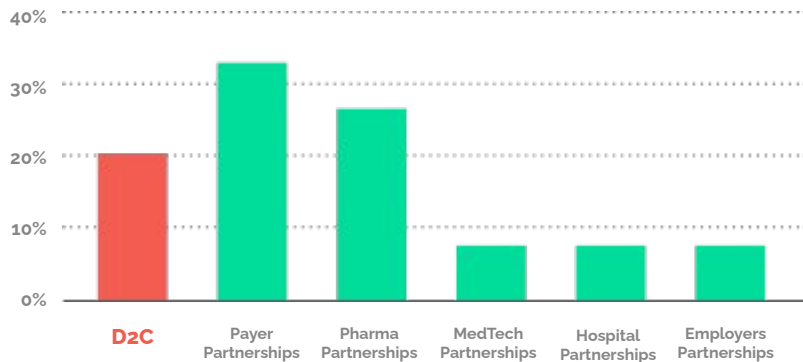


TREND ALERT

DTx offered via a D2C model initially focused on therapeutic areas such as **mental health, chronic conditions, and gut health**. We're now seeing an expansion into many new therapeutic areas.

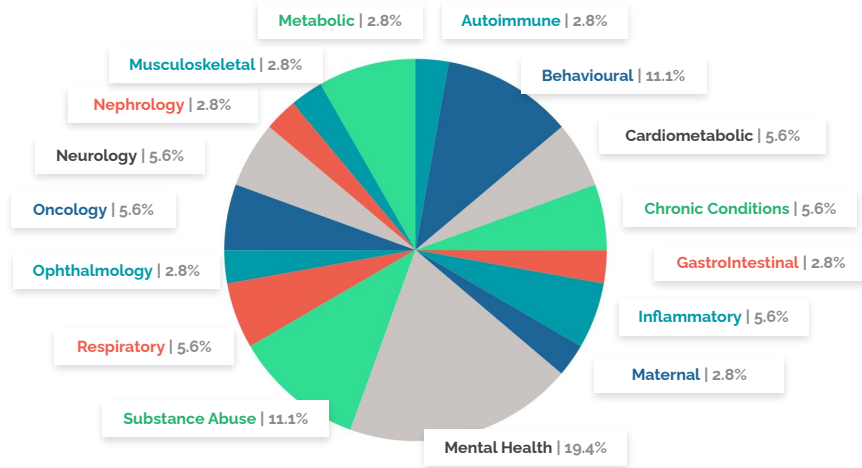
The HealthXL Community weighs in on:

What are the most scalable and sustainable commercialization models for DTx companies so far?



Source: HealthXL Community Insights 2021

Therapeutic Areas Suitable for D2C



Source: HealthXL DTx Database

Global Survey: Top Consumer Insights*



Consumers do not distinguish between DTx and digital health solutions more broadly; with many unwilling to use a DTx to 'treat a disease'.

Nonetheless consumers display high willingness to pay out-of-pocket.

74% of consumers said they were familiar with the difference between a digital health device/app and a DTx.

42% would classify the Apple watch as digital therapeutic as opposed to a broad digital health solution.

58% would classify the mental health app "Headspace" as a digital therapeutic as opposed to a broad digital health solution.

12% would seek out a DTx as a way to treat an existing disease as compared to general health and wellness (66%) or disease prevention (22%).

92% of consumers would pay out-of-pocket for a DTx.

39% of consumers would pay between \$150 - \$300 for a 3-month subscription to a digital therapeutic.

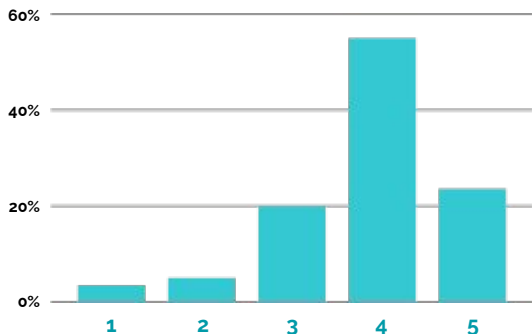
*n=92 respondents; Individuals were eligible to participate in the survey if they were located in the US, EU, UK, or APAC region. A specific breakdown of participants by territory is not available.

Global Survey: Top Consumer Insights*

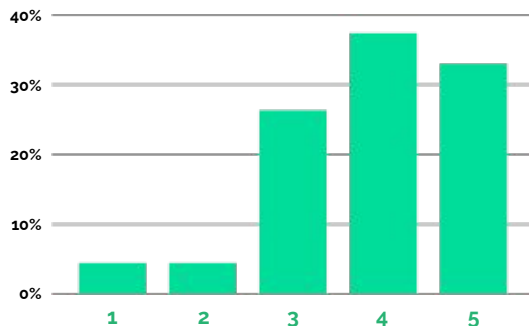


Consumers are receptive to D2C marketing, but seek reassurances from peer-review and HCPs.

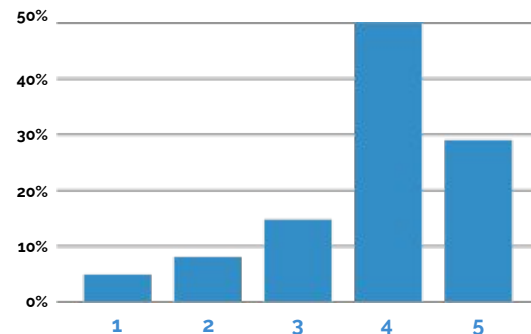
Likelihood of downloading a DTx after seeing an interesting ad



Likelihood of reviewing clinical evidence after seeing an interesting ad and before downloading the app



Likelihood of asking your doctor about the solution after seeing an interesting ad and before downloading



Responses range from 1-5 :

1 - extremely unlikely | 2 - unlikely | 3 - somewhat likely | 4 - likely | 5 - very likely

*n=92 respondents; Individuals were eligible to participate in the survey if they were located in the US, EU, UK, or APAC region. A specific breakdown of participants by territory is not available.

Price Points & Perceptions

D2C solutions may be free of charge or available *via* subscription models or a one-time purchase. An annual subscription may cost between \$70 and \$700 USD*

Monthly vs. Annual Plans

NOOM	Monthly Plan \$66.35 USD	Annual Plan \$199 USD
 headspace	Monthly Plan \$12.99 USD	Annual Plan \$69.99 USD
 vida	Monthly Plan \$79.00 USD	Annual Plan \$699 USD
 happify health	Monthly Plan \$14.99 USD	Annual Plan \$139.99 USD

This vs. That

Weight Loss vs. Weight Loss for Diabetes

While consumers are likely to pay out-of-pocket for weight loss and diet products, when such a product is classified as “weight loss for diabetes” consumers may expect their health insurance will cover the cost.

Cost vs. Value

A sleep solution may cost \$150 while melatonin costs less than \$10 for a bottle of tablets. The consumer has to see an added value in the solution to justify the price difference.

Value vs. Cost

On the reverse of this, the use of a DTx may replace the need for an expensive drug or intervention. While the value of the cost saving may be high, there is a limit to what consumers are willing to pay out-of-pocket.

Examples of D2C Marketing Success

NOOM

Why has NOOM had huge success D2C?

NOOM is an extremely successful D2C solution for weightloss boasting almost 45 million users as of November 2021, and obtaining one of the largest digital health investments of 2021 for a whopping \$540 million in order to expand into other therapeutic areas. NOOM's success in the weight loss market largely results from its effective marketing campaigns.

What it is:

The Noom app uses behavior change tactics to help people achieve their weight loss and exercise goals.

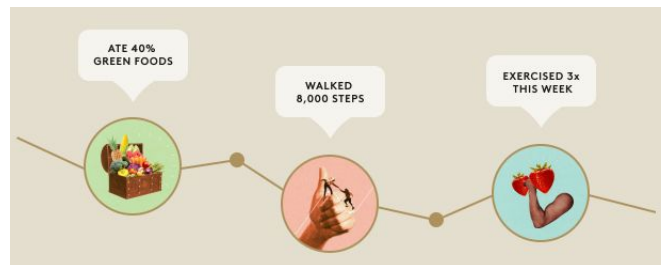
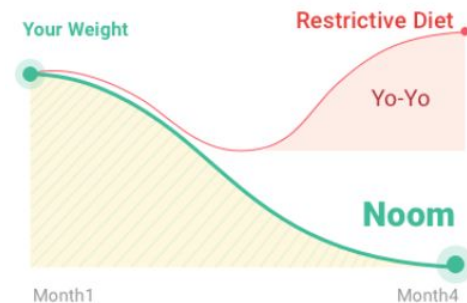
Their Strategy:

Using the catch phrase "Stop dieting. Get life-long results," Noom has positioned itself as a "fun and easy-to-use app" for nutrition and exercise coaching rather than a weight loss and diet solution.

Why it Works:

This distinction helps Noom separate themselves out from the competition while also keeping their target audience open to adults of all ages and genders.

Noom creates long-term results through habit and behavior change, not restrictive dieting



Examples of D2C Marketing Success



What can D2C DTx learn from Ro's marketing strategy?

Ro boasts 6 million patient-provider interactions since its launch and is currently valued at \$5 billion after its recent Series D funding of \$500 million. Ro's success stems from its effective strategy in targeting consumers requirements firstly, then onboarding them onto to their platform.

What it is:

Ro is a healthcare technology company offering an end-to-end primary care platform focused on diagnosis, medication delivery and ongoing care.

Their Strategy:

Ro employ the "Jobs-to-be-Done Approach" to help patients navigate their healthcare needs. By focusing on select health issues (such as hair loss) Ro can appeal specifically to what patients want prior to sign posting them to what they need.

Why it Works:

D2C marketing is not the norm in healthcare. Ro has carved out an effective strategy to bring patients into the healthcare ecosystem. Once patients are on the platform Ro can work with patients to help them evaluate their overall health.



Image Source: <https://www.facebook.com/business/success/roman>



Image Source: <https://www.linkedin.com/pulse/heres-how-ro-uses-dtc-marketing-principles-healthcare-rob-schutz>



Pros and Cons of Going Directly to the Consumer

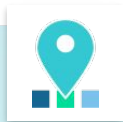


- + Target high volume areas:** Prevention solutions or those that cover a broad spectrum of disease are better for D2C than those that have one specific claim.
- + Greater accessibility and addressable markets:** D2C DTx are [available](#) to the general consumer [free of stigma](#). The ease of accessibility means that D2C DTx hold promise for the [great number](#) of patients with chronic diseases and lower-risk/acuity diseases.
- + Mainstream potential:** DTx sold *via* D2C do not require a prescription and in some instances can be directly marketed to the consumer. However, for many consumers a recommendation by their HCP will influence their purchase decision.
- + - Low regulatory barriers:** Evidence generation is costly making the low regulatory barriers for D2C attractive. However, this can lead to over promise of solutions due to a lack of monitoring of advertising claims.



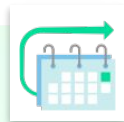
- Therapeutic limitations:** Not all therapeutic areas lend themselves well for a D2C intervention.
- Difficult to market as a treatment modality:** Prevention solutions are more suitable to D2C than treatment solutions that require a doctor to interpret and explain data.
- Achieving scale is challenging:** Many vendors struggle to achieve scale and profitability. Success is dependent on the geographic area of interest.
- D2C relies on out-of-pocket spending:** Many consumers/patients will not want to pay for something that they believe should be reimbursed. Consumer willingness to pay out-of-pocket can be therapeutic area dependent.
- A stepping stone to B2B:** For many vendors D2C is just an initial go to market strategy, prior to branching out to B2B, a route which is perceived to be more lucrative. Pricing needs to be carefully considered when taking the D2C route so as not to impact future reimbursement / partnership options.

Routes to Market | Where We're At and Where We're Going



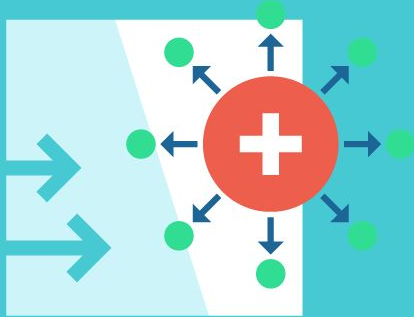
Where are we now?

- D2C can be a **successful commercialization strategy** for solutions that don't have validation studies yet, **as less evidence is needed to go to market**. RWE can be collected to generate more evidence to support the solution.
- DTx prevention solutions can be more suitable for D2C **commercialization**, than treatment solutions that require a doctor to interpret and explain data. This is similar for niche vs. broad solutions. **With broad solutions**, the volume is more likely to be there, which leads to **greater chances of success D2C**.
- Therapeutic areas such as **weight management, chronic disease, sleep disorder and gut health** are better suited to D2C. Customers are **more willing to pay out-of-pocket** for solutions in these areas. Although recently we have seen an expansion of D2C solutions into other therapeutic areas.



Where are we going?

- Given the **ease of product rollout** we are likely going to see **continued experimentation** with the D2C model as an ultimate stepping stone to a longer-term B2B model. D2C and B2B are not mutually exclusive commercialization models and many DTx manufacturers will continue **pursuing both routes simultaneously**.
- At present, consumers do not distinguish between DTx and digital health solutions more broadly; with **many unwilling** to use a DTx to **'treat a disease'**. This lack of awareness and reluctance to use a DTx is likely due to the fact that DTx have not quite yet proven themselves as alternative or complementary treatment modalities. As acceptance and adoption of DTx as a treatment modality increases, we expect this to see a greater demand for D2C digital therapies.
- As consumers already display **high willingness to pay out-of-pocket for digital products in general**, we anticipate a similarly positive attitudinal shift to take place with respect to out-of-pocket payment for over-the-counter DTx.



SECTION FOUR

Routes to Market 4 : Alternative Options

Alternative Routes to Market | *Introduction*

Beyond the more traditional commercialization models, we are starting to see some alternative routes to market emerge for DTx. As adoption of DTx increases, we will likely see more and more companies leveraging these alternative business models.

Platform Pathway

Several DTx companies with PDT products have gone to market with a combination of D2C marketing, telemedicine-accessible prescribers and online pharmacies. This group typically includes software-based monotherapies.

Examples:



National Pathway

Germany has created its own route to market for DTx, which enables prescription and distribution of DTx through this national pathway. DTx apply to get approved onto the DiGA directory where they can then be prescribed to individuals by physicians.

Examples:



Alternative Routes to Market | *Online Platform*

What is Pear Connect?

- Online patient service centre for prescription digital therapeutics.
- D2C- like model for PDTs which leverages telemedicine for the digital prescription and delivery of the PDTs.
- Patients receive a telemedicine visit and the physician can send a script to Pear Connect Patient Service center, where specialist staff will guide the patient through downloading and using the app.

Why would a DTx company consider this pathway?

- Increases accessibility to these prescription products by creating their own D2C-like distribution channels.
- Patients can be connected with a physician without the need to leave their home.
- Patients are allocated a dedicated support advocate throughout their treatment course.
- Helps to promote the use of PDT by assisting in troubleshooting among patients, healthcare providers and insurance companies.
- Pear's PDT products are all available within this central repository.



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Alternative Routes to Market - DiGa Pathway | *National Pathway*

What is DiGA?

- DiGA pathway was launched in 2019 and stands for *Digitale Gesundheitsanwendungen* in German, or Digital Health Applications.
- It's a route to market for DTx in Germany, which enables prescription and distribution of DTx through this national pathway.
- There are 24 approved DiGAs as of 14th December 2021.
- Apps on the DiGA directory are available on a prescription basis through physicians and are reimbursable. DiGA approval aims to increase physician adoption and prescription of DTx. This is an interesting route as it also increases the accessibility of these solutions by being approved for reimbursement.
- There are two ways to list a DiGA, the preliminary or final listing which depends on whether the manufacturer of the DiGA can present a comparative study to prove a positive healthcare effect that meets DiGA requirements. If they can provide this evidence, they are listed as a final listing and if not, they have a 12 month trial period to provide this evidence.

Why would a DTx company consider this pathway?

- Apps that are approved for the DiGA database become reimbursable under the German statutory health insurance, making them prescribable to approximately 72.8 million people, 87.7% of the German population.
- Fast-tracked review process is designed to provide a rapid review of applications guaranteeing a positive or negative designation within three months or less.
- DiGA directory provides high degree of transparency for physicians, demonstrating that the applications have met all requirements and completed the BfArM's assessment procedure.

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Non-exhaustive - see overleaf for all solutions

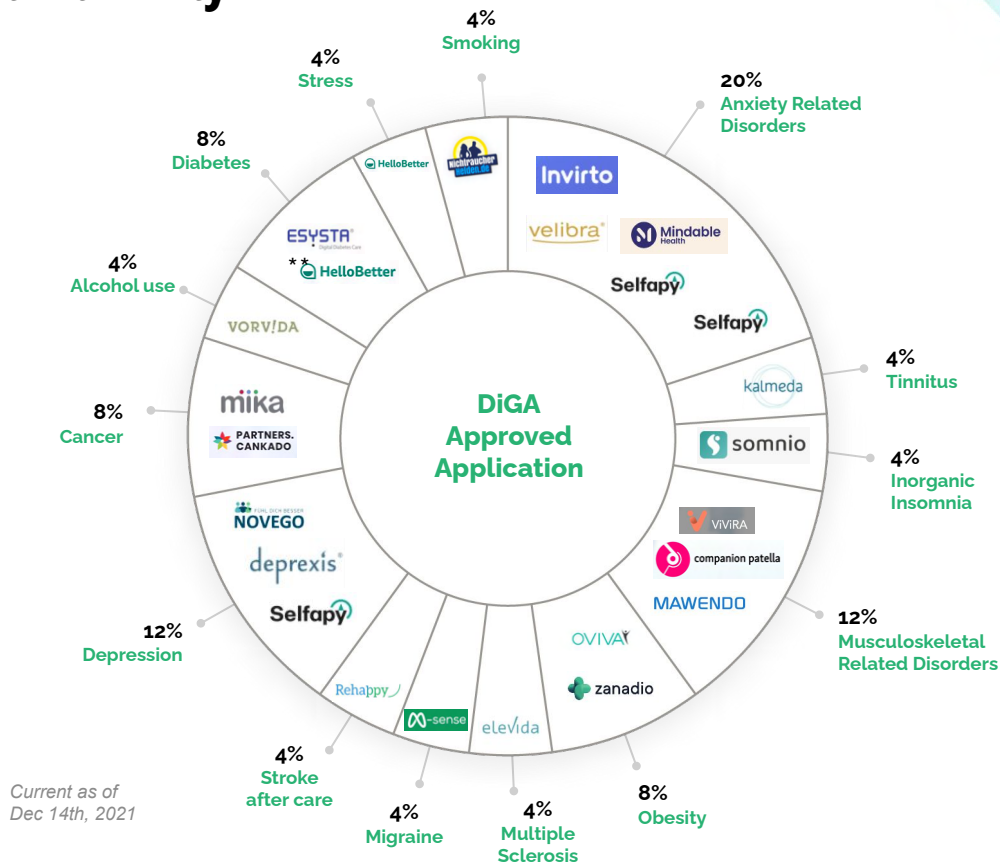
Alternative Routes to Market - DiGa Pathway

DiGa criteria:

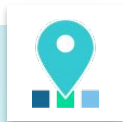
- They are a medical device of risk class I or IIA.
- Their main function is based on digital technologies.
- The medical purpose is achieved through the solutions main digital functions.
- The DiGa detects, monitors, treats or alleviates a disease or compensation of injuries or disabilities.
- DiGa must be used only by the patient or by the patient and physician in combination.

Pricing:

- The highest priced DiGa is Elevida at €743.75 for the treatment of fatigue in multiple sclerosis patients while the lowest priced DiGa is Kalmeda at €116.97 for the treatment of tinnitus.
- The DiGa pricing mechanism is based on the Pharma AMNOG* process. The manufacturer sets the price that is reimbursed in the first year. After this, there is a price negotiation between the DiGa manufacturer and National Association of Statutory Health Insurances (GSK-SV) which takes into account factors such as clinical evidence and performance-related elements.
- Kalmeda is priced at €116.97 for the first year and after this the price rises to €203.97 for the second year. As the market becomes more competitive it will be interesting to see pressures on more generic price points.

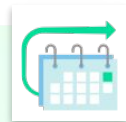


Routes to Market | Where We're At and Where We're Going



Where are we now?

- While D2C, Employer & Pharma commercialization models gained popularity in the DTx industry, it is notable to see that **Pear Therapeutics** created **their own market access pathway- 'Direct-To-Patient Telehealth'** model or 'PearConnect', specifically for PDT industry.
- **DiGA designation** is another interesting **go to market strategy** adopted in **Germany** that builds strong trust among physicians and thus increases their willingness to confidently prescribe DTx to patients.
- Similarly, **mHealth Belgium** is an initiative of the Belgian Federal Government which is a platform for mobile apps that are CE-marked as a medical device.



Where are we going?

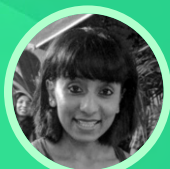
- Given the innovative nature of PDT modality, Pear Connect helps to **drive adoption by facilitating problem-solving** among patients, HCPs as well as insurance companies. Similarly, Mahana Therapeutics have adopted a similar route to Pear Connect. It will be interesting to see if other DTx companies establish similar online platforms,
- As DTx continue to grow, it is **likely that DiGA status** will be a **crucial component of success** in the **German market** as patients will soon be asking their physicians about these alternative treatments and physicians will need a trusted source to consult.
- Its likely other countries will follow similar paths to Germany's DiGA and Belgium's mHealth pathway based on the trajectory of their success.

Authors



Tessy Huss

Head of Market Research



Chandana Fitzgerald

General Manager and Chief
Medical Officer



Meaghan Schedel

Digital Health Consultant



Sarah Cronin

Senior Digital Health Consultant



Sophie Madden

Digital Health Strategy and
Insights Manager



Nadia Worgan

Digital Health Analyst



Jinsy Raichanna

Digital Health Analyst



Laura Ardill

Senior Digital Health Consultant



Alette Brinth

Digital Health
Innovation Manager



Frank Kenny

Senior Digital Health Consultant



Aislinn Mc Phillips

Digital Health Analyst



Sarah Ann Kikers

Digital Health Analyst

Reviewers



Robert Garber

Partner, 7wire Ventures



Eugene Borukhovich

Chairman and COO, YourCoach Health



Jake Mazanke

Head of Communications, Big Health



Lina Behrens

Managing Director, Flying Health



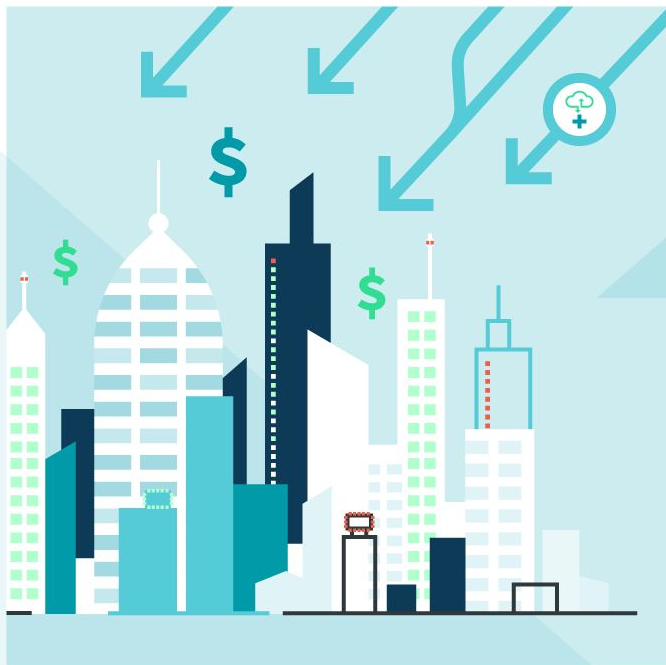
Pierre Leurent

CEO and Co-Founder, Voluntis |
President, Digital Health, Aptar Pharma



Shaheen Lakhan

CMO, Click Therapeutics



DIGITAL
THERAPEUTICS:

Routes To Market

January 2022

Glossary

B2B2C: “Business to Business to Consumer” - a market entry route that is aimed at engaging another business or enterprise who will then subsequently engage and sell to the end user (the “consumer”).

Combo: A DTx that acts as an adjunctive to existing pharmacological therapies and may be brand agnostic (compliment/companion) or a DTx that is combined with a pharmacological therapy for a digital/drug combined commercial offering (combination).

D2C: “Direct to Consumer” - a market entry that is aimed at directly engaging and selling the end user (the “consumer”).

PDT: “Prescription Digital Therapeutic” - A DTx that requires a prescription from a HCP, can replace or be used in conjunction with pharmacotherapies.

OTC: “Over the Counter” - A DTx that does not require a prescription but can be recommended by a HCP.

Standalone: A DTx that is used independently of drugs, often as a standalone therapy.