



Collaborations Between Pharma and Digital Health Startups: Advancing Innovation and Reimbursement in Digital Health Technologies

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Background

- Digital health technologies (DHTs) encompassing wearable devices, mobile health applications, telemedicine platforms, and electronic health records enhance health outcomes by enabling real-time health monitoring, early disease detection, and personalized treatment plans.^{1,2}
- The global digital health market, valued at about US\$143 billion in 2022, is forecasted to grow at a robust compound annual growth rate of 25%, reaching US\$180 billion in 2023 and US\$550 billion by 2028.³
- Integrating DHTs in healthcare reduces administrative burdens, minimizes errors, and accelerates decision-making, improving care quality, lowering costs, and better adherence to treatment plans.^{2,4}
- DHTs provide valuable data and insights that enhance research and development of more effective treatments.²
- DHTs help engage patients to enhance responsibility for self-care and discussing issues with HCP in context of shared decision making.⁴
- The growing importance of digital health has led to increased collaboration between digital health startups/companies and pharmaceutical firms. These partnerships allow pharmaceutical firms to integrate cutting-edge innovations into their pipelines more quickly and efficiently.⁵

Objective

This study aimed to examine how pharmaceutical companies and digital health startups collaborate to develop DHT innovations and how these partnerships secure reimbursement.

Methods

Data collection

- A targeted literature review was conducted on December 22, 2024, to identify the most recent peer-reviewed journal articles and news publications from PubMed and Google Scholar.
- Search terms included keywords for “Digital health technologies”, “digital therapeutics”, and “pharma collaboration”.

Inclusion criteria

- Documents published between 2016 and 2024 and in English language were identified for relevant case studies of collaborations between a pharmaceutical company and a DHT startup/company.

Analytical framework

- The review focused on describing industry insights and examples were incorporated analyzing the type of partnership, geography, type of intervention, therapeutic area(s), and key success factors.

Results

- Fifteen collaborations were included, majorly from US (n=10) and three each from Europe and Australia, which secured approval and reimbursement for DHTs (**Table 1**), targeting different therapeutic areas.
- Common partnership models included joint ventures, sponsorship/licensing, strategic investments, and building your own solution (**Figure 1**).
- These collaborations leveraged complementary strengths: pharmaceutical companies provided clinical trial infrastructure and market access, while startups contributed agility and technological innovation.
- Reimbursement challenges faced by DHTs included lack of standard value assessment criteria and uncertainties in trial design.
- These challenges were addressed by collaboratively developing roadmaps between the DHT startup/company and the pharmaceutical company to navigate the complex reimbursement landscape.⁶

Results (continued)

- Key success factors included goal alignment, shared intellectual property agreements, and early engagement with regulatory and reimbursement stakeholders.
- Early payer collaboration and integration of health economic evidence proved critical for reimbursement, with clinically effective and cost-efficient technologies achieving greater success.
- Pharma companies can acquire ready-to-go solutions with approved indications and active user bases, gaining more control over strategy and direction. However, no case studies have shown successful reimbursement through this model yet.
- Several trends are likely to shape the future of partnerships between pharmaceutical companies and digital health startups/companies such as increased use of artificial intelligence, expansion of digital therapeutics, focus on real-world evidence (RWE), emphasis on patient engagement, regulatory and compliance innovations, sustainability and value-based care.

Table 1: Overview of DHTs included resulting from digital health company and pharma collaborations

Collaboration	Year	Country	Therapeutic Area	DHT developed
Bayer and One Drop ⁷	2020	US	Diabetes	Aims to integrate One Drop's digital platform with Bayer's expertise in diabetes care to provide comprehensive support for patients
Novartis and Pear Therapeutics ⁸	2018	US	Schizophrenia, multiple sclerosis	Develop novel prescription digital therapeutics designed to effectively treat disease and improve patient clinical outcomes
Pfizer and IBM Watson Health ⁹	2018	US	Oncology research	AI accelerating the discovery of new cancer treatments by analyzing vast amounts of clinical data
Merck and Livongo ¹⁰	2018	US	Several	Provide personalized care and improve patient engagement
Eli Lilly and Livongo ¹¹	2018	US	Diabetes	Integrates Livongo's digital tools with Eli Lilly's medications, providing a comprehensive solution for diabetes management
Boehringer Ingelheim and Propeller Health ¹²	2016	US, AUS	Asthma and COPD	Combines Propeller's connected inhalers and mobile app with Boehringer Ingelheim's respiratory treatments, leading to improved patient adherence and outcomes
Brandon BioCatalyst, ANDHealth and Dementia Australia ^{13,14}	2024	AUS	Dementia and Cognitive Decline	Aim to accelerate the adoption of clinically validated DTx in Australia
Medtronic and DTx Companies ¹⁵	2020-2024	AUS	Chronic disease management	Partnerships with various digital health startups to develop and implement digital therapeutics for chronic disease management.
Sanofi and Babylon ¹⁶	2020	UK	Gastrointestinal	Offer access to an online gastrointestinal symptom checker
Chiesi Farmaceutici and Kaia Health ¹⁷	2020	Germany	Chronic back pain and COPD	Bring patients a digital therapeutic that supports COPD treatment outcomes through behavior change, rather than relying on pharmacology
Bristol Myers Squibb (France) and Moovcare ¹⁸	2020	France	Lung cancer	Remote monitoring software for hospitals and healthcare professionals involved in lung cancer treatment in France.
Eli Lilly with Sidekick Health ²⁰	2022	Germany	Breast cancer	Improve the wellbeing of people being treated for breast cancer in Germany
Sanofi and DarioHealth ¹⁹	2022	US	Diabetes	Develop digital solutions for diabetes management
Sanofi and Happify Health ²¹	2019	US	Mental health	Integrating Happify's mental health solutions with Sanofi's expertise in disease management
Roche and Flatiron Health ²²	2018	US	Oncology research	Enhance cancer research and treatment development through advanced data analytics utilizing RWE for oncology from Flatiron

AUS: Australia; COPD: Chronic obstructive pulmonary disorder; DTx: Digital therapeutics; RWE: Real world evidence; UK: United kingdom; US: United States

Joint ventures Sponsorship/licensing Strategic investments Build your own solution

Conclusions

- Partnerships between pharmaceutical companies and digital health startups combine technological innovation with established clinical expertise to create patient-centric solutions. These collaborations address reimbursement challenges, align strategic goals, and integrate economic evidence to drive healthcare improvements.
- The focus on diverse markets, including the US, Australia, and Europe, highlights the global impact and potential of these partnerships in advancing digital health innovations.

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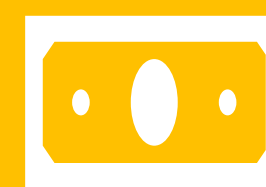
Figure 1: Common partnership models seen between digital companies and pharmaceutical collaborations

Joint ventures



- Combines the complementary expertise of pharma and tech partners
- Usually faster as the technical platform and processes to support the DTx are often readily available; may include product approvals and an existing user base

Sponsorship / Licensing a Solution



- A relatively fast and relatively low-cost entry into the DTx space
- It can work as a flexible short-term solution

Strategic investments



- Forms strategic alliances for mutual benefits
- Offers co-promotion, product development and co-commercialization

Build Your Own Solution



- Full control over design, content, features, and strategy
- Pharma company has full control over the user experience
- If solution is successful, company gets to keep all profits

References

- What is Digital Health? <https://www.fda.gov/medical-devices/digital-health-center-excellence/what-digital-health>
- What is digital health technology and what can it do for me? <https://evidence.nihr.ac.uk/collection/what-is-digital-health-technology/>
- Digital Health Market: Growth, Size, Share, and Trends <https://www.marketsandmarkets.com/Market-Reports/digital-health-market-45458752.html>
- Digital Healthcare Transformation: Benefits, Challenges and Key Trends <https://digitaldirections.com/digital-healthcare-transformation/>
- Evidera, Digital Therapeutics: Past, Trends and Future Prospects, 2020
- A long way to go for digital health reimbursement <https://deep-dive.pharmaphorum.com/magazine/market-access-2021/a-long-way-to-go-for-digital-health-reimbursement/>
- Bayer and Informa Data Systems Inc. (One Drop) join forces to jointly develop digital health products across therapeutic areas <https://www.bayer.com/media/en-us/bayer-and-informa-data-systems-inc-one-drop-join-forces-to-jointly-develop-digital-health-products-across-therapeutic-areas>
- Novartis and Pear Therapeutics to develop digital therapeutics for patients with schizophrenia and multiple sclerosis. <https://www.novartis.com/news/media-releases/novartis-and-pear-therapeutics-develop-digital-therapeutics-patients-schizophrenia-and-multiple-sclerosis>
- CUREator: Dementia and Cognitive Decline <https://brandonbiocatalyst.com/curator/curator-plus-dementia-and-cognitive-decline/>
- Five promising digital health companies selected to scale new health technologies <https://biotechdispatch.com.au/news/five-promising-digital-health-companies-selected-to-scale-new-he>
- Australia's National Digital Health Strategy: Key Implications for the Pharmaceutical & Medical Technology Sector How Pharma and Medtech Industries Have Opportunities to Innovate to Align With New Digital Health Standards <https://www.digitalhealth.com.au/insights/australias-national-digital-health-strategy-key-implications-for-the-pharmaceutical-and-medical-technology-sector>
- Propeller Health and Boehringer Ingelheim Announce New Partnership Focused on Improving Adherence and Care Management for People Living with COPD and Asthma <https://www.boehringer-ingelheim.com/us/propeller-health-bi-announce-new-partnership-bi-us>
- CUREator: Dementia and Cognitive Decline <https://brandonbiocatalyst.com/curator/curator-plus-dementia-and-cognitive-decline/>
- Five promising digital health companies selected to scale new health technologies <https://biotechdispatch.com.au/news/five-promising-digital-health-companies-selected-to-scale-new-he>
- Australia's National Digital Health Strategy: Key Implications for the Pharmaceutical & Medical Technology Sector How Pharma and Medtech Industries Have Opportunities to Innovate to Align With New Digital Health Standards <https://www.digitalhealth.com.au/insights/australias-national-digital-health-strategy-key-implications-for-the-pharmaceutical-and-medical-technology-sector>
- Sanofi announces three-month Babylon pilot to assist people with digestive health issues <https://www.mobihealthnews.com/news/emea/sanofi-announces-three-month-babylon-pilot-assist-people-digestive-health-issues>
- Kaia Health and Chiesi Group Announce Strategic Partnership to Commercialise Kaia COPD Pulmonary Rehabilitation App in European Markets <https://www.chiesi.com/en/kaia-health-and-chiesi-group-announce-strategic-partnership-to-commercialise-kaia-copd-pulmonary-rehabilitation-app-in-european-markets/>
- Moovcare, 1st app to achieve reimbursement in France. #mhealth #digitalhealth #cancer <https://www.doctors20.com/moovcare-reimbursement-dr-fabrice-denis/>
- Lilly partners with Sidekick in digital health alliance <https://pharmaphorum.com/news/lilly-partners-with-sidekick-in-digital-health-alliance>
- DarioHealth Enters into Strategic Agreement with Sanofi U.S. <https://dariohealth.com/news/2022-03-01-dariohealth-enters-into-strategic-agreement-with-sanofi-us>
- Happify Health and Sanofi Sign Global Agreement to Bring Prescription Digital Mental Health Therapeutics to Individuals with Multiple Sclerosis <https://www.prmwswire.com/news-releases/happify-health-and-sanofi-sign-global-agreement-to-bring-prescription-digital-mental-health-therapeutics-to-individuals-with-multiple-sclerosis-300918901.html>
- Flatiron Health <https://www.roche.com/innovation/structure/flatiron>



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