Juvenile Diabetes Cure Alliance
The Voice of the Donor For a Cure

Half-Year Practical Cure Portfolio Review

2026

A half-year review of research progress and financial performance of forty-four companies working toward at least one aspect of a T1D Practical Cure.

Introduction

This report reviews the forty-four for-profit companies that are tracked in JDCA's Practical Cure Portfolio.

Each company is currently working toward one or more components of a type 1 diabetes (T1D) Practical Cure, commonly referred to as a 'functional cure.' Most JDCA readers are familiar with the concept of a Practical Cure—a community-defined term for any solution that eliminates the daily burden of T1D regardless of age or time since diagnosis.

The report is designed to provide the T1D community, donors, advocates, and interested investors with a clear-eyed view of the for-profit research landscape.

It is intentionally different from a traditional investment review. Unlike investor letters that list buy/sell/hold recommendations, the goal here is to provide readers with an understanding of the different types of companies working toward a Practical Cure for T1D and the different approaches they are taking. Secondarily, this report will also provide basic financial information and stock performance. While we hope that an individual interested in supporting companies working toward a T1D Practical Cure will find this review useful, it is not qualified financial advice.

Report Topics

I. **Portfolio Overview.** A quick introduction to the Practical Cure Portfolio, segmented by market cap.

II. **Pathways and Progress.** Includes the stage of development and the research pathway of each company.

III. **T1D Impact Segments.** Discusses the strategic approaches of companies by six key segments.

IV. **1H26 Public Company Performance Highlights** Top stock gainers and decliners; trajectory-changing news.

V. **Private Company Moves.** Key news, capital raising, research updates.

VI. **Upcoming Milestone Commitments.** Essential deliverables promised/expected balance for the year.

I. Portfolio Overview

The T1D research ecosystem has changed meaningfully over the past five years. Work that was once primarily funded and led by nonprofits, government grants, and academia is now attracting substantial commercial interest as curative T1D trials begin to show signs of marketability. The JDCA Practical Cure portfolio reflects this evolution with a wide cross-section of companies and approaches.

The portfolio includes businesses that vary widely in maturity and stage of development. It spans publicly traded and private entities, including large pharmaceutical companies, small-caps, micro-caps, and newly formed private start-ups (see figure 1).

Approximately half of the companies in the landscape were founded in the past decade, illustrating the increasing attractiveness of T1D research to for-profit enterprises. At the same time, several long-established companies have maintained T1D cure-related programs during that period. This mix of new entrants and strategic incumbents is an exciting and defining feature of the current T1D cure ecosystem.

Figure 1. Portfolio Snapshot by Market Capitalization

Large Cap (5)	Mid-Cap (1)	Small Cap (3)	Micro Cap (12)		Private (23)	
Lilly	CRISPR Therapeutics	evotec	ADOCIA	Genprex	ViCapsys	AHEAD Therapeutics
novo nordisk		IMMUNOCORE	CENTURY Therapeutics	SAB BIO	ENCELLIN	ALTHEIA SCIENCE
Otsuka		Sana Biotechnology	CREATIVE MEDICAL TECHNOLOGY HOLDINGS, INC.	LINEAGE Cell Therapeutics	enthera	COUR
sanofi			fluicell	nextcell pharma	SymbioCellTech	MOZART Therapeutics
VERTEX			Humacyte	Eledon Pharmaceuticals	seraxis	Op-T
			NEWCELX		gentibio	ORIZURU Therapeutics
			SERNOVA		JAGUAR Gene Therapy	pluristyx
					Integrated nanotherapeutics	POLBIONICA
					AVOTRES	ZAG BIO
					TARONE Biotechnologies	瑞普晨创 REPROGENIX
					Kriya	Allarta Life Science
					arbor biotech	

Capitalization Key
Large Cap: > $10B
Mid-Cap: $2B – $10B
Small-Cap: $300M – $2B
Micro-Cap: <$300M

II. Pathways and Progress

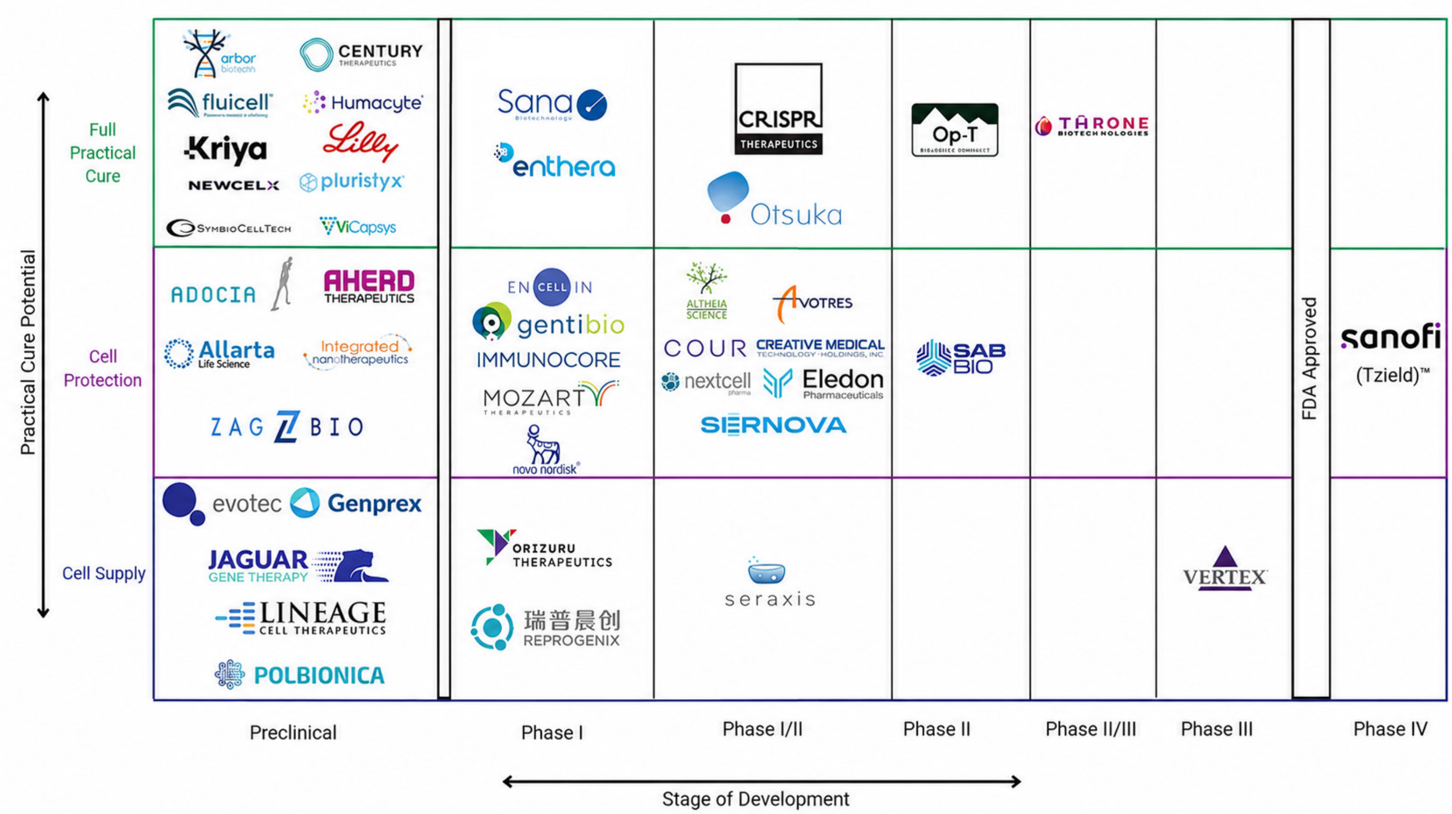
Companies in the portfolio are developing a wide range of approaches to deliver one or more components of a Practical Cure. Twenty-three out of the forty-four companies are currently testing their products in human trials; those remaining are in preclinical development with a clear path to clinical testing.

Type 1 diabetes occurs when the body mistakenly targets and destroys its own insulin-producing beta cells, resulting in lifelong insulin dependency. Practical Cure solutions seek to end or materially reduce this dependency through one or more of three broad strategies.

- **Supply** approaches aim to regenerate or replace the insulin-producing cells lost in the autoimmune attack.
- **Protection** approaches seek to stop, retrain, suppress, or evade the autoimmune responses that destroy beta cells.
- **Full** Practical Cure approaches simultaneously include supply and protection solutions, or use another novel strategy for insulin independence.

Within the portfolio, eight companies are cell supply-focused, nineteen are cell protection-focused, and seventeen are developing a full Practical Cure solution (see figure 2).

Figure 2. T1D Practical Cure Landscape by Development Stage and Cure Potential



III. T1D Impact Segments

Each company in the Practical Cure Portfolio, in addition to differences in scientific approach and stage of development, differ in financial strength, business model, and route-to-market capability. Some companies are well-established with deep infrastructure and the ability to maintain late-stage clinical programs, while others are venture-backed start-ups with limited cash runways.

To facilitate a clear understanding of the landscape, companies were evaluated against six criteria and organized into strategically differentiated segments. These segments help clarify the various ways companies participate in the T1D research ecosystem. It also provides insight into how they compete with and complement one another.

The six-criteria evaluation framework considered each company's novelty and 'first prover' status (companies that have demonstrated a 'first' breakthrough in human trials), stage of development, completeness of its Practical Cure solution, level of commitment to T1D, ability to self-sustain financially, and route-to-market capability.

The scoring rubric is included in Appendix A. Company-level scores are presented visually in Appendix B using a Harvey Ball infographic.

From this analysis, six major landscape segments emerge. A summary of these segments is below, and an accompanying infographic is on the following page (see figure 3).

Core Practical Cure Leaders

These companies are furthest along the road toward an integrated Practical Cure. Their placement is driven by advanced development status, differentiated science, and high potential for T1D impact.

High-Impact Challengers

These are late-stage or differentiated companies with meaningful upside and potential near-term inflection points. Many are in active clinical development or have platforms that could become central to a Practical Cure solution.

Mission-Aligned Specialists

These companies are deeply focused on T1D or cure-oriented solutions and often have specialized expertise. Many are smaller and less advanced than the first two groups, but their commitment makes them important to track.

Enabling Infrastructure & Platform Providers

These provide enabling skills and capabilities to other companies for a fee. They are experts in cell technologies, manufacturing, cell development tools, gene-editing platforms, and other essential capabilities. They support T1D research companies and anyone else who needs their expertise.

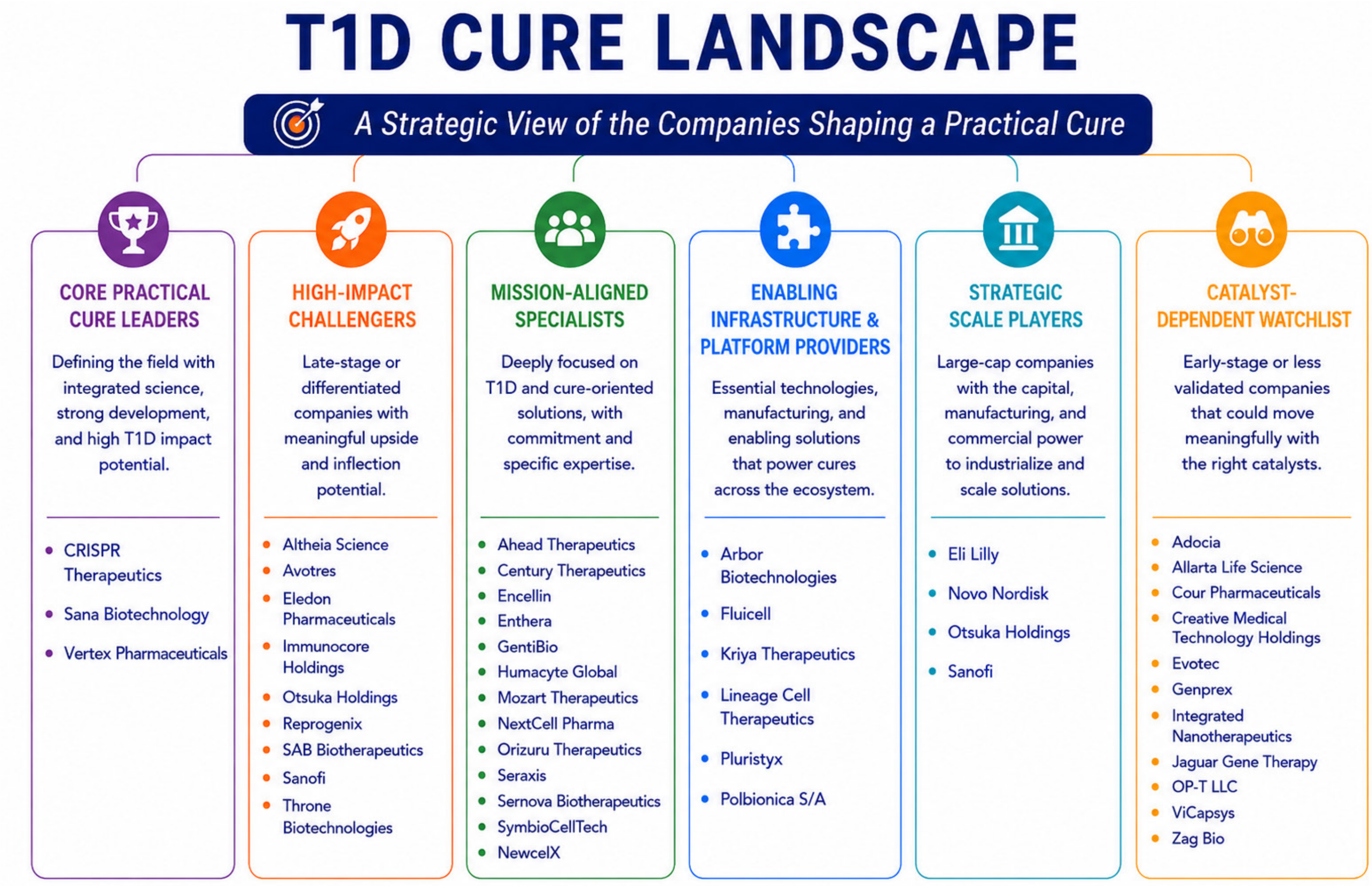
Strategic Scale Players

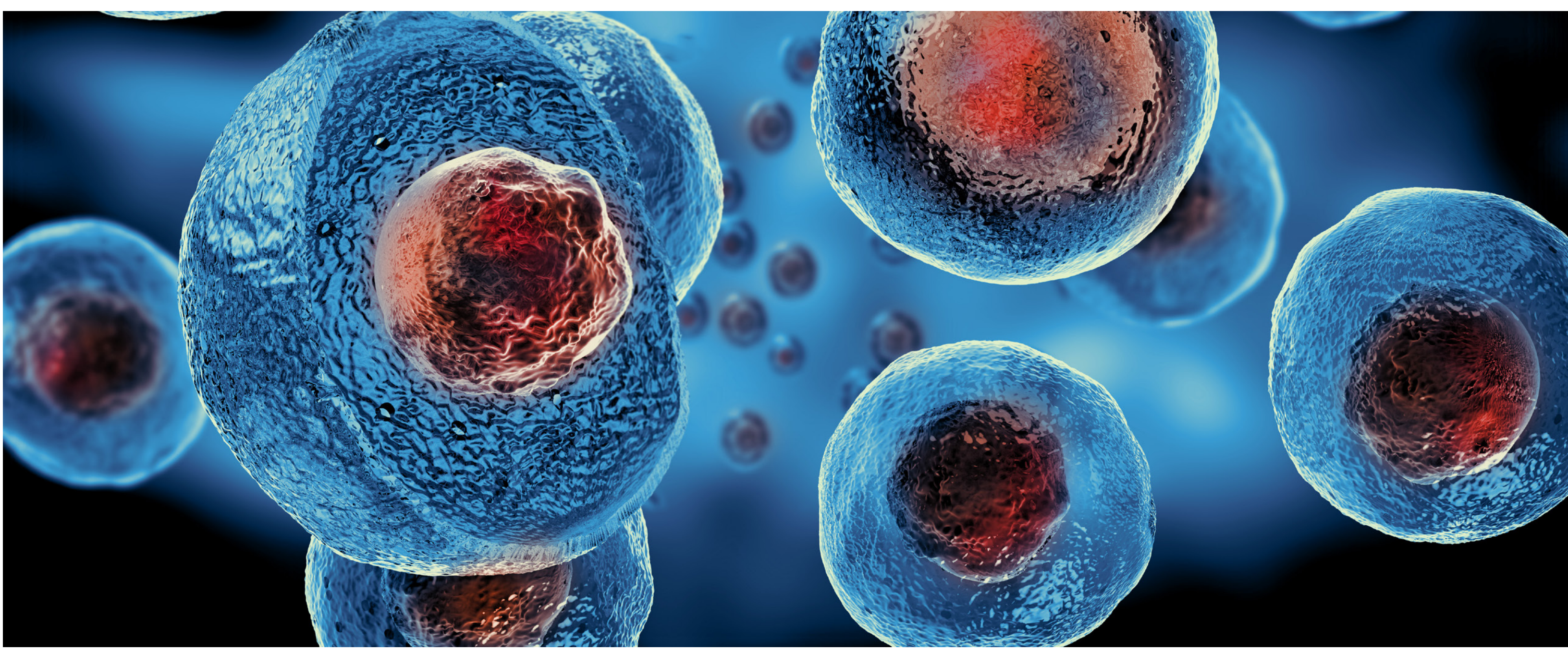
These large-cap companies have the capital, development infrastructure, manufacturing capacity, and commercial reach to industrialize or scale solutions. Their direct T1D Practical Cure programs may be less central today, but they are likely partners, acquirers, or commercialization engines.

Catalyst-Dependent Watchlist

These early-stage, less-validated companies are the innovative long shots. These companies are further away in development and/or financial independence, but many are working on unique approaches. They could become meaningfully important if they deliver the right catalyst, such as new data, funding, partnerships, or show breakout progress in trials.

Figure 3. T1D Cure Landscape Segmentation





IV. 1H26 Public Company Performance Highlights

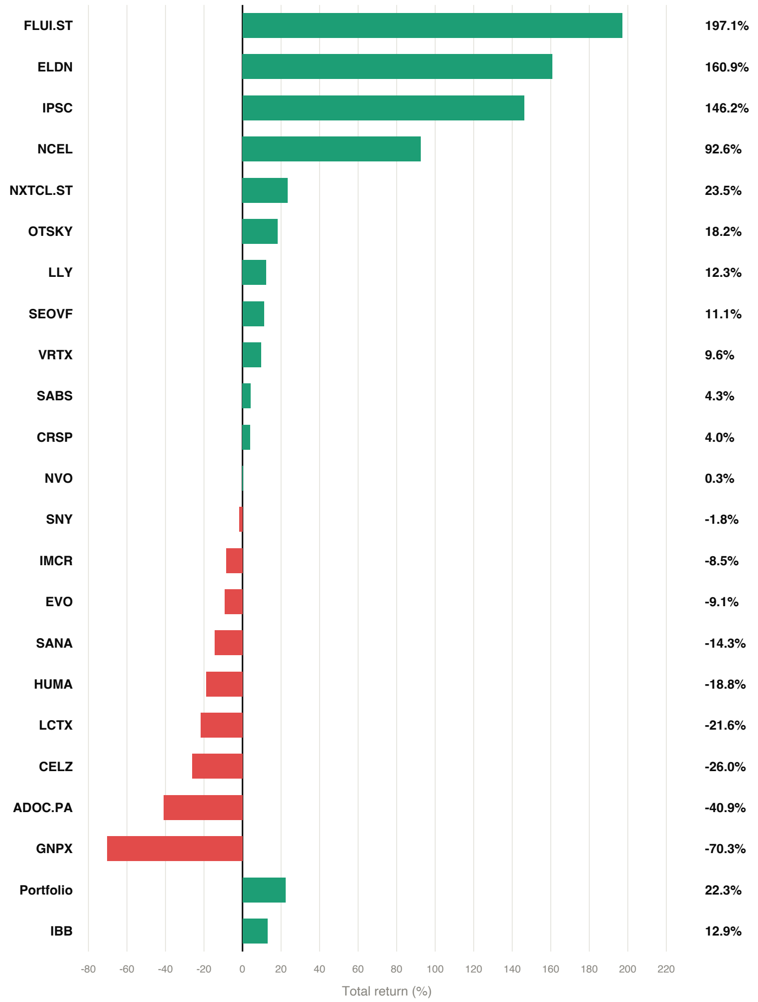
Stock Performance Compared with Key Indices: Sector Benchmark and Broader Market

Public companies within JDCA's Practical Cure Portfolio delivered a higher return compared to both the overall biotechnology sector and the wider equity market in the first half of 2026. The JDCA portfolio delivered a 22% total return. In comparison, the iShares Biotechnology ETF sector benchmark (IBB) and S&P 500 index returned approximately 13% and 10%, respectively. Financial summary details of the portfolio companies are in Appendix C.

Sixteen of the twenty-one equal-weighted JDCA public exposures are emerging venture-style biotech and/or small regenerative medicine companies. Small-cap biotech trading is often characterized by thin liquidity and volatile pricing. Small-cap returns are event-driven. Examples that may heavily influence JDCA portfolio performance are positive clinical trial updates, successful financing rounds, new collaboration agreements, etc. IBB constituent returns are impacted by the same factors, in addition to valuation multiples, that influence large-cap trading levels. IBB is used as the benchmark because it is a broad and diverse investable representation of US biotech companies engaged in research and development.

JDCA's Practical Cure Portfolio outperformed versus sector and market due to its higher allocation of emerging companies, several of which experienced significant value gains. Over 75% of JDCA's portfolio companies generate annual revenue of less than $1 billion and many have no revenue, compared to 38% in the index. IBB's larger allocation to firms with longer operating histories and established revenue streams impacted the ETF's total return. Individual events driving returns of the top three and bottom three JDCA portfolio performers are described in Figures 5 and 6. Also, the JDCA portfolio was relatively insulated from geopolitical risk, which has been a broad market theme throughout 1H26.

Figure 4. Year-to-Date Stock Return of Public Companies



[1] JDCA portfolio dividend income added 38 bps of return, and currency exposures removed 60 bps from the portfolio's total return. Three JDCA positions trade in foreign currencies. Adocia does not have an American ADR and is denominated in Euro. The Euro was 2.7% weaker against the dollar in 1H26. Fluicell and NextCell Pharma are denominated in Swedish Krona, which was 4.9% weaker against the dollar in 1H26. Neither Swedish company has an American ADR.

Figure 5. JDCA Practical Cure Portfolio: Top Performers in 1H26

Company	Return	Research / Product News	Financial News
fluicell Pioneers in Single Cell Biology (FLUI.ST)	+197%	• (2/11/26): Received a European patent covering microfluidics technology, used in islet development.	• Fluicell moved from negative earnings to profitability in 1Q26, driven by CRO Services.
Eledon Pharmaceuticals (ELDN)	+161%	• (3/10/26): Tegoprubart granted orphan-drug status in the US for liver transplants. • (3/16/26): Positive tegoprubart results disclosed, continuing the 4Q25 rally. • (6/25/26): Published more color on expected phase III kidney trial in late 2026.	• No material financial news. Management expects liquidity to last through 2Q27 without a need for additional financing.
CENTURY THERAPEUTICS (IPSC)	+146%	• (6/8/26): Positive pre-clinical data for CNTY-813. On track for 4Q26 IND submission, clinical data expected 2H27.	• (1/9/26): $135M capital raise fueling a rally.

Figure 6. Bottom Performers in 1H26

Company	Return	Research / Product News	Financial News
Genprex (GNPX)	-70%	• (1/7/26, 3/18/26): Presented positive data on studies related to T2D and lung cancer, but this was offset by the threat of being delisted.	• (6/10/26): Genprex received a letter from NASDAQ indicating a failure to meet listing requirements and are at risk of being delisted. Genprex stated it would request a hearing to resolve the issue.
ADOCIA (ADOC.PA)	-41%	• (10/15/25): Positive phase III clinical trial results for BioChaperone published. Developed by Tonghua Dongbao. • Adocia enjoyed broad positive news in 4Q25. • Momentum faded and the stock sold off in 1Q26.	• No material financial news. Management expects liquidity to last through 1Q27 without a need for additional financing.
CREATIVE MEDICAL TECHNOLOGY HOLDINGS, INC. (CELZ)	-26%	• (1/6/26): Recieved regulatory approval to start a program to help veterans exposed to toxic burn pits. Will use proprietary iPSC platform in the effort. • Several positive data updates for non-T1D products were disclosed but were overshadowed by financial news.	• (6/24/26 – 6/30/26): An equity offering registration was filed and then withdrawn, triggering volatility. Stock then rallied after management scheduled a shareholder vote to significantly increase authorized shares.

V. Private Company Moves

Less public information is available for the private companies in the Practical Cure Portfolio. Unlike public companies, private companies are not required to report detailed financial information on a regular cadence and often do not disclose revenue, profit, cash runway, or R&D investment. However, they may disclose private securities offerings, grants, partnerships, patents, and research updates. JDCA tracks these public signals to monitor momentum across private companies.

During the past six months, several private companies in the portfolio reported notable updates. The most important developments are summarized below.

Figure 7. Private Company Top Research and Financial News

Company	Research News	Financial News
AHEAD THERAPEUTICS	• No material research news identified.	• January: Received a Breakthrough T1D grant.
COUR	• January: Published positive non-T1D phase II results for its nanoparticle platform.	• June: Closed $50 million Series B financing.
EN CELL IN	• January: Reported positive T1D clinical-trial results for its encapsulated cell program.	• No material financial news identified.
gentibio	• March: phase I trial of GNTI-122 dosed first patients. Engineered immune tolerance for those recently diagnosed.	• January: Received Breakthrough T1D and Helmsley Charitable Trust grants for the POLARIS trial.
Integrated nanotherapeutics	• No material research news identified.	• March: Received funding from Genome Canada to advance INT-101, an immunomodulator technology.
MOZART THERAPEUTICS Orchestrating The Immune System	• April: Reported positive but very preliminary interim phase I T1D results for its immunomodulation therapy, including C-peptide-related findings.	• No material financial news identified.
pluristyx Tomorrow's Cell Therapies, Today	• April: Received a US patent covering its iACT Stealth gene-editing technology, which may have potential to cloak beta cells.	• July 2025: Pluristyxs closed its last financing round.
seraxis	• June: plans to enroll for phase I trial in 2026. Anticipating patient data in Q127.	• Received a pivotal Breakthrough T1D grant (previously on the edge of insolvency).

VI. Upcoming Milestone Commitments

The final section of this report outlines the T1D research milestones that are expected to occur during the remainder of this calendar year. The upcoming milestones were committed to via public statements from each company. We focus here on the essential external deliverables, such as initiating or completing a trial, sharing interim results, submitting an IND, and publishing preclinical results. Only companies with a stated deliverable are shown here; companies not shown do not plan or expect to deliver results in the near term, or have not made information public.

2026 Upcoming Clinical Milestones — 18 Companies

Q3 2026 — 3 Milestones

Company	Program	Milestone
Altheia Science	*IMMUNOSTEM*	**Initiate phase I trial patient dosing**
Immunocore Holdings	*IMC-S118AI*	**Initiate phase I trial patient dosing**
NextCell Pharma	*ProTrans*	**Release 1-year trial follow-up data**

Q4 2026 — 15 Milestones

Company	Program	Milestone
Century Therapeutics	*CNTY-813*	**Submit IND for clinical trial**
Eledon Pharmaceuticals	*Tegoprubart*	**FDA guidance to market Tegoprubart; initiate T1D & renal trial**
Encellin	*ENC-201*	**Complete phase I trial**
Evotec	*QR Beta*	**Initiate phase I clinical trial (with Sernova)**
Kriya Therapeutics	*KRIYA-839*	**Initiate phase I clinical trial**
NewcelX	*NCEL-101*	**Complete IND-enabling milestones**
Op-T LLC	*OPT101*	**Complete phase II trial enrollment**
Orizuru Therapeutics	*OZTx-410*	**Interim phase I results**
Reprogenix	*RGB-5088*	**1-year trial results expected**
SAB Biotherapeutics	*SAB-142*	**Complete phase II trial enrollment**
Sana Biotechnology	*SC451*	**File IND / start phase I trial**
Sernova Biotherapeutics	*Cell Pouch*	**Initiate trial using iPSCs (with Evotec)**
Vertex Pharmaceuticals	*VX-880 (Zimislecel)*	**Updated phase III trial timeline**
Zag Bio	*Zag-101*	**Start phase I trial**
Seraxis	*SR-02*	**Enroll phase I/II clinical trial**

Appendix A: T1D Impact Scoring Rubric

Unique / Novel ‘First Prover’	3x weight
Point System (3) First meaningful success of its kind in clinical trials; on the path to insulin independence (2) N/A (1) All else	

Stage of Development	3x weight
Point System (3) Phase III (2) Phase I, II (1) Preclinical, animal model	

Complete Practical Cure Solution	2x weight
Point System (3) All requirements of a Practical Cure are met (2) One Practical Cure component (e.g., supply or protection) (1) No Practical Cure component; speculative development	

T1D Commitment	2x weight
Point System (3) T1D is the company’s sole focus (2) T1D is 50%< of research expenses/pipeline; long history of T1D work (1) T1D is <50% of research expense or pipeline	

Ability to Self-Sustain	1x weight
Point System (3) Company generates internal capital; has access capital markets (2) Present resources are sufficient for the medium term (1) Capital is required over the next 12 months	

Route-to-Market Capability	1x weight
Point System (3) Company has an established sales and manufacturing capability (2) Some sales or manufacturing capability; agreements in place (1) No sales force or manufacturing capability	

Appendix B: Company Harvey Ball Scores

Firm	First Prover	Stage of Development	Complete Practical Cure Solution	T1D Focus/ Commitment Level	Ability to Self-Sustain	Route-to-Market Capability
Adocia	○	○	◑	●	◑	○
Ahead Therapeutics	○	◑	○	●	○	◑
Allarta Life Science	○	○	◑	◑	○	○
Altheia Science	○	◑	◑	●	○	◑
Arbor Biotechnologies	○	○	●	○	○	◑
Avotres	●	◑	◑	●	○	○
Century Therapeutics	○	○	●	●	○	○
Cour Pharmaceuticals	○	◑	◑	○	○	◑
Creative Medical Technology	○	◑	○	◑	○	○
CRISPR Therapeutics	●	◑	●	◑	◑	○
Eledon Pharmaceuticals	●	◑	◑	○	○	◑
Eli Lilly	○	○	◑	○	●	●
Encellin	○	◑	◑	●	○	○
Enthera	○	◑	◑	●	○	○
Evotec	○	○	○	○	◑	◑
Fluicell	○	○	●	●	○	●
Genprex	○	○	●	○	○	○
GentiBio	○	◑	◑	●	○	○
Humacyte Global	○	○	●	●	○	◑
Immunocore Holdings	●	◑	◑	○	◑	◑
Integrated Nanotherapeutics	○	○	◑	●	○	○
Jaguar Gene Therapy	○	○	●	○	○	○
Kriya Therapeutics	○	○	●	○	◑	◑
Lineage Cell Therapeutics, Inc	○	○	◑	○	○	●
Mozart Therapeutics	○	◑	◑	●	○	○
NewcelX	○	○	●	●	○	○
NextCell Pharma	○	◑	◑	●	○	○
Novo Nordisk	○	◑	◑	○	●	●
OPT-LLC	○	◑	○	◑	○	◑
Orizuru Therapeutics	○	◑	○	◑	●	●
Otsuka Holdings	○	◑	●	◑	●	●
PluriSyx	●	○	●	◑	◑	◑
Polbionica S/A	○	○	◑	◑	◑	●
Reprogenix	●	◑	◑	◑	○	○
SAB Biotherapeutics	●	◑	◑	●	○	○
Sana Biotechnology	●	◑	●	●	◑	○
Sanofi	○	●	○	◑	●	●
Seraxis	○	◑	●	●	○	○
Sernova Biotherapeutics	○	◑	◑	●	○	○
SymbioCellTech	○	○	●	●	○	○
Throne Biotechnologies	○	◑	●	●	○	○
Vertex	●	●	◑	●	●	●
ViCapsys	○	○	◑	●	○	○
Zag Bio	○	○	◑	●	○	○

Appendix C: Public Company Financial Ratios / Key Information

						Valuation:						Liquidity:			Leverage:		
Ticker	Company Name	Stock Price	Shares Outstanding	Market Cap	Total Return (YTD)	P/E	P/B	P/S	TTM Free Cash Flow	TTM R&D Spend	Cash & Equiv	Short Term Securities	Available Credit Facility	Total Liquidity	Net Debt	Debt/ EBIT-DA	Debt/ CFO
LLY	Eli Lilly and Company	1,199.43	892	1,080,907	12.3	42.6	34.3	14.8	10,368	14,113	5,282	146	10,100	15,528	38,088	1.1	1.9
NVO	Novo Nordisk A/S	47.94	3,352	213,042	0.3	11.5	5.1	3.2	4,793	8,071	3,257	77	3,834	7,168	19,311	0.7	1.1
VRTX	Vertex Pharmaceuticals, Inc.	496.73	254	126,163	9.6	29.5	6.5	10.3	3,710	4,024	5,493	1,754	500	7,747	(3,506)	(0.7)	(0.8)
SNY	Sanofi S.A.	42.66	2,394	102,334	(1.8)	19.0	1.6	2.5	8,917	6,713	4,813	0	6,817	11,630	12,343	1.0	1.4
OTSKY	Otsuka Holdings Co. Ltd.	33.48	1,052	35,313	18.2	15.8	1.8	2.1	9,058	2,366	3,384	168	NA	3,552	(1,703)	(0.5)	(0.2)
CRSP	CRISPR Therapeutics AG	54.54	98	5,382	4.0	NA	3.0	1,473.6	(426)	377	423	2,018	0	2,442	346	(0.6)	(0.9)
IMCR	Immunocore Holdings plc	31.75	51	1,613	(8.5)	NA	4.1	3.9	(31)	280	453	392	0	845	(19)	(16.3)	0.8
EVO	Evotec SE	2.80	355	991	(9.1)	NA	1.6	1.5	(46)	32	337	66	0	403	(77)	1.0	(4.8)
SANA	Sana Biotechnology, Inc.	3.49	278	975	(14.3)	NA	8.1	NA	(134)	159	84	17	0	101	(23)	0.1	0.2
IPSC	Century Therapeutics, Inc.	2.45	180	446	146.2	NA	1.7	NA	(96)	86	51	84	0	135	(7)	0.1	0.1
LCTX	Lineage Cell Therapeutics, Inc.	1.31	249	328	(21.6)	NA	6.2	22.1	(23)	19	36	17	0	53	(34)	2.2	1.6
ELDN	Eledon Pharmaceuticals, Inc.	3.94	77	298	160.9	NA	6.8	NA	(69)	70	6	105	0	111	(6)	0.1	0.1
HUMA	Humacyte, Inc.	0.78	270	211	(18.8)	NA	18.1	104.3	(102)	73	49	0	0	49	15	(0.1)	(0.1)
SABS	SAB Biotherapeutics, Inc.	3.90	76	298	4.3	NA	1.3	NA	(52)	40	21	87	0	107	(15)	0.3	0.3
NXTCL.ST	NextCell Pharma AB	0.94	111	11	23.5	NA	17.6	99.0	(4)	NA	3	0	0	3	(3)	(8.9)	0.9
ADOC.PA	Adocia	4.14	20	93	(40.9)	NA	64.4	62.7	(6)	29	15	0	0	15	(8)	0.5	1.4
FLUI.ST	Fluicell AB	30.20	1	4	197.1	NA	27.8	33.0	(1)	1	0.14	0	0	0.14	(0)	0.7	NA
SEOVF	Sernova Biotherapeutics	0.10	378	38	11.1	NA	(5.3)	NA	(4)	2	1	0	0	1	1	(0.1)	(0.3)
NCEL	NewcelX Ltd.	3.66	5	20	92.6	NA	2.7	NA	(3)	1	2	0	0	2	(2)	0.2	0.7
GNPX	Genprex, Inc.	0.52	11	5	(70.3)	NA	0.3	NA	(14)	10	18	0	0	18	(18)	1.1	1.3
CELZ	Creative Medical Technology Holdings, Inc.	1.45	4	6	(26.0)	NA	0.9	1,786.7	(6)	2	6	0	0	6	(6)	1.0	1.0

Stock Price as of 6/30/26
Numbers in $ millions, except ratios, stock price, and shares outstanding
Adocia's price is in euros

Contingent Liabilities are not included in debt
Financial Data for Adocia and NewcelX is as of 2025 year end: all others are as of 1Q26
Fluicell and Nextcell Pharma are in Swedish Krona