



Investor Presentation

Bringing organ-restoring solutions to
critically ill patients

September 2024

Seastarmedical.com
Nasdaq: ICU

Forward-looking statements

This presentation contains certain forward-looking statements within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, without limitation, SeaStar Medical’s expectations with respect to the timing of regulatory approval of its products, the expected timing on enrollment, generation of study results, submission of PMA and other corporate milestones, the ability of SCD to treat patients with AKI, and the potential benefits of SCD to treat other diseases. Words such as “believe,” “project,” “expect,” “anticipate,” “estimate,” “intend,” “strategy,” “future,” “opportunity,” “plan,” “may,” “should,” “will,” “would,” “will be,” “will continue,” “will likely result,” and similar expressions are intended to identify such forward-looking statements. Forward-looking statements are predictions, projections and other statements about future events that are based on current expectations and assumptions and, as a result, are subject to significant risks and uncertainties that could cause the actual results to differ materially from the expected results. Most of these factors are outside SeaStar Medical’s control and are difficult to predict. Factors that may cause actual future events to differ materially from the expected results include, but are not limited to: (i) the risk that SeaStar may not be able to obtain regulatory approval of its SCD product candidates; (ii) the risk that SeaStar may not be able to raise sufficient capital to fund its operations, including clinical trials; (iii) the risk that SeaStar Medical and its current and future collaborators are unable to successfully develop and commercialize its products or services, or experience significant delays in doing so, including failure to achieve approval of its products by applicable federal and state regulators, (iv) the risk that SeaStar Medical may never achieve or sustain profitability; (v) the risk that SeaStar Medical may not be able to access funding under existing agreements; (vi) the risk that third-parties suppliers and manufacturers are not able to fully and timely meet their obligations, (vii) the risk of product liability or regulatory lawsuits or proceedings relating to SeaStar Medical’s products and services, (viii) the risk that SeaStar Medical is unable to secure or protect its intellectual property, and (ix) other risks and uncertainties indicated from time to time in SeaStar Medical’s Annual Report on Form 10-K, including those under the “Risk Factors” section therein and in SeaStar Medical’s other filings with the SEC. The foregoing list of factors is not exhaustive. Forward-looking statements speak only as of the date they are made. Readers are cautioned not to put undue reliance on forward-looking statements, and SeaStar Medical assume no obligation and do not intend to update or revise these forward-looking statements, whether as a result of new information, future events, or otherwise.





SEASTAR MEDICAL

Commercial-stage company with patented, clinically validated, organ-agnostic therapeutic device targeting life-threatening hyperinflammation

The Selective Cytopheretic Device (SCD) extracorporeal platform stops the cytokine storm and safely restores organ function

Changing the standard of care, one patient at a time



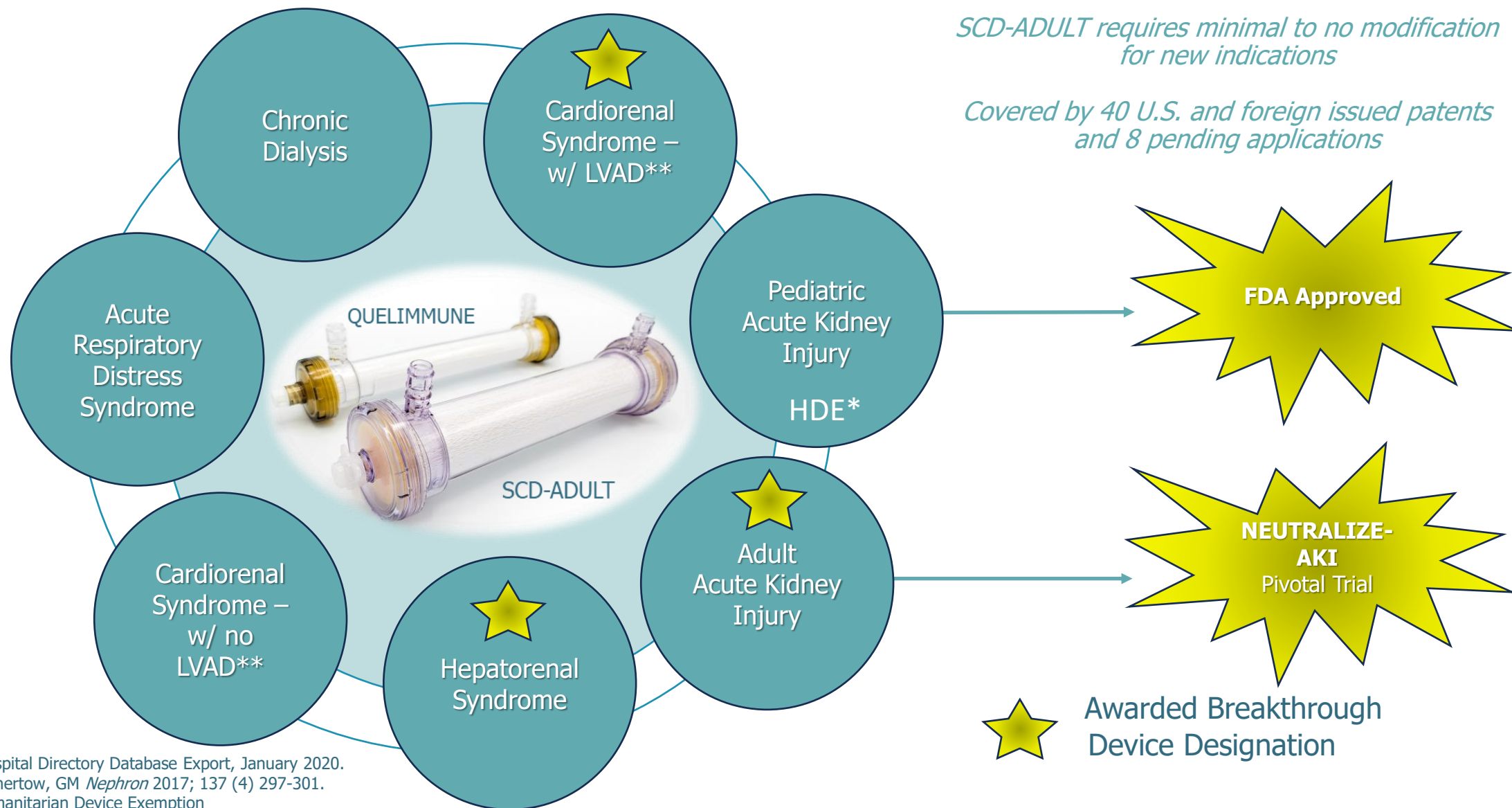
Investment highlights

BEST-IN-CLASS TECHNOLOGY	MULTIBILLION-DOLLAR MARKET	COMMERCIALIZING FIRST INDICATION	PIVOTAL TRIAL PROGRESS	EXPERIENCED EXECUTIVE TEAM
<ul style="list-style-type: none"> • Patented, proprietary SCD platform addresses life-threatening unmet medical needs • Clinically proven to reduce mortality and decrease dialysis dependency in acute kidney injury • Potential to dramatically reduce economic burden of disease • Proven delivery system • Shelf-life stability at room temperature 	<ul style="list-style-type: none"> • Platform technology potential application in multiple high-value acute and chronic indications • Technology requires minimal, if any, modifications for new indications • Same SCD, Same Mechanism of Action, with access to a multitude of indications 	<ul style="list-style-type: none"> • 1st FDA approval for pediatric acute kidney injury with sepsis • Product shipped in July 2024 • QUELIMMUNE™ (SCD-PED) commercial strategy to target leading children's hospitals • Approval validates platform and derisks future FDA approvals 	<ul style="list-style-type: none"> • Enrolling patients in pivotal adult trial, NEUTRALIZE-AKI • Adult acute kidney injury population 50x larger than pediatric • CMS coverage for a portion of trial costs 	<ul style="list-style-type: none"> • Seasoned, dynamic leadership with over 150 years of industry experience* and clear focus on advancing strategy • Wealth of executive, operational, financial, clinical and regulatory expertise

*Based on the 6 members of the leadership team



Diverse application in multiple blockbuster potential, inflammation-driven diseases where vascular access is in place

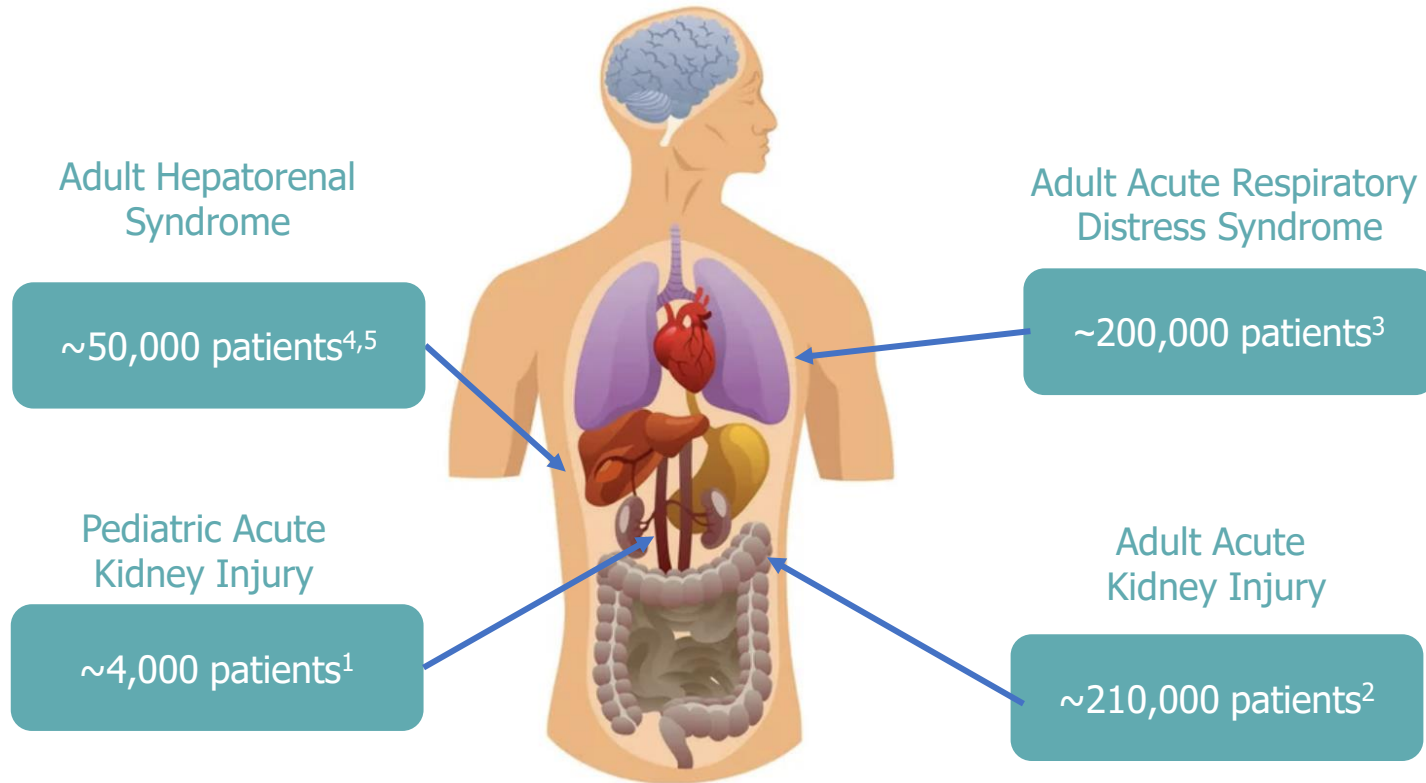


1. America Hospital Directory Database Export, January 2020.
2. Silver SA, Chertow, GM *Nephron* 2017; 137 (4) 297-301.
3. *HDE – Humanitarian Device Exemption
4. **LVAD – Left Ventricular Assist Device



Blockbuster potential in near-term indications

*Captive inpatient settings with vascular access intact
Annual U.S. patient population*



1. America Hospital Directory Database Export, January 2020.
2. Silver SA, Chertow, GM *Nephron* 2017; 137 (4) 297-301.
3. American College of Physicians, ACP Hospitalist, Coding information from July 2019.
4. Sepanlou, et al. *Lancet Gastroenterology & Hepatology*, 2020 Mar;5(3):245-266.
5. Orman, et al *JAMA Netw Open*. 2019 Oct 2;2(10):e1913673.

Base Revenue Opportunity

TAM ~500,000 patients



Average cost of therapy per patient =
\$10,000-20,000 (3-7 days of treatment)



Conservative market penetration
~10%



Annual Potential US Revenue ~\$1B



FDA-approved for pediatric acute kidney injury and pivotal adult acute kidney injury trial underway



*QUELIMMUNE is approved under a Humanitarian Device Exemption for the treatment of children with sepsis or septic condition**

Indication	
Pediatric acute kidney injury	FDA approval February 2024 – Commercial launch July 2024
Adult acute kidney injury	Pivotal trial underway

Pediatric acute kidney injury approval sets a strong precedent for approvals in additional indications

*QUELIMMUNE is approved by the FDA as a Humanitarian Use Device (HUD) to treat pediatric patients with acute kidney injury and sepsis or septic condition weighing 10 kilograms and requiring kidney replacement therapy

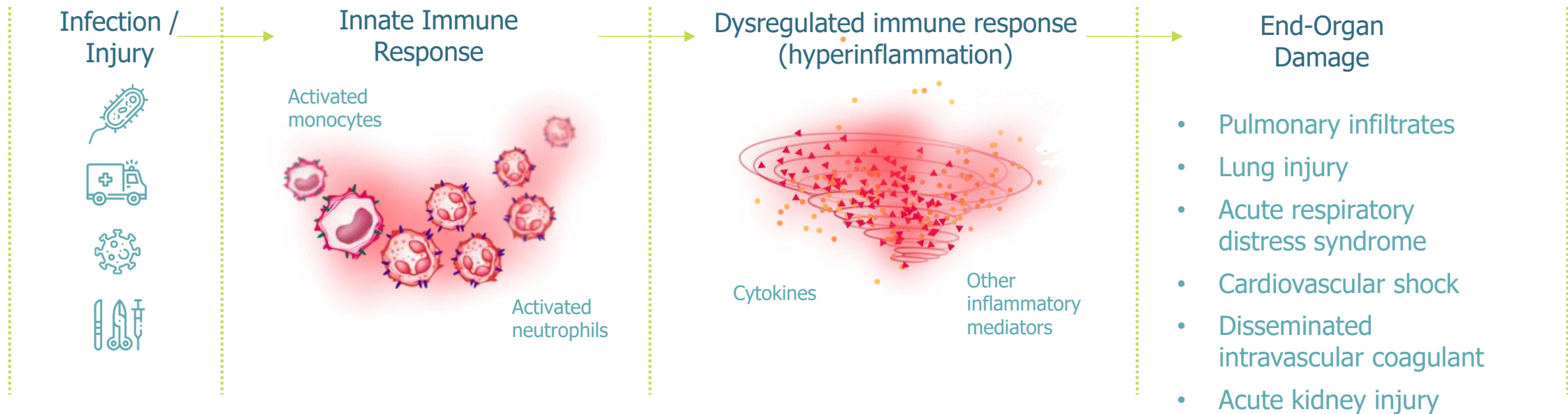




SCD TECHNOLOGY PLATFORM



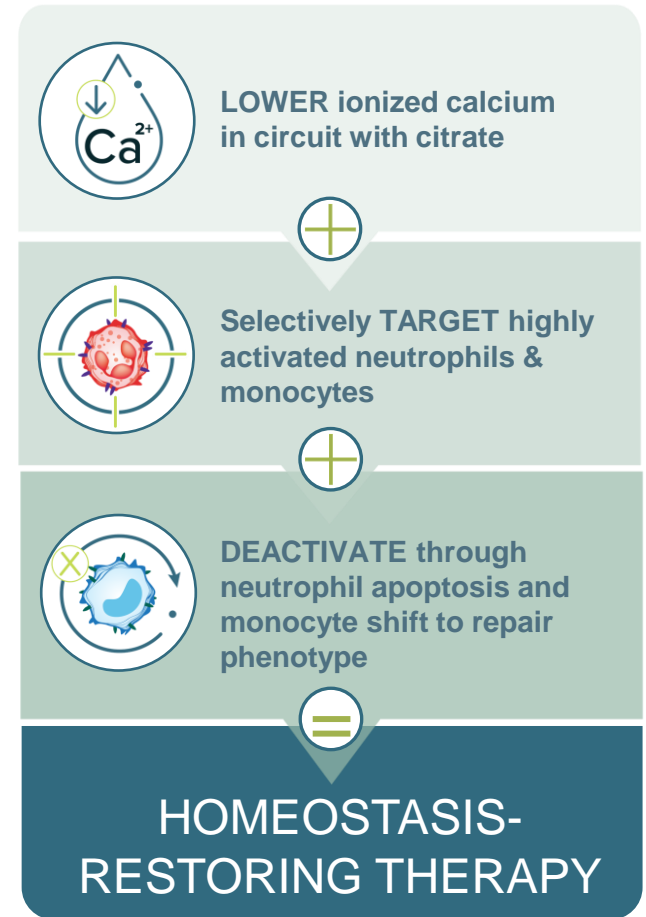
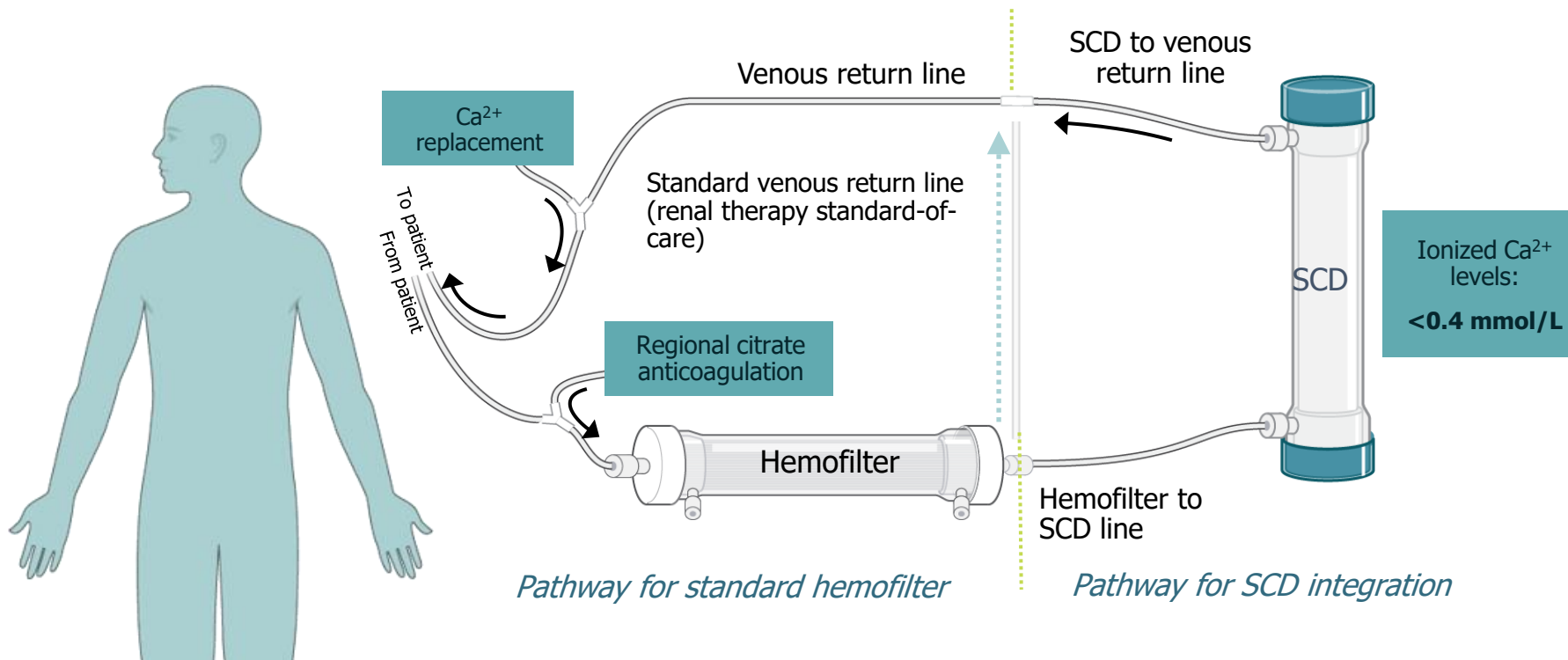
Hyperinflammatory response can lead to multi-organ damage and death



Patient Outcome: Permanent Organ Damage or Death



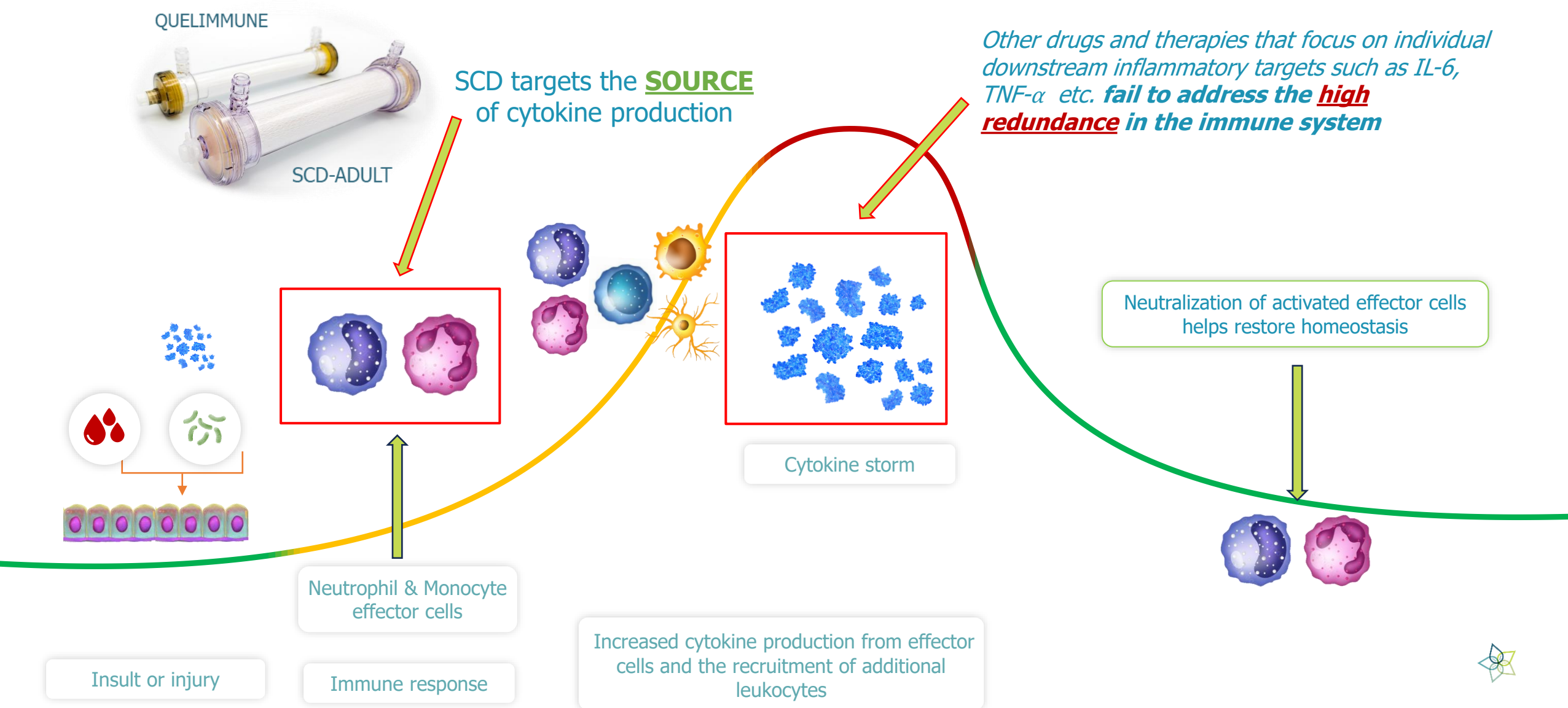
Unique mechanism of action restores reparative physiology



SCD conveniently connects with existing continuous kidney renal therapy that's widely available in U.S. ICUs today



SCD targets **upstream source** of effector cells and *neutralizes effector cells* that release cytokines





SCD CLINICAL EVIDENCE



Pediatric patients with acute kidney injury are vulnerable to cytokine storms

Despite ICU's standard care in managing electrolytes, fluids and toxins, the condition of pediatric patients with acute kidney injury often worsens due to untreated hyperinflammation

27%

ICU

Overall incidence
of acute kidney injury
in the pediatric ICU setting¹

2x

LONGER

Patients with acute kidney
injury stay in the ICU twice
as long - 8 days vs 4 days²

50%

MORTALITY

For children with
acute kidney injury and
multi-organ dysfunction
requiring continuous
kidney replacement
therapy³⁻⁵

≥30%

CHRONIC DISEASE

Incidence of
chronic kidney
disease for pediatric
patients with acute
kidney injury⁶

1. Kaddourah A, et al. NEJM. 2017; 376:11-20.
2. De Zan F, et al. Blood Purif. 2020;49:1-7.
3. Symons JM, et. al. Clin J. Am Soc Nephrol 2007
4. Modem V, et al. Crit Care Med 2013.
5. Goldstein, SL, et al. Kidney Int 2005; 67; 653-658.
6. Menon S, et. al Ped Nephrol 2023 (38) Suppl 1:S41.



QUELIMMUNE clinical data in pediatric acute kidney injury



77% survival¹
At Day 60

NO dialysis dependency²
At Day 60 (Post-ICU Discharge)

NO device-related
immunosuppression,
serious adverse events or infections



Pooled data from two clinical trials n=22

1. SL Goldstein et al: *Use of the Selective Cytopheretic Device to Support Critically Ill Children Requiring Continuous Renal Replacement Therapy: A Probable Benefit-Risk Assessment*, medRxiv 2023.08.22.23294378; doi: <https://doi.org/10.1101/2023.08.22.23294378>.
2. SL Goldstein et al.: *The Selective Cytopheretic Device in Children; Kidney International Reports (2021)*.
3. F De Zan et al: *Acute Kidney Injury in Critically Ill Children: A Retrospective Analysis of Risk Factors*. Blood Purif. 2020;49(1-2):1-7. doi: 10.1159/000502081. Epub 2019 Aug 5. PMID: 31382259.



Pediatric and Adult Acute Kidney Injury Study Outcomes Summary

Pediatric Data

Study / Parameter	SCD-PED-01 (≥ 15kg) (N=16)	SCD-PED-02 (10-20 kg) (N=6)	Combined PED-01 / PED-02 (N=22)
Survival Day 60	12 (75%)	5 (83%)	17 (77%)
Dialysis Dependence Day 60*	0%	0%	0%
Normal Kidney Function Day 60*			87.5%
* - of survivors (Day 60 Post-ICU Discharge)			

Adult Data

Study / Parameter <i>Patients treated with SCD</i>	US Adult ARF Pilot – 002 (N=35)	US Adult ARF – 003 (N=19)	Historical Control
Survival Day 60	69%	84% ¹	50% ²
Dialysis Dependence Day 60	0%	0%	25% ^{2,3}

1. Treated per protocol (iCa in therapeutic range using citrate)
2. Uchino S, et al. JAMA. 2005.
3. Bagshaw SM, et al. Crit Care. 2005.

SCD has been utilized in multiple blockbuster potential indications in critically ill patients with high mortality rates

3 Organs Failed

ON AVERAGE

50-60% Sepsis

AMONG PATIENTS

Examples of Mortality – Underlying Conditions

Condition	In Hospital Mortality
Cardiorenal Syndrome w/ Acute Kidney Injury	~40% ³
Hepatorenal Syndrome w/ Acute Kidney Injury	~30% ¹
Streptococcal Toxic Shock Syndrome	~40% ²

1. World J Gastroenterol. 2021 Jul 14; 27(26): 3984–4003.
2. Clin Infect Dis 2016 Aug 15;63(4):478-86.
3. Int. J Cardiol 2017 Mat1:230:255-261.

Patients with Acute Kidney Injury on Continuous Kidney Replacement Therapy

Comorbidities Include (but not limited to):

- BMI over 40 (morbidly obese)
- COVID-19
- All in ICU

Insults Include (but not limited to):

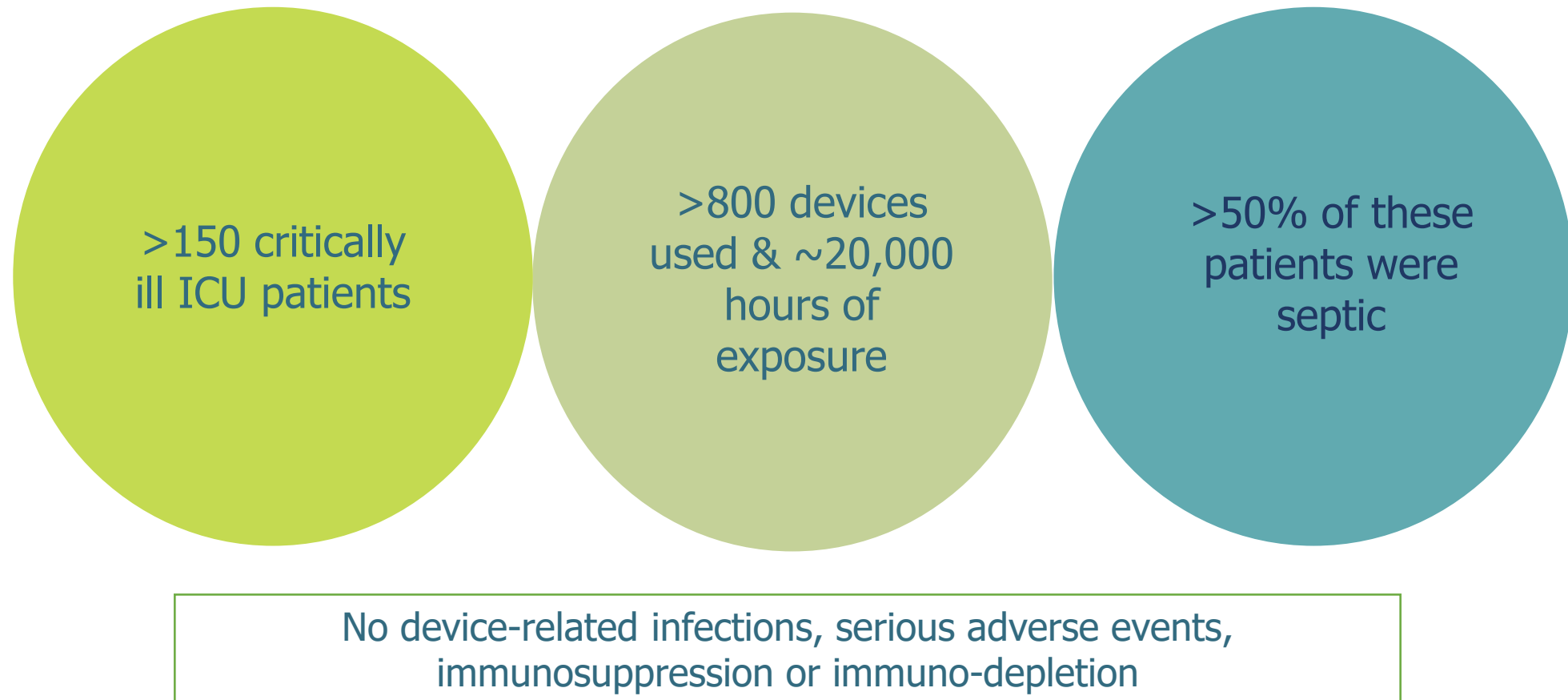
- Surgery
- Trauma
- Bacterial & Viral Infections

Underlying Etiologies Treated:

- Cardiorenal Syndrome
- Hemophagocytic Lymphohistiocytosis
- Hepatorenal Syndrome
- Shiga-toxin E. Coli Hemolytic Uremic Syndrome
- Streptococcal Toxic Shock Syndrome



SCD has demonstrated a safe profile across six adult and pediatric acute kidney injury trials





COMMERCIAL + REGULATORY STRATEGIES



SCD provides value to a hospital's bottom line

Critically ill patients with characteristics similar to those in SCD studies - continuous kidney replacement therapy with sepsis, high use of mechanical ventilation and/or vasopressors:¹

- Mean total length of stay is >30 days
- Mean total hospitalization cost is >\$450,000 per patient

*Inflation-adjusted to 2024

SAVE registry to confirm hospital length of stay and readmission rates of acute kidney injury, which could support substantial cost savings to hospitals

Mortality rate % with multi-organ failure²

1 organ	2 organs	3 organs	4 organs
11%	24%	60%	62%

Total SCD Cost
for a full course (3-7 days)

~\$10,000 - 20,000

Disposable model
changed every 24 hours

1. Kids' Inpatient Database 2019.
2. F. A. Moore, et al., "Postinjury Multiple Organ Failure: A Bimodal Phenomenon," Journal of Trauma, Vol. 40, No. 4, 1996, pp. 501-502.



Commercial strategy for pediatric acute kidney injury targeting top 50 leading children's hospitals



Initial Launch: Top 5 U.S. Pediatric Children's Hospitals. **First product shipped in July 2024**

220 U.S. Children's Hospitals¹

- Treat ≈ 4000 pediatric acute kidney injury (AKI) patients
- ≈ 7,200 ICU beds



Top 50 U.S. Children's Hospitals

- Treat ≈ 50% of pediatric AKI patients^{2,3}
- ≈ 4,000 ICU beds^{2,3}

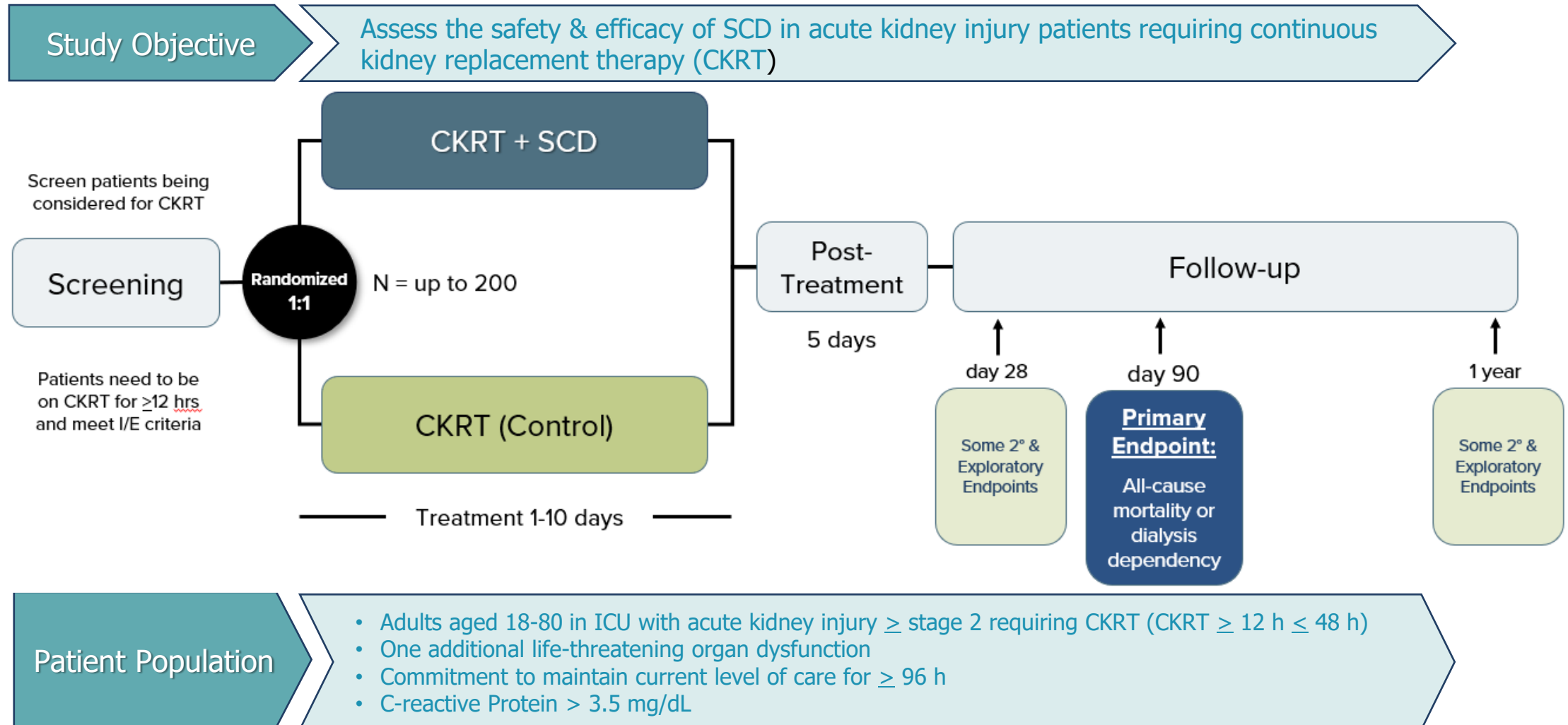


≈ 20% of top 50 U.S. Children's Hospitals have experience with QUELIMMUNE

1. <https://www.childrenshospitals.org>.
2. America Hospital Directory Database Export January 2020
3. <https://www.beckershospitalreview.com/lists-and-statistics/30-largest-childrens-hospitals-in-the-united-states.html>



Adult acute kidney injury pivotal trial design



NEUTRALIZE-AKI pivotal trial gaining momentum



- 42 of up to 200 subjects enrolled (>20% to date)
- 9 of up to 30 medical sites activated
- Mix of academic and community hospitals
- Interim data review of first 100 subjects at 90-days post-treatment
- Final analysis following last 90-day endpoint
- Publish results in peer-reviewed medical journal
- Present results at scientific conferences
- Commercial launch expected in 2026

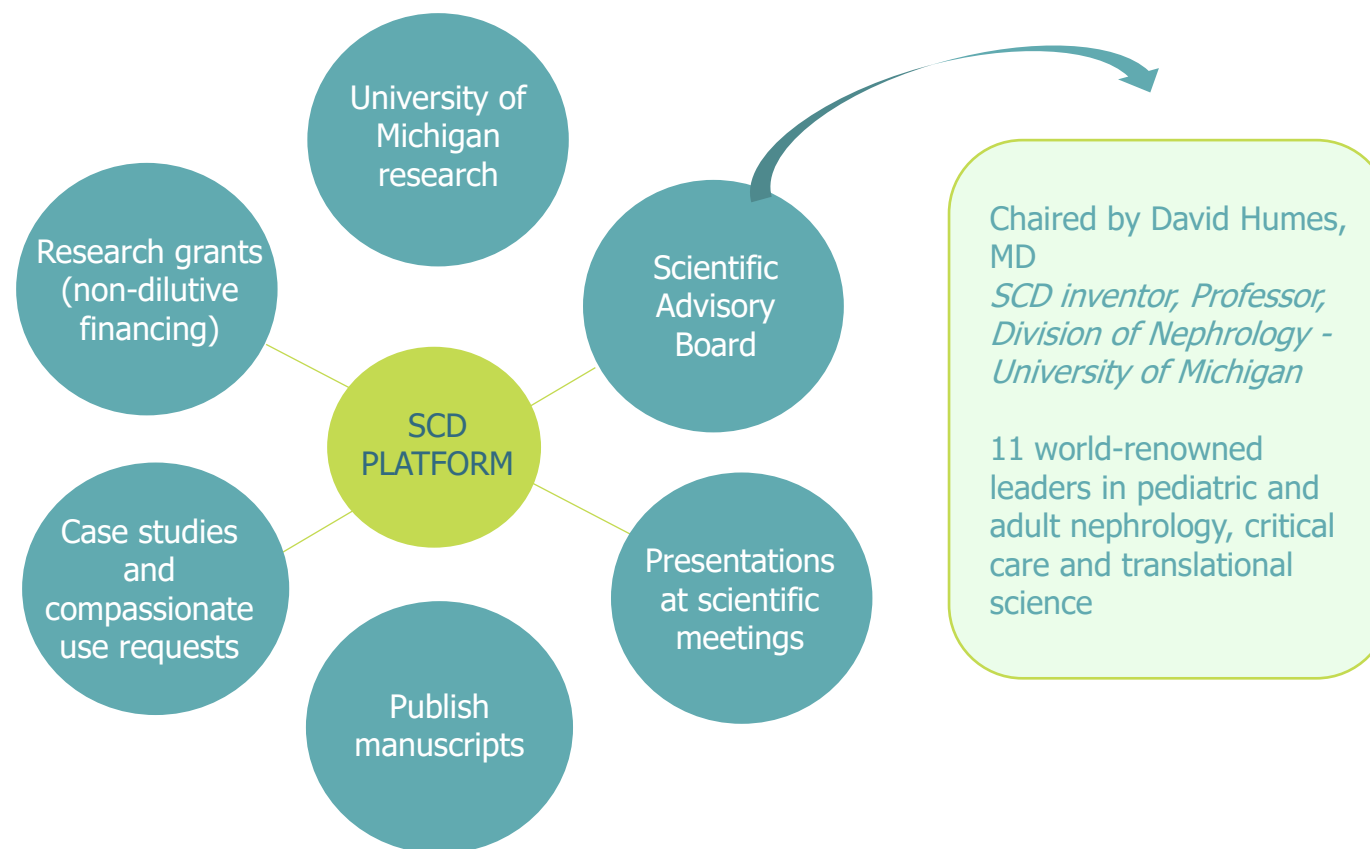
CMS reimbursement for Medicare patients

- *Reduces trial costs*
- *Increase site activations and accelerate subject enrollment*

SCD Platform - Approach to clinical development:

Scientifically Driven, Cost-Effective, Medical-Community Focused

Engage and Drive the Science



SeaStar Medical's strategy is to expanding indications with platform technology

Indication Evaluation Process



Evaluate inflammation-based conditions or diseases driven by activated neutrophils / monocytes



High Burden of disease and unmet medical need in an operable patient setting



Clear commercial opportunity based on population size and or lack of approved therapies



Clear clinical value proposition that delivers clinical outcomes to the patient and economic value to the customer



Clear reimbursement pathway that provides pricing power and flexibility

Results – Where we are Investing Resources

Adult AKI – **Awarded Breakthrough Status**

Cardiorenal Syndrome w/ LVAD – **Awarded Breakthrough status**

Hepatorenal Syndrome – **Awarded Breakthrough status**

Seasoned, dynamic leadership



ERIC SCHLORFF

CEO + Board Member



DAVID GREEN

Chief Financial Officer



KEVIN CHUNG, MD

Chief Medical Officer



SAI IYER, PHD

SVP, Medical Affairs
and Clinical
Development



TOM MULLEN

SVP, Manufacturing
and Product
Development



TIM VARACEK

SVP, Commercial
Business Operations

INTERMUNE

AMGEN

EY

Advent Health

VIFOR
PHARMA

DOW

CHINOOK
THERAPEUTICS

USU
Uniformed Services University

IMG



2024 Financial Highlights

Improved Capital Structure

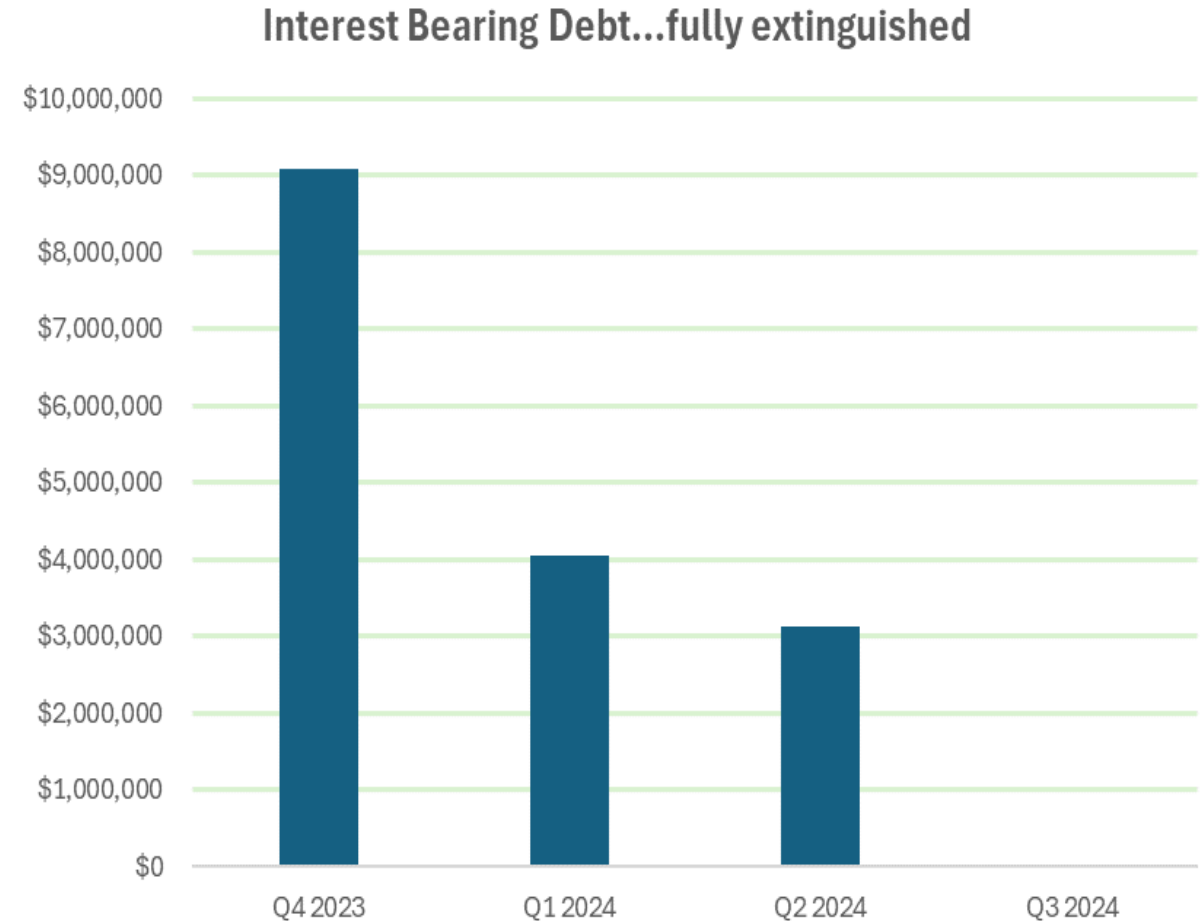
- Extinguished all outstanding debt
- Raised \$19 million new equity
- \$6.9 million cash balance as of July 31, 2024

Cash used in operations (6 mos. 2024)

- \$6.3 million while funding pivotal clinical trial

First commercial sale in Q3

- Initial sales for QUELIMMUNE



Capital Structure

As of September 4, 2024

Ticker Symbol	>>>	ICU
Price	>>>	\$5.25
Shares Outstanding	>>>	4,204,001
Market Capitalization	>>>	\$22,071,005
Warrants Outstanding	>>>	2,359,829
Weighted Average Exercise Price for Warrants	>>>	\$92.88
Interest-bearing Debt	>>>	Zero

Catalysts to drive value creation



QUELIMMUNE FDA approval for pediatric acute kidney injury



QUELIMMUNE commercial product launch



CMS coverage for adult acute kidney injury trial costs



\$3.6 million NIH grant for severe cardiorenal syndrome

2024

Topline data from pivotal adult acute kidney injury trial

QUELIMMUNE launch expansion to >25 hospital systems

Initiate pivotal trial in cardiorenal syndrome

Breakthrough Device Designation in two additional indications

2025

FDA approval of SCD for adult acute kidney injury (50x more patients than pediatric)

U.S. commercial launch of SCD for adult acute kidney injury

Topline data severe cardiorenal syndrome

Breakthrough Device Designation in two additional indications

2026



QUELIMMUNE

SCD-ADULT



Investment highlights

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Jcain@lhai.com / 310-691-7107

*Based on the 6 members of the leadership team

