Investor Presentation

Transforming treatments for critically ill patients facing organ failure and potential loss of life.

August 2026

www.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 1955. These forward-looking statements include, without limitation, SeaStar Medical's expectations with respect to the timing of regulatory approval process and timeline of its products, the expected timing on enrollment, generation of study results, submission of PMA and other milestones, the ability of SCD to treat patients with AKI, the potential benefits of SCD to treat other diseases, the total addressable market for SCD applications and our ability to gain market share and generate sales with respect to the total addressable market for SCD applications. 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 secure additional capital on acceptable terms; (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, (xiii) the risk that SeaStar Medical is unable to secure or protect its intellectual property, and (xi) 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.

Our Mission

Stop organ failure Save lives

Destructive hyperinflammation leads to organ failure and loss of life

Our SCD therapy has demonstrated ability to preserve organ function and save lives

Expand indications and areas of treatment

FDA Breakthrough Device Designations awarded for both ICU and clinical settings

Our SCD therapy is agnostic to disease state

Maximize market penetration

First and ONLY therapy to neutralize destructive hyperinflammation

Our SCD therapy is protected by 34 U.S. and foreign patents

Drive stakeholder value

High gross profit margin and efficient commercialization strategy

Our SCD therapy has pharmaceutical margins and concentrated markets

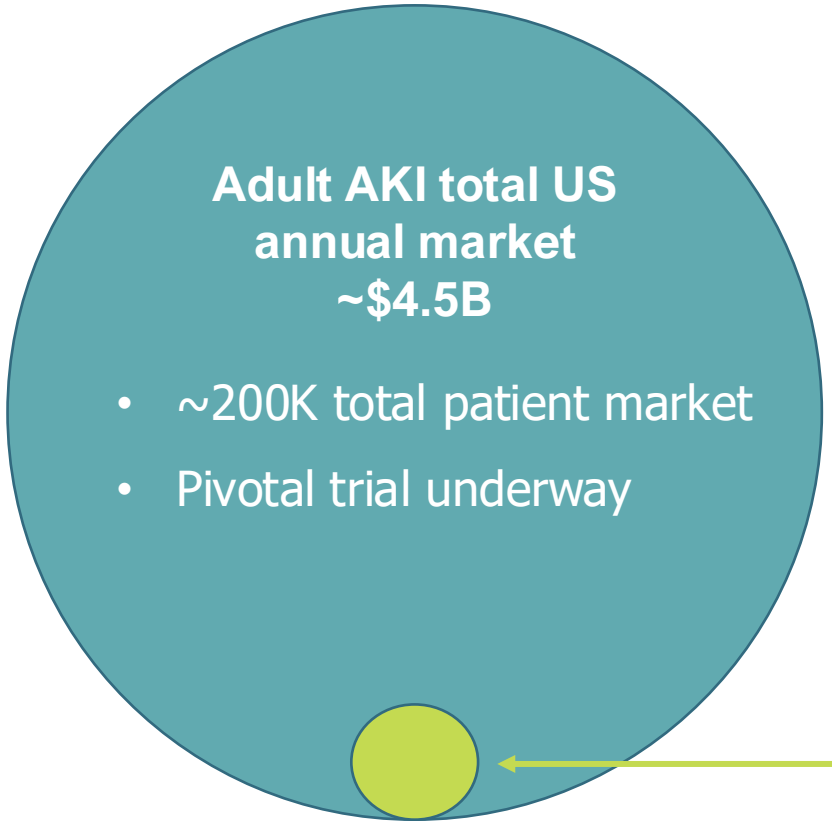
First indications in pediatric and adult acute kidney injury (AKI) provide significant market opportunity for our SCD therapy

High unmet need in adult AKI

50%+ Mortality rates for critically ill patients with AKI requiring Renal Replacement Therapy in ICU setting[1-4]

8X More likely to develop end-stage renal disease following severe AKI episode[5]

$100K Cost of a single patient for one year of dialysis[6]



UPDATE:

CMS has assigned ICD-10-PCS codes effective as of October 1, 2026:

- Will enable standardized inpatient billing
- Will support rapid adoption and reimbursement

Pediatric AKI total US annual market is ~ $100M

- ~4K total US patient market
- Launched 3Q'24

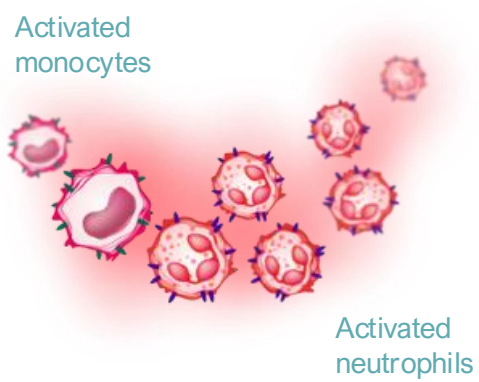
Sources: 1. Uchino S, et al. JAMA 2005. 2. Mehta RL, et al Kidney Int 2004. 3. Modem V, et al. Crit Care Med 2013. 4. Goldstein SL, et al. Kidney Int 2005. 5. Coca SG, et al. Kidney Int 2012. 6. 2022 USRDS Annual Report; accessed 20Aug2023
Estimates of Annual U.S. Patient Population and Total Addressable U.S. Market were derived from Silver SA, Chertow, GM Nephron 2017; 137 (4) 297-301; American College of Physicians, ACP Hospitalist, Coding information from July 2019; Sepanlou, et al. Lancet Gastroenterology & Hepatology, 2020 Mar;5(3):245-266; Orman, et al JAMA Netw Open. 2019 Oct 2;2(10):e1913673.
Market sizing in graphic are representative and not to scale. The adult AKI market is estimated to be 50 times the pediatric AKI market. Market opportunities reflect assumptions regarding cartridge pricing and number of cartridges used per patient.
AKI = Acute Kidney Injury

THE PROBLEM: Hyperinflammatory response can lead to multi-organ damage and death

Infection / Injury



Innate Immune Response



Dysregulated immune response (hyperinflammation)



End-Organ Damage

- Pulmonary infiltrates
- Lung injury
- Acute respiratory distress syndrome
- Cardiovascular shock
- Disseminated intravascular coagulant
- AKI

Patient Outcome: Permanent Organ Damage or Death

THE SOLUTION: SCD therapy targets ***upstream source*** of effector cells and *neutralizes effector cells* that release cytokines



SCD targets the SOURCE of cytokine production

Other drugs and therapies that focus on individual downstream inflammatory targets such as IL-6, TNF-α etc. fail to address the high redundancy in the immune system

Neutralization of activated effector cells helps restore homeostasis

Cytokine storm

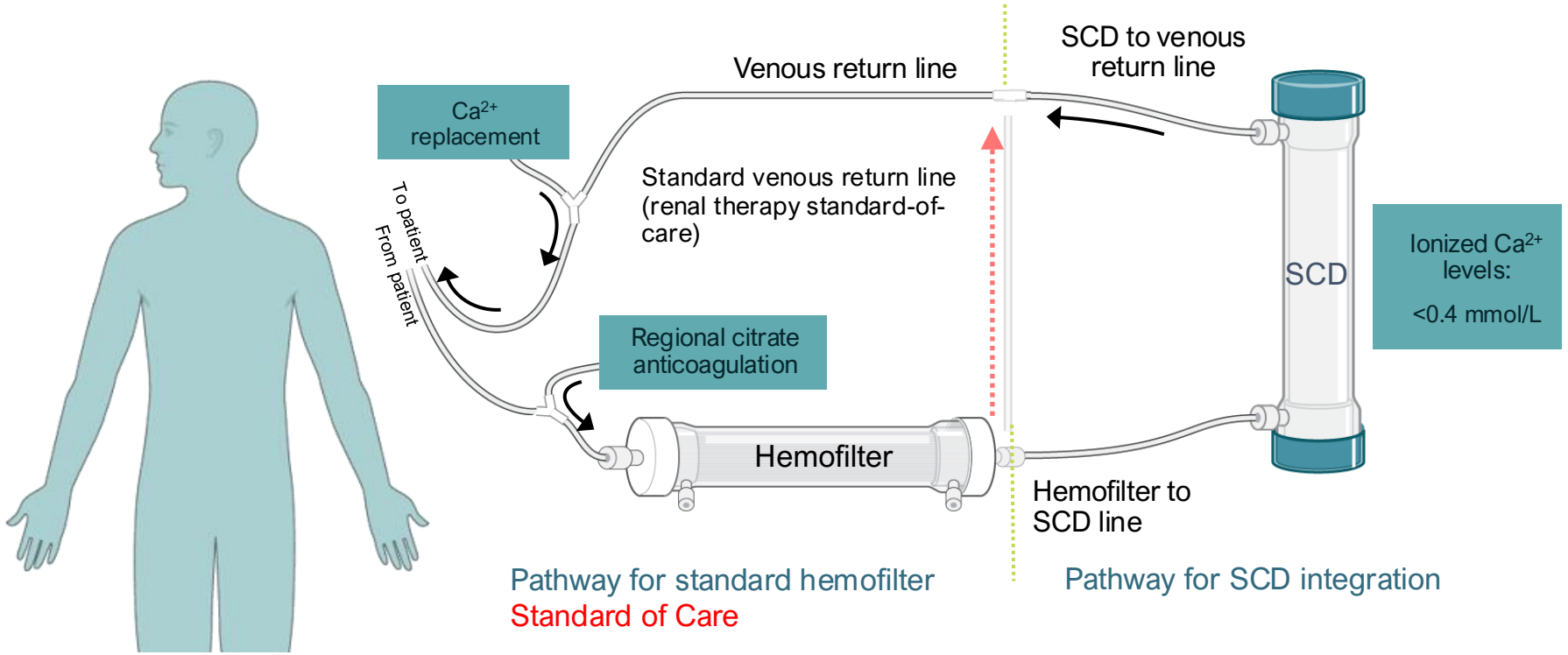
Insult or injury

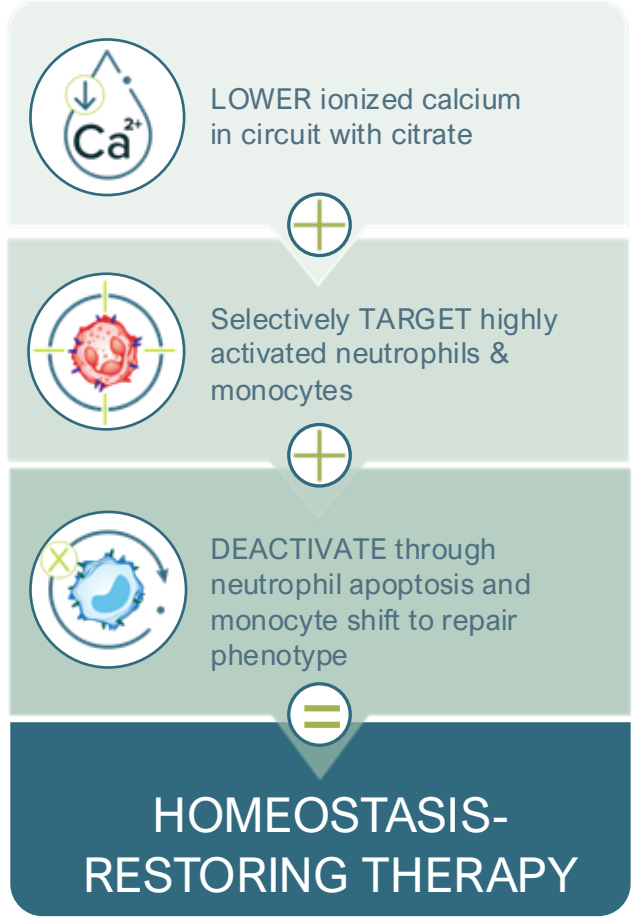
Neutrophil & Monocyte effector cells

Immune response

Increased cytokine production from effector cells and the recruitment of additional leukocytes

Unique mechanism of action of the SCD restores reparative physiology





SCD conveniently connects with existing renal replacement therapy that is widely available in U.S. ICUs today

Launched first commercial product and executing on a robust pipeline

Indication	Investigational	Feasibility study	Pivotal trial	Approved
QUELIMMUNE: Pediatric AKI				Q1'24
Pipeline Indications: *SCD-ADULT indications require minimal to no device modification for new indications*				
NEUTRALIZE-AKI	AKI* – Now over 65% Enrolled			
The NEUTRALIZE-CRS Trial	Cardiorenal syndrome			
End Stage Renal Disease (ESRD)				
Hepatorenal syndrome				
Systemic inflammatory response in cardiac surgery - Adults				
Systemic inflammatory response in cardiac surgery - Pediatric				

Approved under a Humanitarian Device Exemption.*
Launched in July 2024

Awarded **Breakthrough Device Designation** by FDA to provide timely access to medical devices by speeding up development, assessment and review for FDA approval.

* Newsweek article cites AKI as post-operative risk in cardiac surgery
Click here to read more

*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

QUELIMMUNE addresses a high unmet need in pediatric AKI

Despite advances in supportive treatments, pediatric patients with AKI often deteriorate due to untreated hyperinflammation

27%

ICU ADMISSIONS

Overall incidence of acute kidney injury in the pediatric ICU setting[1]

2x

LONGER IN ICU

Patients with AKI stay in the ICU twice as long - 8 days vs 4 days[2]

50%

MORTALITY

For children with acute kidney injury and multi-organ dysfunction requiring continuous kidney replacement therapy[3-5]

≥30%

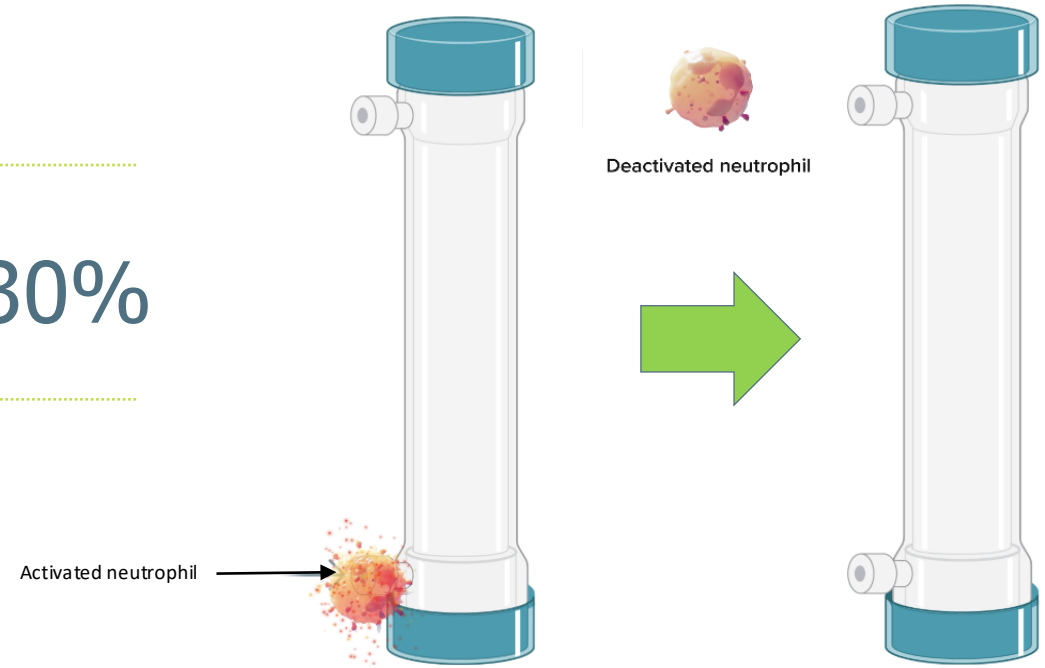
CHRONIC DISEASE

Incidence of chronic kidney disease for pediatric patients with AKI[6]

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 Nephr 2023 (38) Suppl 1:S41.

QUELIMMUNE clinical data supporting FDA approval in pediatric AKI

QUELIMMUNE*		Standard of Care
77%	Survival[1] *At Day 60*	50%
NO	Dialysis dependency[2] *At Day 60 (Post-ICU Discharge)*	10% to 30%
NO	Device-related Immunosuppression, serious adverse events or infections	



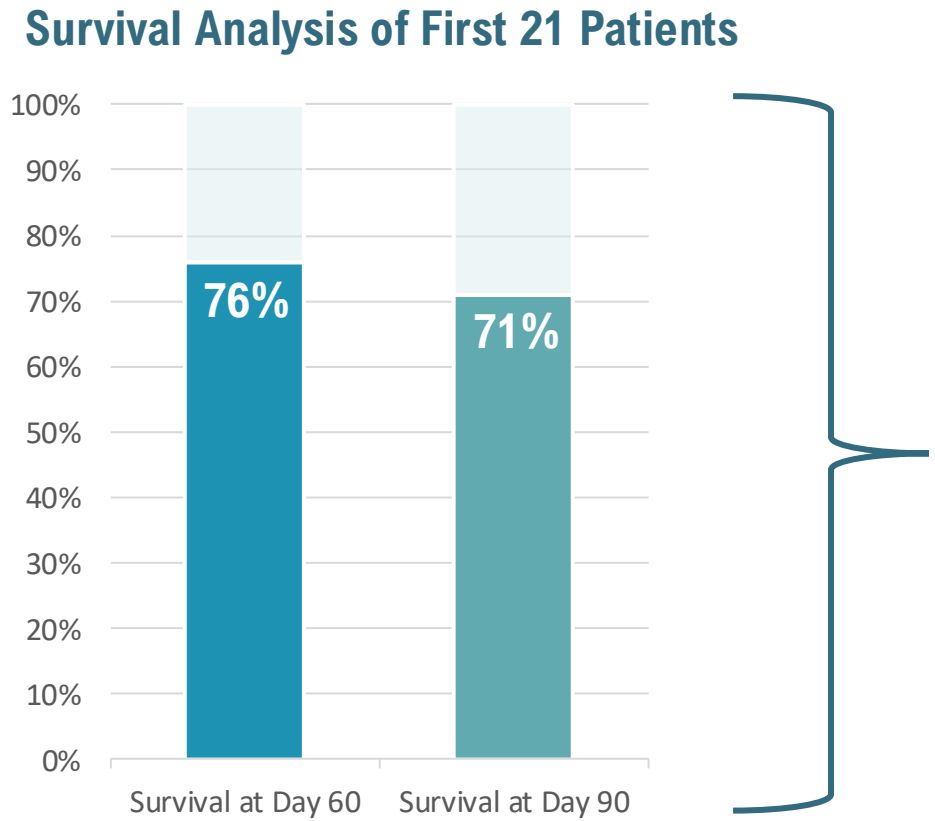
* Pooled data from two clinical trials n=22

1. Goldstein SL, et al. *Kidney Medicine*. 2024; 6(4);100792.
2. Goldstein SL, et al. *Kidney Int Rep*. 2020; 6(3):775-84.

Additional data from the Save Surveillance Registry mirror high survival rates from clinical data

The SAVE Surveillance Registry is assessing the use of the QUELIMMUNE therapy in the treatment of critically ill pediatric patients with life-threatening AKI and sepsis or septic condition requiring Renal Replacement Therapy (RRT)

Data collected from the first 21 pediatric patients in the SAVE Surveillance Registry show **NO device related safety events** with the QUELIMMUNE therapy.



Data are on track to support **a 50% reduction in loss of life** compared to historical data, as reported in Kidney Medicine.

Safety Profile of SCD therapy across 6 adult & pediatric AKI studies

- No device-related infections, immunosuppression or SAEs across >150 patients
- >50% of these patients were septic

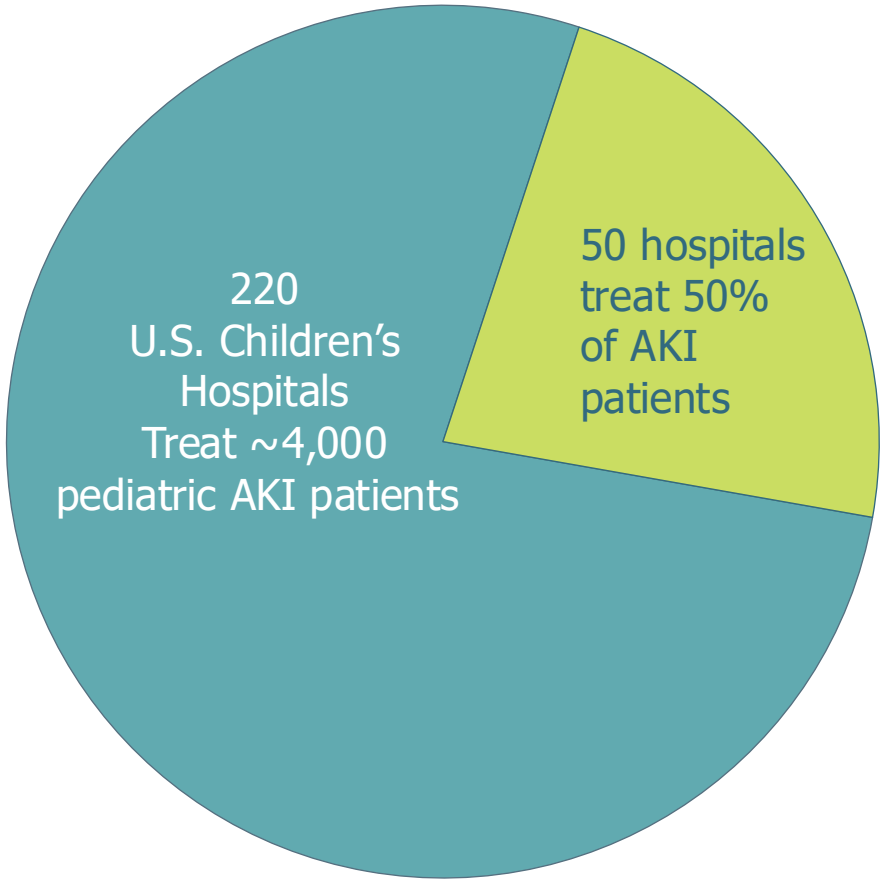
Study # (Descriptor)	# SCD Treated Patients	# SCD Used per Patient (mean)	Total # SCD Used	Total SCD Exposure Time (hours)	# AEs	# SAEs	# Device-Related SAEs	# Device-Related Infections
O-USA Pilot Study	9	3.9	34	816	14	0	0	0
ARF-002 Pilot Study	35	4.3	150	3,508	199	28	0	0
SCD-003	69	5.2	359	8,611	354	80	0	0
SCD-PED-01	16	5	80	1,936	47	12	0	0
SCD-PED-02	6	4.6	28	660	29	6	0	0
SCD-005[1]	22	8.2	181	4,344	70	50	0	0
TOTALS	157	5.3	832	19,875	713	176	0	0

In SCD-005, all but 1 patient had AKI. 1. Humes HD, et al. Crit Care Explor. 2023 Oct 19;5(10):e0995. OUS = outside U.S.

Focused commercial strategy to drive early adoption

Adoption by 20 Top-Tier U.S. Pediatric Children's Hospitals

First product was shipped in July 2024



Key elements of our commercial strategy:

- Focus on top academic sites first to create brand recognition and treatment experience
- Target early adopters: ~20% of top 50 hospitals have prior experience with QUELIMMUNE
- Decouple device use through Human Device Exemption and requirement for Patient Registry participation to enable critical care use when patient presents at the hospital
- Deploy skilled nursing and other experts to sites to ensure smooth transition to adoption of QUELIMMUNE
- Manage all aspects of the sales and distribution process to reduce middleman fees and ensure prompt delivery of product

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

Adoption of QUELIMMUNE by Top-Rated Children's Hospitals

QUELimmune™ (Selective Cytopheretic Device - Pediatric)

Cincinnati Children's®

Lucile Packard Children's Hospital Stanford

Children's℠ Healthcare of Atlanta

children'shealth® Children's Medical Center Dallas

Ann & Robert H. Lurie Children's Hospital of Chicago®

Children's Hospital of Philadelphia®

Cleveland Clinic Children's

Children's National®

DukeHealth

Monroe Carell Jr. Children's Hospital at Vanderbilt

C.S. MOTT CHILDREN'S HOSPITAL MICHIGAN MEDICINE

Texas Children's Hospital®

Norton Children's

CookChildren's®

Phoenix Children's

Children's of Alabama®

musc Children's Health Medical University of South Carolina

UCSF Benioff Children's Hospitals

Seattle Children's® HOSPITAL • RESEARCH • FOUNDATION

QUELIMMUNE provides value to a hospital's bottom line

Results



THE 30TH INTERNATIONAL CONFERENCE ON ADVANCES IN CRITICAL CARE NEPHROLOGY
AKI & CRRT 2025
MARCH 3-6, 2025 SAN DIEGO, CALIFORNIA

Median Modeled Hospitalization Costs: $457,092 (KID Database)
Modeled Hospitalization Costs: $389,451 (ppCRRT group)
Median Length of Stay (LOS): 31 days

Median Hospital Length of Stay (LOS):

SCD-PED:	ppCRRT:
28 days	31 days

Estimated Hospitalization Costs: $320,304 (SCD-PED)
Estimated Savings: $69,146 / hospitalization

SCD-PED Use

Estimated Savings (6 days of therapy):

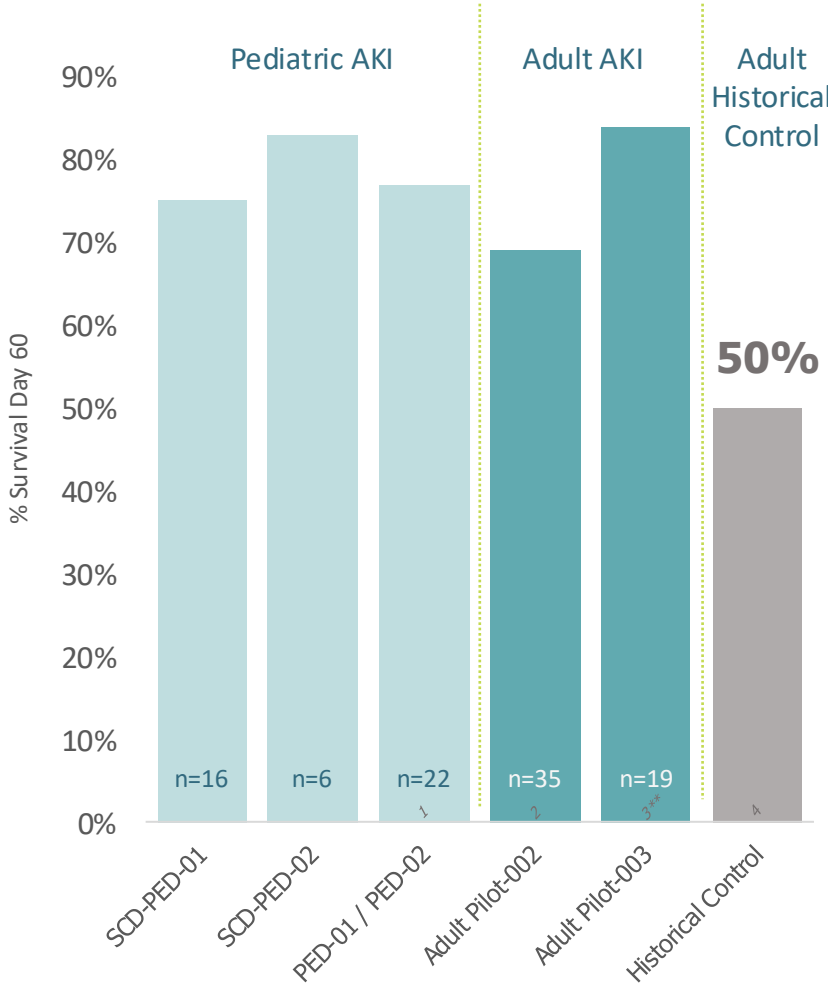


14-18 days of SCD-PED therapy for pediatric patients with AKI and CRRT including those with sepsis, may be afforded without additional cost to the institution, indicating significant cost benefit through modeled reductions in both LOS and mortality.

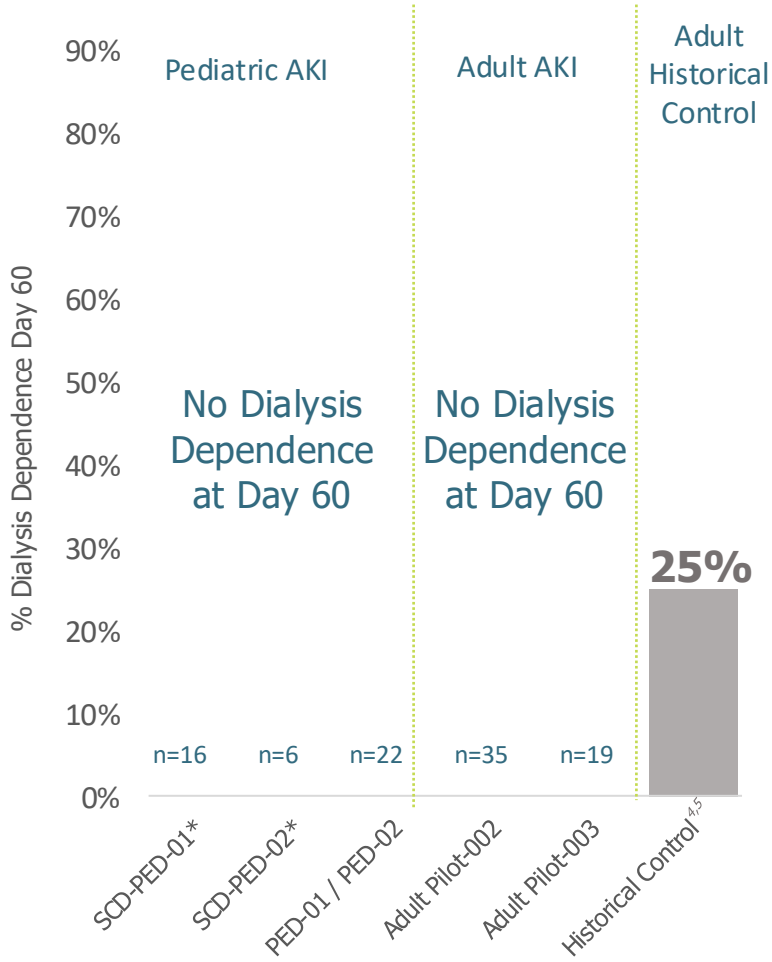
Model Inputs	KID Modeling Dataset Values (N=106)	ppCRRT Controls[1] (Higher LOS and Death Rate) (N=210)	SCD-PED[2] (Lower LOS and Death Rate) (N=22)	
Median Length of Stay (LOS) (days)	31.0	31.0	28.0	
Median Age (years)	12.0	9.5	9.5	
Female	49.1%	45.4%	45.4%	
Percent Died before Hospital Discharge	42.5%	45.2%	22.7%	
Vasopressor Procedure During Hospitalization	24.5%	68.1%	68.1%	
Mechanical Ventilation Procedure During Hospitalization	81.1%	95.4%	95.4%	
Sepsis Diagnosis During Hospitalization	75.5%	68.2%	68.2%	
Expected Hospitalization Cost (inflation-adjusted to April 2024 dollars)	**$457 092**	**$389 451**	**$320 304**	
Cost Difference vs ppCRRT Controls			**$69 146**	
Theoretical Price Points of Each SCD-PED Device			$3750	$5000
Number of SCD-PED Devices Used	0	0	6	6
Expected Hospitalization and SCD-PED Costs (inflation-adjusted to April 2024 dollars)	**$457 092**	**$389 451**	**$342 804**	**$350 304**
Cost Difference vs ppCRRT Controls			**$46 646**	**$39 146**

Adult AKI study outcomes consistent with pediatric studies

Survival at Day 60



Dialysis Dependence at Day 60



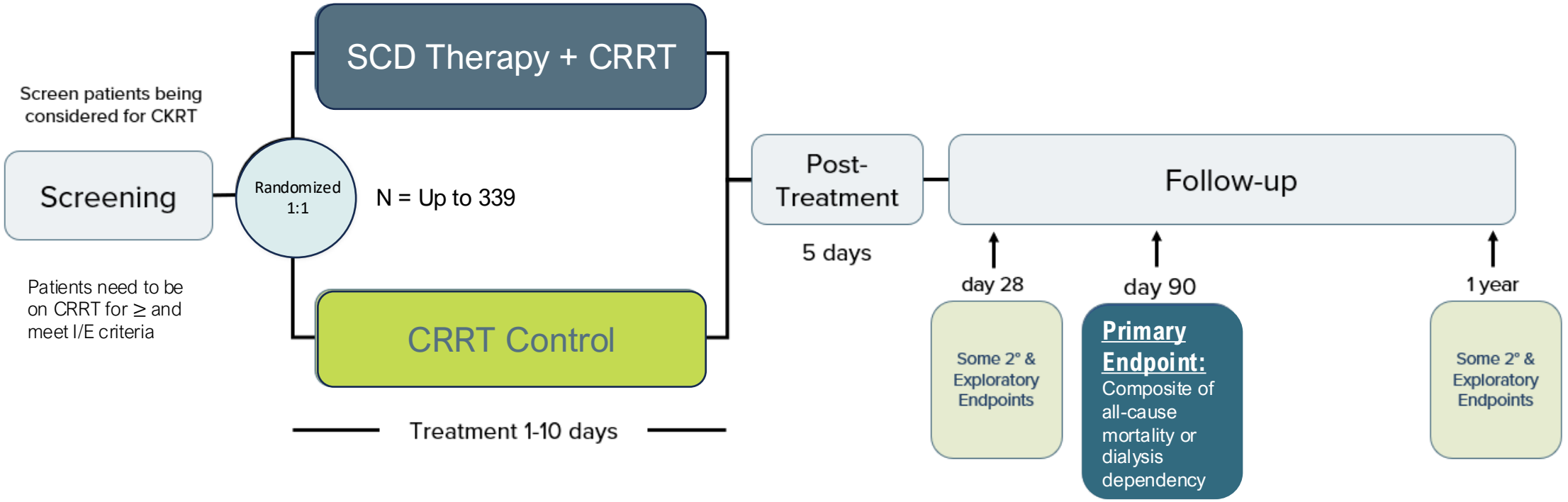
* Of survivors (Day 60 Post-ICU Discharge) 1. Goldstein SL, et al. *Kidney Medicine*. 2024; 6(4);100792 2. Tumlin JA, et al. Semin in Dialysis. 2013;26(5):616-23. 3. Tumlin JA, et al. PLoS ONE. 2015; 10(8):e0132482. **Treated per protocol (iCa in therapeutic range using citrate) 4. Uchino S, et al. JAMA. 2005. 5.Bagshaw SM, et al. Crit Care. 2005.

Pivotal trial underway in adult AKI

NEUTRALIZE-AKI

Trial Objective

Assess the safety & efficacy of SCD in patients with AKI requiring continuous renal replacement therapy (CRRT)



Patient Population

- Adults aged 18-80 in ICU with acute kidney injury ≥ stage 2 requiring CRRT ≥ 12 and ≤ 48 hours
- One additional life-threatening organ dysfunction
- Commitment to maintain current level of care for ≥ 96 hours
- C-reactive Protein > 3.5 mg/dL

NEUTRALIZE-AKI pivotal trial gaining momentum

- 223 of up to 339 subjects enrolled (>65% to date)*
- 20 medical sites activated
- Mix of academic, military, and community hospitals
- CMS reimbursement for Medicare/Medicaid patients
  - Reduces trial costs, increases site activations, and accelerates enrollment
- Final analysis following 90-day endpoint
- Present results at scientific conferences
- Publish results in peer-reviewed medical journal
- Anticipate PMA filing in 2027 with modular filings in 2026 to potentially speed approval process

University of Cincinnati

Methodist Hospital Main

Brooke Army Medical Center

University of Iowa Hospital

Methodist Hospital Metropolitan

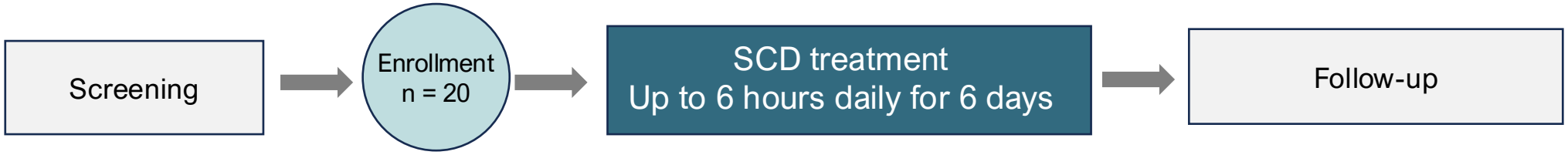
*As reported on 8/12/26

Third potential indication for patients with chronic systolic heart failure awaiting LVAD* or heart transplant

The NEUTRALIZE-CRS Trial

Trial Objective

Assess the safety & efficacy of SCD patients with chronic systolic heart failure complicated by cardiorenal syndrome (CRS) who are not candidates for heart transplant or even LVAD



Study Goals

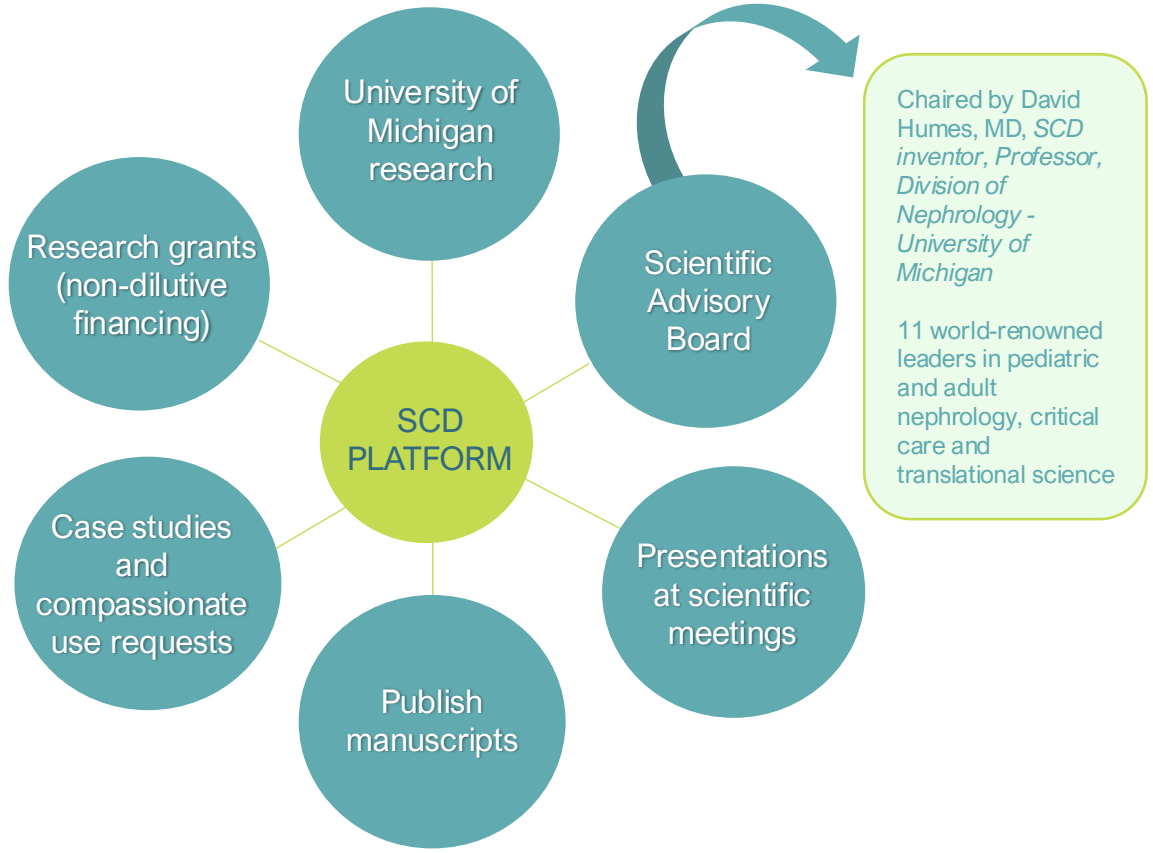
- Demonstrate improvement in renal and cardiac function to enable LVAD implantation or heart transplant
- Demonstrate the feasibility of intermittent therapy for use in outpatient settings – encompassing a broad range of chronic hyperinflammatory diseases
- File for FDA Humanitarian Device Exemption approval, pending positive study outcome

* Left ventricular assist device

SCD pipeline – approach to clinical development:

Scientific, cost-effective, medical-community focused

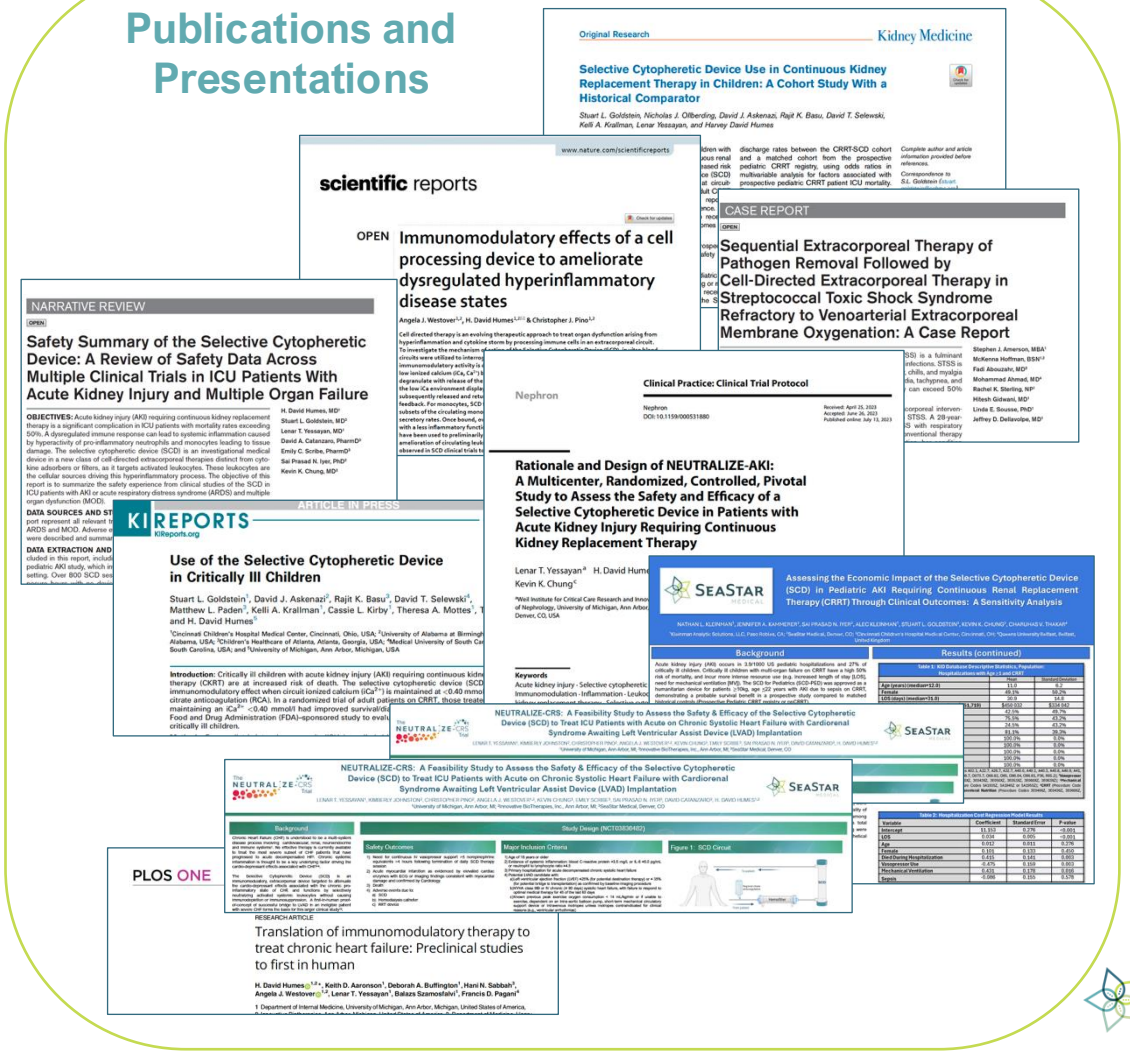
Engage and Drive the Science



Chaired by David Humes, MD, *SCD inventor, Professor, Division of Nephrology - University of Michigan*

11 world-renowned leaders in pediatric and adult nephrology, critical care and translational science

Publications and Presentations



Seasoned, dynamic leadership



ERIC SCHLORFF

CEO and Board Member



MIKE MESSINGER

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

AMGEN

ContraFect
MOLECULAR TREATMENTS FOR INFECTIOUS DISEASE

DOW

VIFOR PHARMA

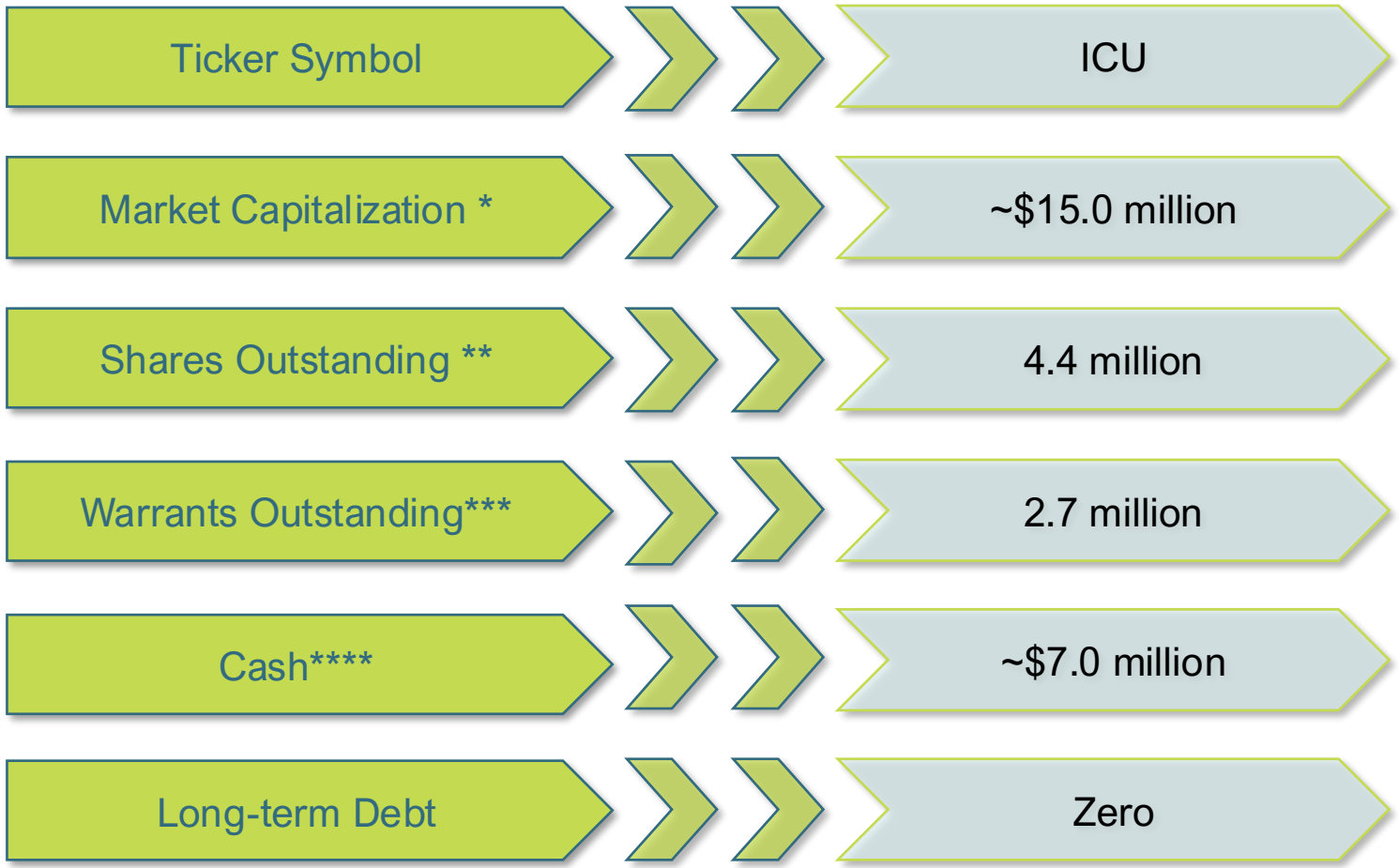
CHINOOK THERAPEUTICS

Lexicon

INTERMUNE

USU
Uniformed Services University

Capital structure and financial position



* Based on recent share price
** Approximate shares outstanding 8/12/26 and reflects a 10-for1 reverse stock split on 1/5/26
*** Approximate warrants outstanding 8/12/26, WA exercise price of $84.02 per share
****as of 6/30/2026

Catalysts to drive value creation

2024

- Awarded FDA Breakthrough Designation for Chronic Dialysis
- QUELIMMUNE FDA approval for pediatric acute kidney injury
- QUELIMMUNE commercial product launch
- CMS coverage for adult AKI trial costs
- $3.6 million NIH grant for severe cardiorenal syndrome

2025

- QUELIMMUNE launch expansion: 10 hospitals ordering product
- Expanded clinical sites to 17 to maximize NEUTRALIZE-AKI pivotal trial enrollment
- Initiated feasibility trial in cardiorenal syndrome
- Breakthrough Device Designation for 2 new indications, for a total of 6

2026

- Add 15 new customers to the QUELIMMUNE customer base
- Complete enrollment in NEUTRALIZE-AKI pivotal trial around YE ’26 / Q1’27
- Advance clinical development of SCD therapy in chronic heart failure
- Apply for FDA approval pathways that enable more rapid paths to commercialization



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Stop organ failure Save lives	Expand indications and areas of treatment	Maximize market penetration	Drive stakeholder value
Destructive hyperinflammation leads to organ failure and loss of life	FDA Breakthrough Device Designations awarded for both ICU and clinical settings	First and ONLY therapy to neutralize destructive hyperinflammation	High gross profit margin and efficient commercialization strategy
Our SCD therapy has demonstrated ability to preserve organ function and save lives	Our SCD therapy is agnostic to disease state	Our SCD therapy is protected by 34 U.S. and foreign patents	Our SCD therapy has pharmaceutical margins and concentrated markets

Investment Highlights

Best-in-class technology

- Clinically proven to reduce mortality
- Health Care Economics establishes dramatic cost reductions versus standard of care
- Patented, proprietary SCD platform (*34 U.S. and foreign issued patents)*

Commercializing first indication

- FDA approval for pediatric acute kidney injury with sepsis in 2024
- QUELIMMUNE™ (SCD-PED) being adopted by foremost children's hospitals
- Continuing launch expansion into top 50 pediatric hospitals
- Derisks future FDA approvals

NEUTRALIZE-AKI pivotal trial in progress

- Achieved 223* of 339 patients enrolled in the NEUTRALIZE-AKI pivotal trial
- Reported positive interim analysis of first 100 patients: efficacy signal and trial continuation of up to 339 patients
- CMS coverage for a portion of trial costs
- Adult AKI population 50x larger than pediatric

Multibillion-dollar market

- Potential application in multiple billion dollar acute and chronic indications
- Patented SCD therapy with same Mechanism of Action for multiple indications



* As reported on 8/12/26

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August 2026

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Nasdaq: ICU

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