



Public-Private Partnerships for Global Access in LMICs

ASGCT Annual Meeting

Session: Enabling Access for CGT: From Sharing Innovation to Global Dissemination

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May 15, 2026



*NO relevant financial disclosures.

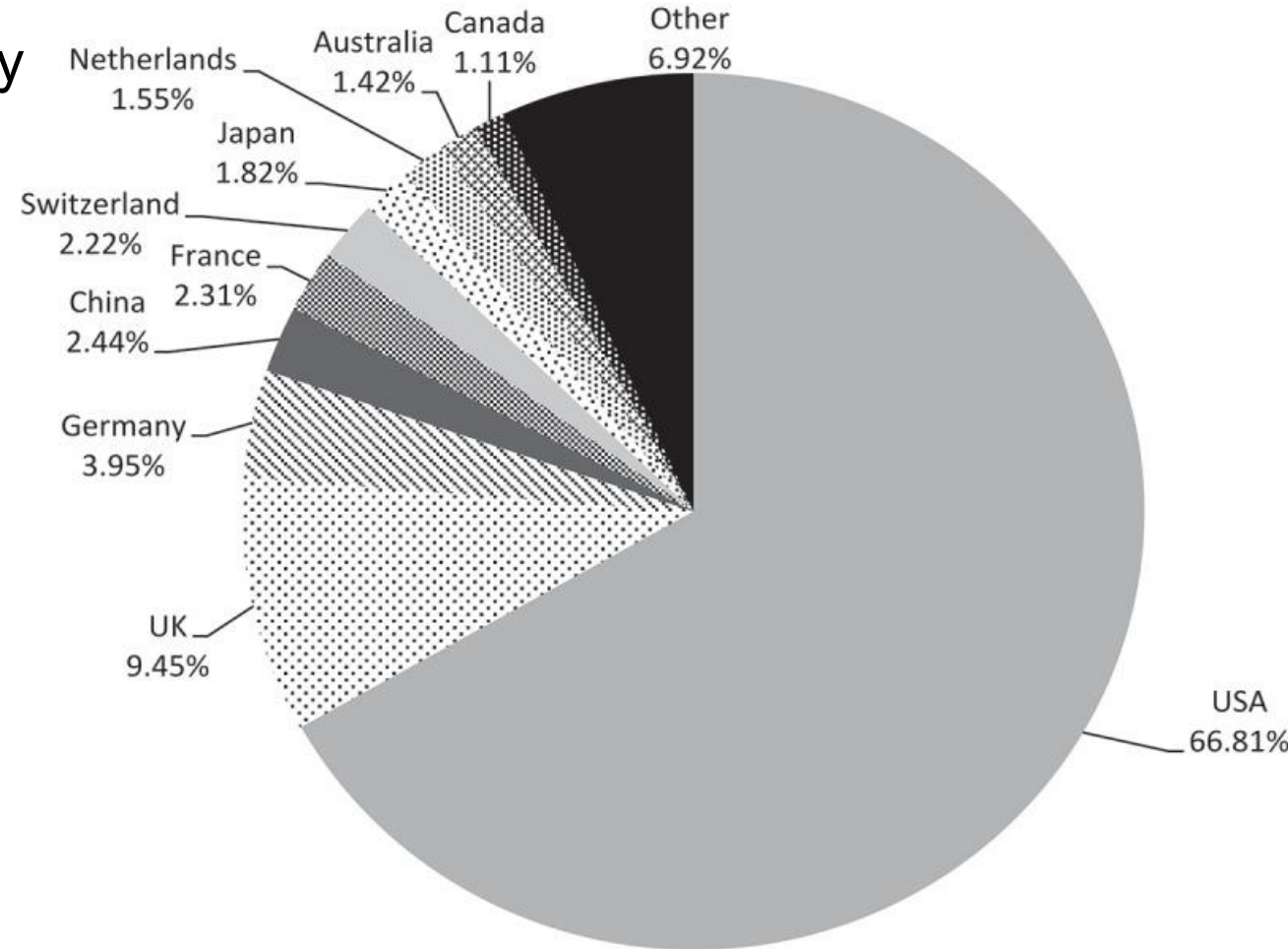


“The only thing more disheartening than being told you have a chronic disease that cannot be treated is being told you have a chronic disease for which there are cures available, but these treatments are not available to you.”

*~Elizabeth Merab, Nation Media Africa Public Health
Journalist and Global Universal Health Coverage
Journalism Awardee
October 10, 1991 – July 15, 2023*

The Expanding Global CGT Landscape (Q1 2026)

- **40** cell and gene therapies **approved** globally
- The U.S. leads with over 25 approved products
- **4,200** gene therapies currently in preclinical and clinical development
- CGT development pipeline continues to expand at **~6–7%** annually



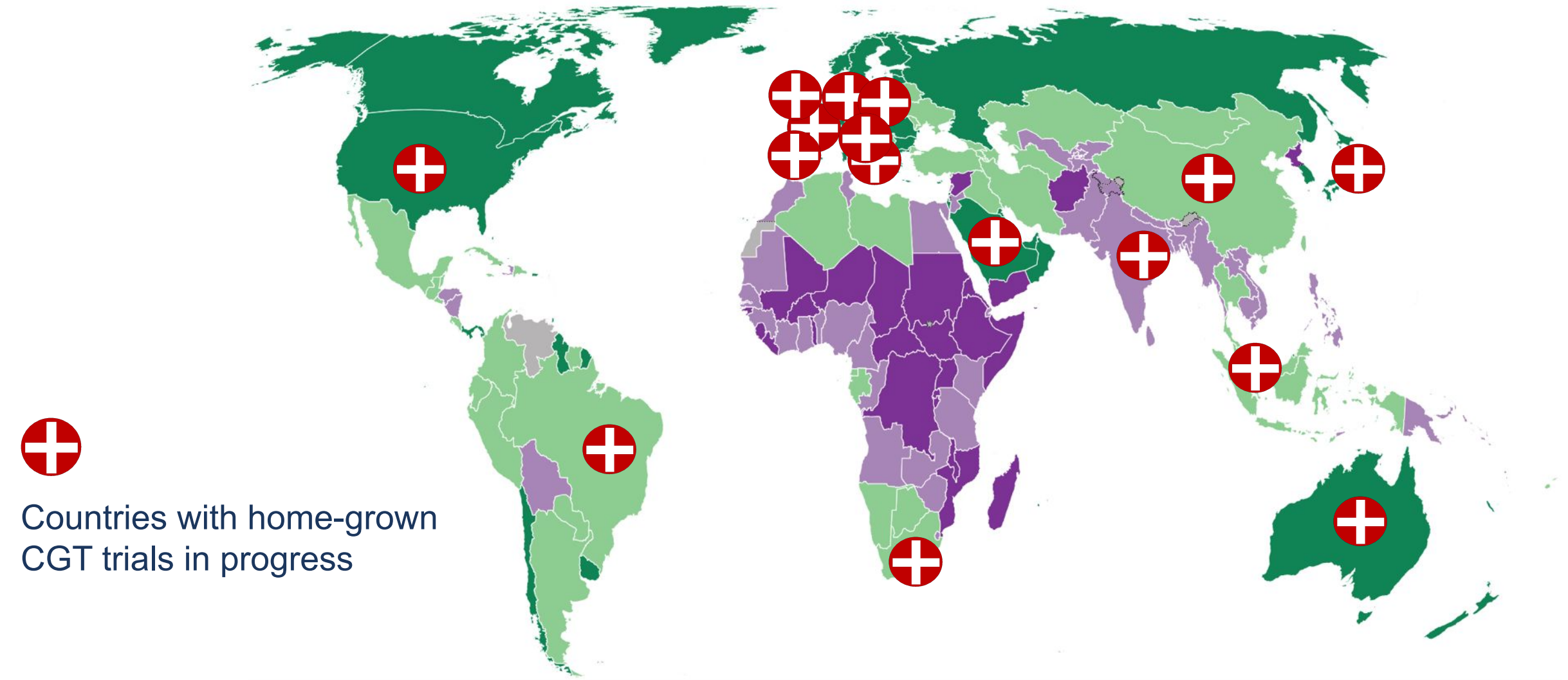
Distribution of gene therapy trials by country

Gene therapies development: slow progress and promising prospect. Hanna E, et al. J Mark Access Health Policy, 2017



Gene, Cell & RNA Therapy
Landscape Report

A Truth: LMICS Have Been Left Out of The CGT Development Pipeline



Countries with home-grown CGT trials in progress

Low income Lower middle income Upper middle income High income

<https://datatopics.worldbank.org/world-development-indicators/the-world-by-income-and-region.html>

The Global Access Challenge in Cell & Gene Therapy

- Cell and gene therapies (CGTs) are transforming treatment paradigms for genetic, hematologic, infectious, and malignant diseases
- Despite scientific advances, **>90%** of global CGT clinical development and manufacturing infrastructure remains concentrated in **high-income countries**
- **LMICs face barriers** including cost, regulatory gaps, workforce limitations, and insufficient manufacturing infrastructure
- **Public/private partnerships** are essential to democratize innovation and expand equitable access

REBSPA

”the Right of
Everyone to
Enjoy
the Benefits of
Scientific
Progress and
its
Applications”

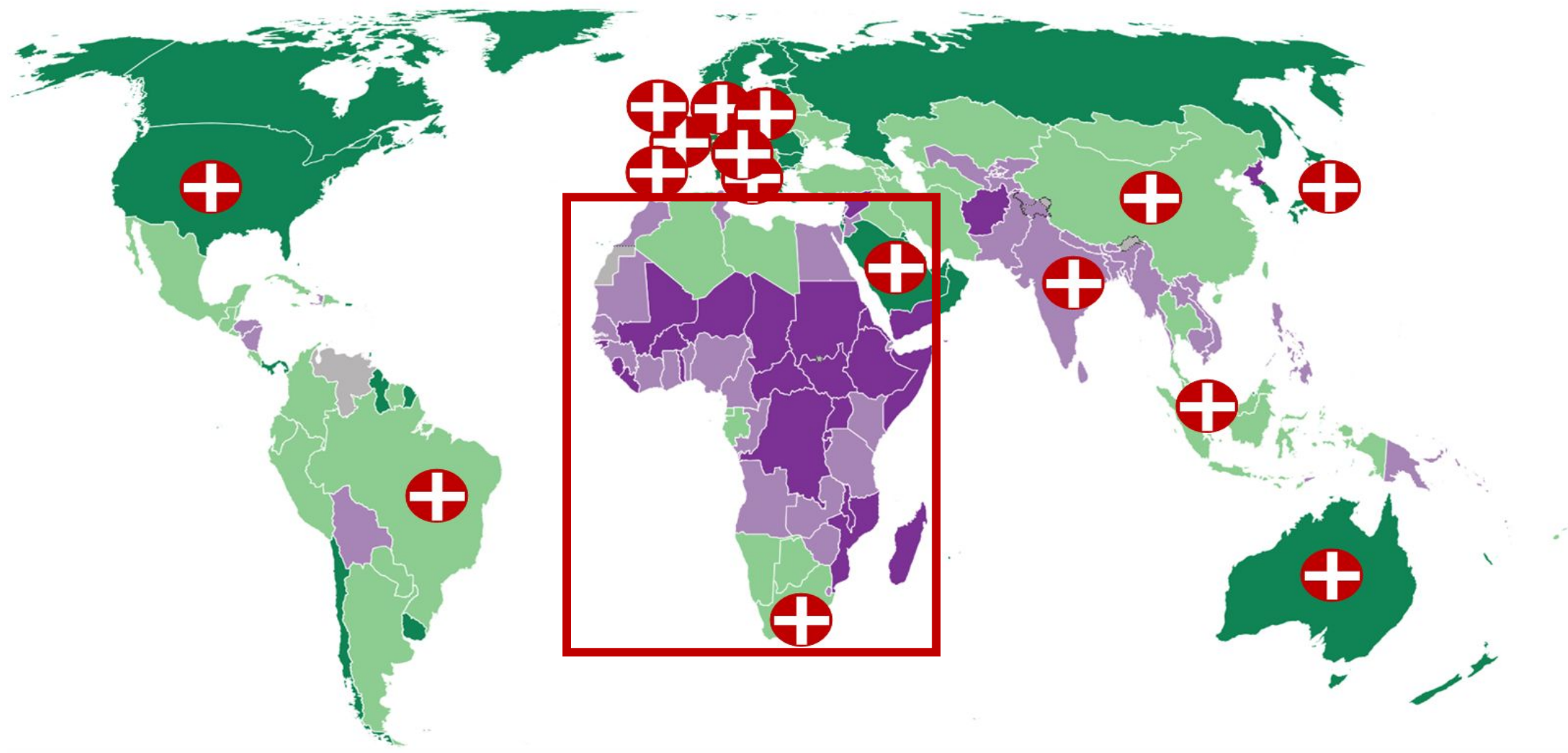


Article 15(1)(b)
International Covenant on
Economic, Social and
Cultural Rights



UNITED NATIONS
HUMAN RIGHTS
OFFICE OF THE HIGH COMMISSIONER

A Focus on Africa



Why Africa Matters for Global CGT Expansion

- Most diverse human genomes
- Sub-Saharan Africa accounts for **~65%** of global HIV burden ([UNAIDS 2024](#))
- **~300,000–400,000** infants born annually with sickle cell disease in Africa. Accounts for **~75%** of the Global SCD burden ([WHO 2025](#))
- Cancer incidence in Africa projected to exceed **1.4 million new cases/year** by **2040** ([The Lancet Oncology Commission report, 2022](#))
- **60%** of Africa's population is **under age 25**, creating a large future scientific workforce ([Africa CDC Youth Program 2023](#))
- Regional CGT manufacturing and regulatory ecosystems can reduce dependence on imported therapies
- Opportunity to build scalable, affordable, and sustainable CGT models for LMICs

What Are Public–Private Partnerships (PPPs)?

Collaborative models that unite:

- Governments and public health agencies
- Academic and research institutions
- NGOs and philanthropic organizations
- Biotechnology and pharmaceutical companies

To share:

Risk , Funding, Technical expertise, Manufacturing capacity,
and Distribution infrastructure

Goal: To solve complex global health challenges

PPPs Are Critical for CGT in LMICs

Lowering Cost and Improving Affordability

- Shared investment reduces financial risk and development costs.
- Supports:
 - Tiered pricing models
 - Technology transfer
 - Regional manufacturing hubs
 - Non-profit or access-oriented commercialization pathways



Accelerating Innovation for High-Burden Diseases

- Enable development of CGTs for diseases disproportionately affecting LMICs: Sickle cell disease (SCD), HIV, Hemophilia, and Rare genetic disorders
- Reduce barriers to early-stage translational research and clinical development.

Goal: Move CGTs from “million-dollar therapies” toward scalable global access.

**The JCRC Model:
Building CGT Access from the Ground Up in Africa**



A First-time CGT Site in Uganda



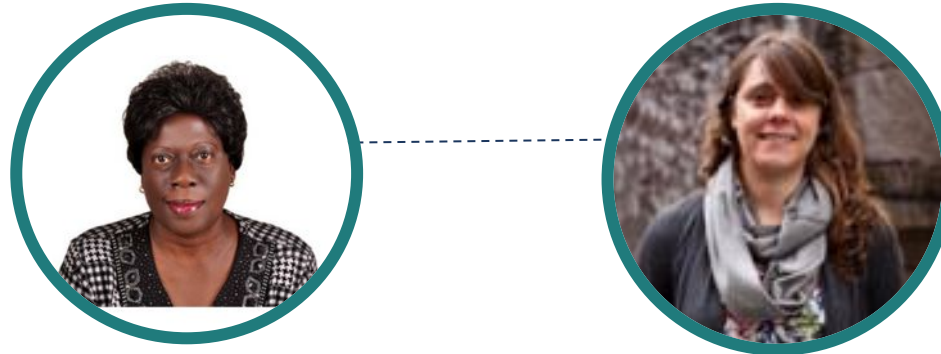
- Located in Kampala, Uganda
- Established in 1991 as a leading Ugandan center for HIV clinical care, research, and training
- Advancing toward becoming one of the first clinical cell and gene therapy (CGT) sites in Uganda

A First-time CGT Site in Uganda



- Established apheresis capabilities supporting advanced cellular therapy workflows
- Operational red blood cell exchange programs demonstrate procedural readiness for cell-based therapies
- Expanding translational research, laboratory, and clinical capacity to support future CGT implementation in East Africa

The phone call that started it all



Article | [Open access](#) | Published: 20 October 2016

Semi-automated closed system manufacturing of lentivirus gene-modified haematopoietic stem cells for gene therapy

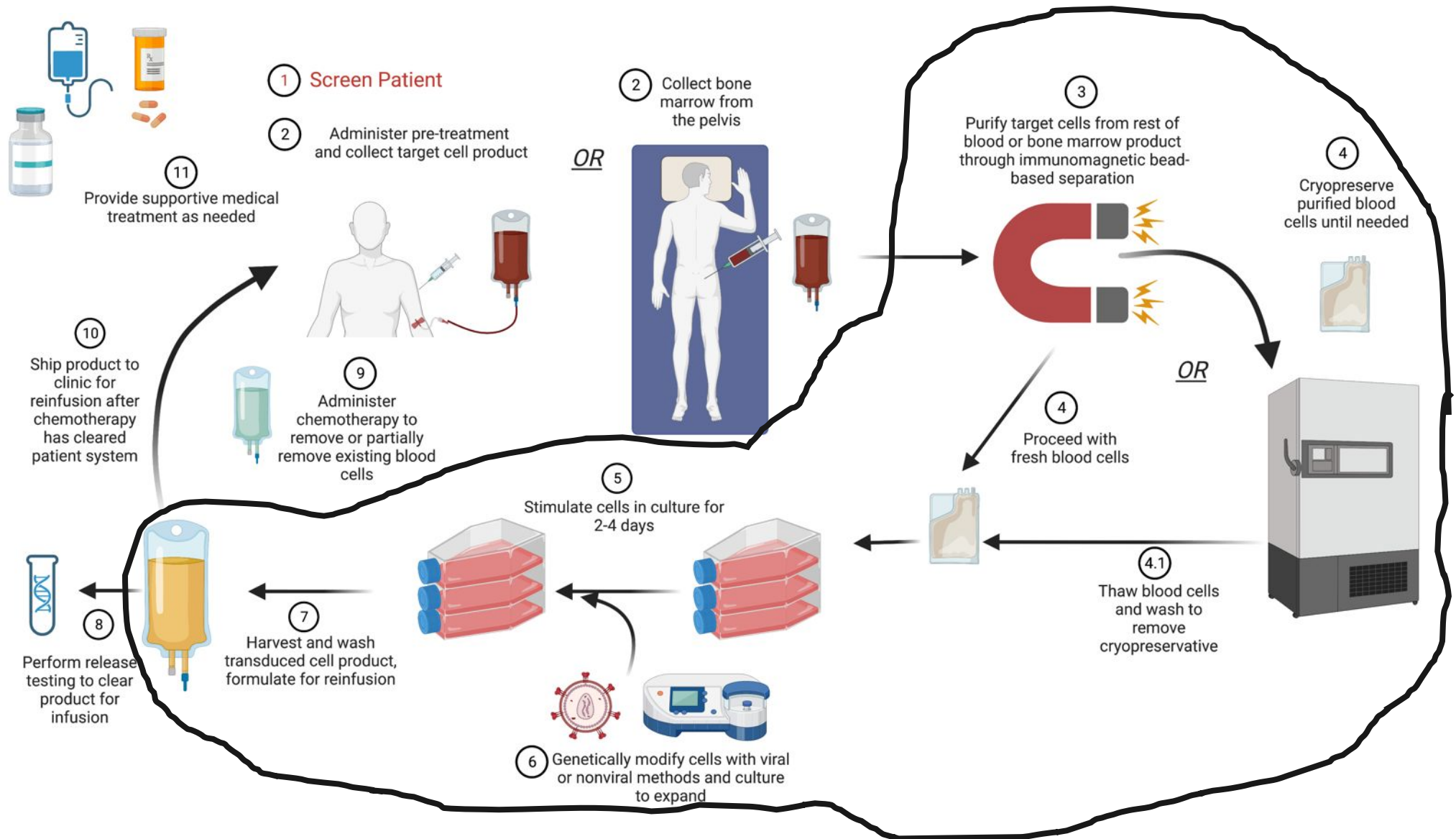
[Jennifer E. Adair](#) , [Timothy Waters](#), [Kevin G. Haworth](#), [Sara P. Kubek](#), [Grant D. Trobridge](#), [Jonah D. Hocum](#), [Shelly Heimfeld](#) & [Hans-Peter Kiem](#)

[Nature Communications](#) **7**, Article number: 13173 (2016) | [Cite this article](#)

9833 Accesses | **32** Citations | **117** Altmetric | [Metrics](#)

CGT are complicated to make and a Key Cost Driver

International
Standards
Organization
(ISO) Class 5
Clean Room



One machine which can do steps 3-7 under ISO Class V conditions



Adair, J.E. *et al.*, *Nat. Comm.* 2016 7, 13173 <https://doi.org/10.1038/ncomms13173>

2020: The Global Gene Therapy Initiative is founded with >100 Members Across 5 continents



<https://caringcross.org/global-gene-therapy-initiative/>

Our International community advisory board (iCAB)



Michael Louella
Project Manager,
defeatHIV Community
Advisory Board



Olabimpe Olayiwola
Case Western Reserve
University



Moses Supercharger
Joint Clinical
Research Centre
Community Advisory
Board



Evelyn Harlow Mwesigwa
Program Officer, Uganda
MoH; Director, Sickle
Cell Network Uganda



Adam Castillejo
Ambassador of Hope
The London Patient



Lynda Dee
Attorney
Founder: AIDS
Action Baltimore



Elizabeth Merab
Science and Medicine
Journalist,
SCD Patient
Nation Media Africa



Gautam Dongre
Secretary, National
Alliance of Sickle Cell
Organizations, India



Jeff Sheehy
Consultant
Former CIRM Executive
Board
District 8 Representative,
San Francisco



Simon Collins
HIV i-Base, UK CAB,
IAS Advocate



Frankline Onchiri, PhD
Seattle Children's
Therapeutics Network
Development Coordinating
Center



Rae Blaylark
Executive Director, Sickle
Cell Network of
Minnesota

Four Key Areas Of Parallel Effort Needed For CGT Development In Any Area

Community Outreach & Education



Adoption

Clinical Readiness & Implementation



Training & Capacity-building

New Technology Development



Sustainability

Regulation & Policy



Infrastructure for Commercialization

[nature](#) > [gene therapy](#) > [review articles](#) > [article](#)

Review Article | [Open Access](#) | [Published: 08 September 2021](#)

Towards access for all: 1st Working Group Report for the Global Gene Therapy Initiative (GGTI)

[Jennifer E. Adair](#) , [Lindsay Androski](#), ... [Boro Dropulić](#)  [+ Show authors](#)

[Gene Therapy](#) (2021) | [Cite this article](#)



Bringing patients together



Adam Castillejo (a.k.a. The London Patient)

(photo credit: Andrew Testa, The New York Times)



Jimi Olaghere: 4th patient to receive CTX-101

(photo courtesy of MIT Review)



Moses Supercharger and the Stigmaless Band (Stigmaless Television on YouTube)

@stigmalesstelevision6702



SCD Advocate Evelyn Mwesigwa Harlow and HIV Advocate Moses Supercharger



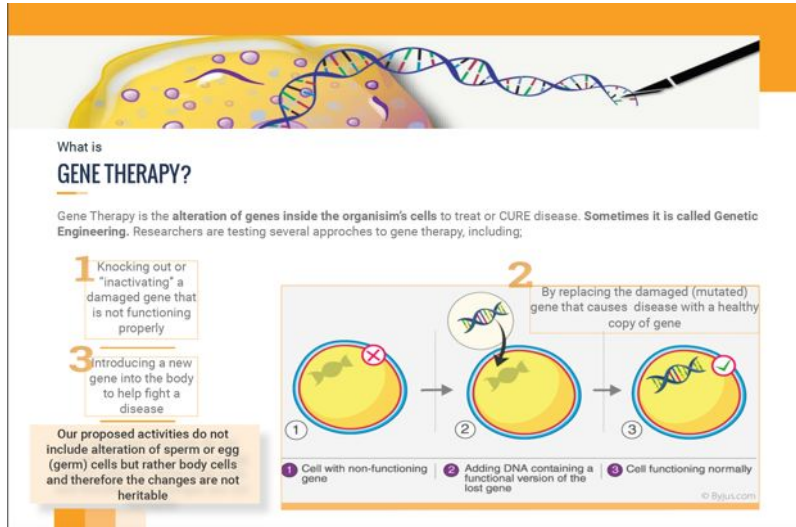
Community Outreach & Education



Adoption

Bringing science to the community

Gene Therapy Guide for Public and Media
(now translated into three languages)



Photos courtesy of Moses Supercharger

Community Outreach
& Education



Adoption

Elevating patient voices in scientific circles

SCIENCE TRANSLATIONAL MEDICINE | **VIEWPOINT**

GENE THERAPY

Nothing about us without us: Advocacy and engagement in genetic medicine

Olabimpe Olayiwola¹, Adam Castillejo², Michael Louella³, Moses Supercharger⁴, Evelyn Harlow⁵, Lynda Dee⁶, Khadidja Abdallah⁷, Cissy Kityo-Mutuluuza⁵, Jennifer E. Adair⁸, Rimas Orentas⁹, Karine Dubé^{10,11*}

The development of new genetic medicines to treat sickle cell disease highlights the need for greater collaboration between researchers and people with lived experiences. Drawing on the adage “Nothing about us, without us,” we call for increased investments in community advocacy and engagement.

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COMMENT | 17 July 2024

nature

Make gene therapies more available by manufacturing them in lower-income nations

Gene therapies will become more affordable everywhere only if they are developed and manufactured in the regions of the world most in need of them.

By [Evelyn Mwesiwa Harlow](#) ✉ & [Jennifer E. Adair](#) ✉



Community Outreach
& Education



Adoption



Decentralized, automated manufacturing processes enable T cell immunotherapy in LMICs

(VELCART trial)

Dr. Vikram Mathews
Christian Medical
College Vellore, India

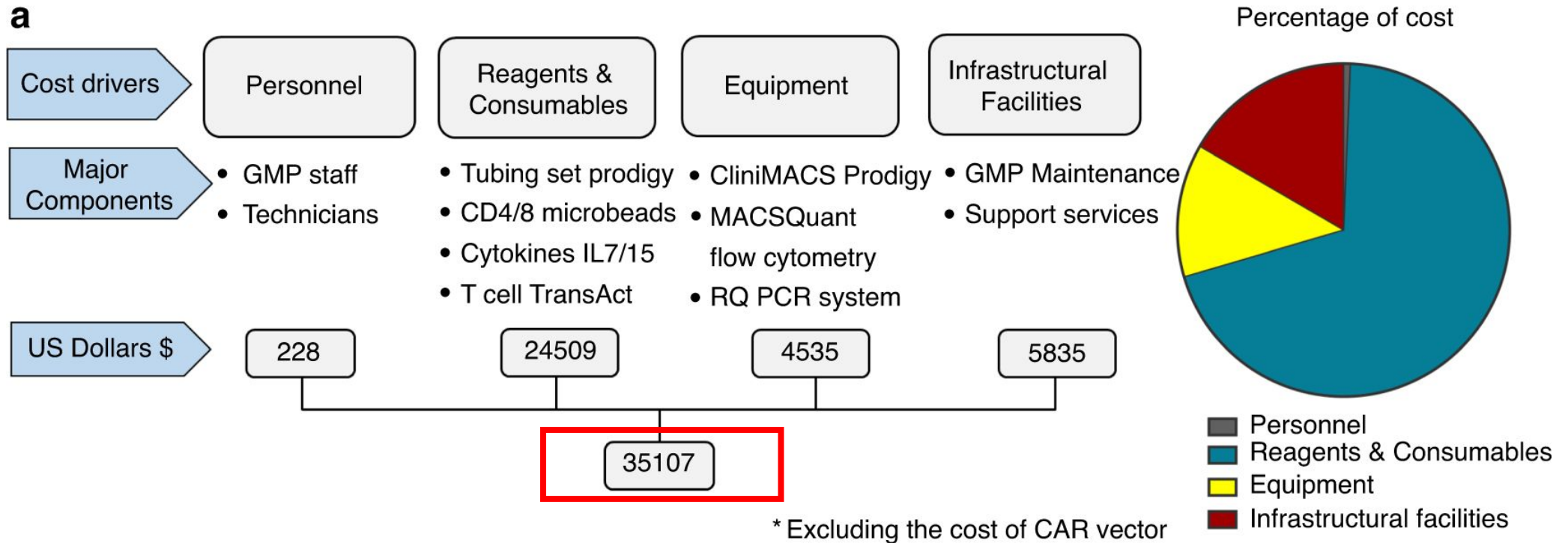
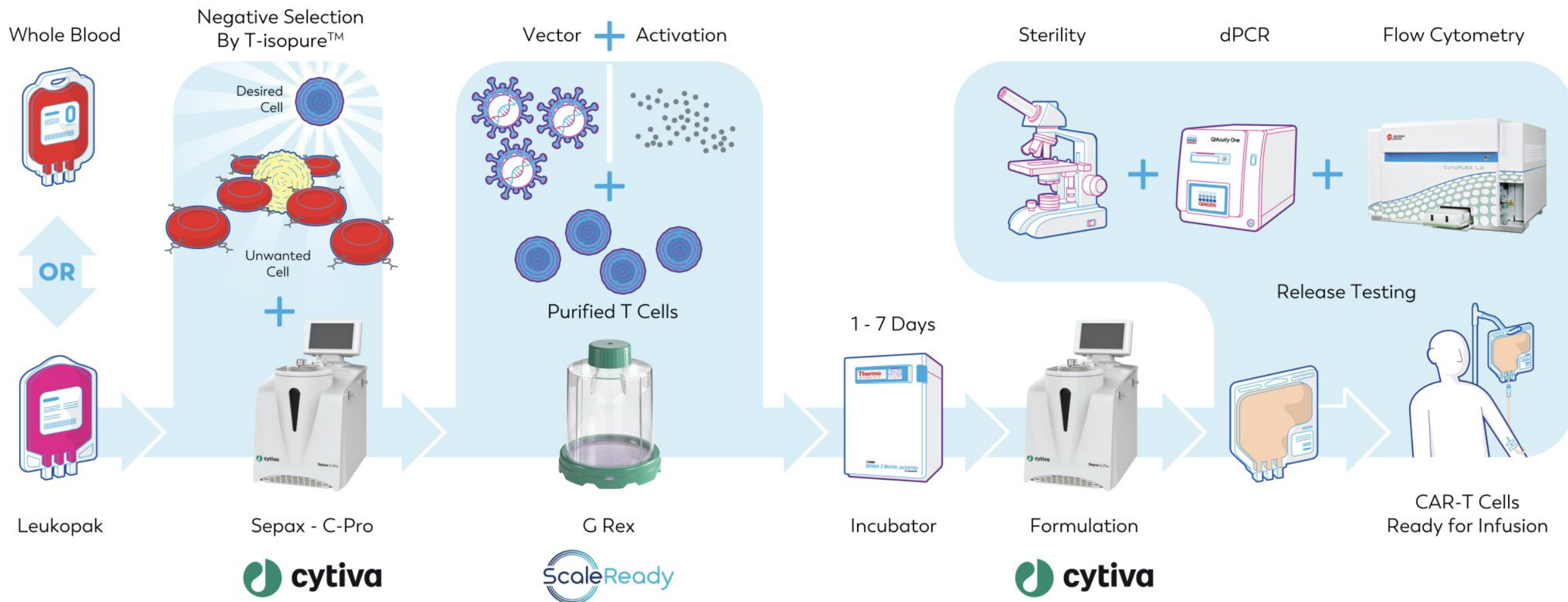


Figure adapted from Palani H., *et al. Bone Marrow Transplant* (2023)

Proposed minimal workflow for ex-vivo lentiviral transduction of HSPCs/T cells



o^otrenchant



Training the 1st generation of Ugandan CGT researchers

New Technology
Development



Sustainability

Clinical Readiness &
Implementation



Training &
Capacity-building



Dr. Rachel Bakyayita Kyeyune, MD,
INVENT Fellow, Seattle Children's
Research Institute

ASGCT 2025: Abstract AMA1757
A Novel Hybrid Lentiviral Envelope Pseudotype
for the Efficient Transduction of Hematopoietic
Stem and Progenitor Cells with Minimal
Manipulation

Bayigga, L. and Kyeyune, R. *et al.*, (2026)
Manuscript in preparation



Dr. Lois Bayigga, PhD, Joint Clinical
Research Centre

A D43 GRANT AWARD - PAR-22-151



New Technology
Development



Sustainability

Clinical Readiness &
Implementation



Training &
Capacity-building

Leveraging North-South Partnerships to Advance Cell and Gene Therapy for HIV Research Training Capacity in Uganda (CGT-Uganda)

The goal of this program is to develop sustainable research capacity for
HIV-CGT at three leading medical institutions in Uganda

Joint Clinical Research Centre (JCRC), Mbarara University of Science
and Technology (MUST), and Makerere University (Mak)

Program Directors: Dr. Cissy Kityo & Prof. Jennifer Adair

Training the 1st generation of Ugandan CGT researchers



PhD Fellow

Carolyne Atugonza

RESEARCH PROJECT

Targeting the HIV Reservoir using
3BNC117 + 10-1074 DuoCAR T
Cells: A Translational Ex Vivo
Evaluation



PhD Fellow

Drake Byamukama

RESEARCH PROJECT

Developing a Multiplexed CRISPR-
Cas12b Genome Editing Platform
for the Functional Elimination of
Ugandan HIV-1 Reservoirs



MSc Fellow

Lawrence Nsabiyumva

RESEARCH PROJECT

In Silico Design of Bi-specific
Chimeric Antigen Receptor Binding
Sites with Broad-Spectrum
Targeting of HIV-1 Subtypes A1, D,
and A1D Circulating in Uganda



Dr. Gertrude Kiwanuka, MSc., PhD
Associate Professor,
Mbarara University of Science and
Technology (MUST)



Dr. George Ssenyange, MD,
Research Scientist
Joint Clinical Research Centre

Training the 1st generation of Uganda CGT clinicians

Clinical Readiness &
Implementation



Training &
Capacity-building

JCRC clinical staff observed 1st patient infused with
LVgp120duoCAR-T cells at the University of California, Davis
(NCT04648046)



Collaborating across international regulatory bodies to ensure development viability



Regulation & Policy



Infrastructure for
Commercialization



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH



Win: 1st Organ Transplant Bill passed parliament in March 2022

Win: Parliament to review a Biotechnology Policy governing genetic editing for both human health and agriculture at the direction of the President

Win: International WHO named Uganda test case for implementation of governance infrastructure for CGT

Business as usual in the U.S. identifies clear winners, AND opportunities for LMICs



BIOPHARMA **DIVE**

Deep Dive

Library

Events

Topics ▾

Sickle cell pipeline narrows as gene therapy developers rethink research plans

Graphite Bio and Sangamo are stopping work on their respective gene therapies, while Intellia revealed partner Novartis has ended development of its genetic treatment for the blood disease.

Published Feb. 23, 2023



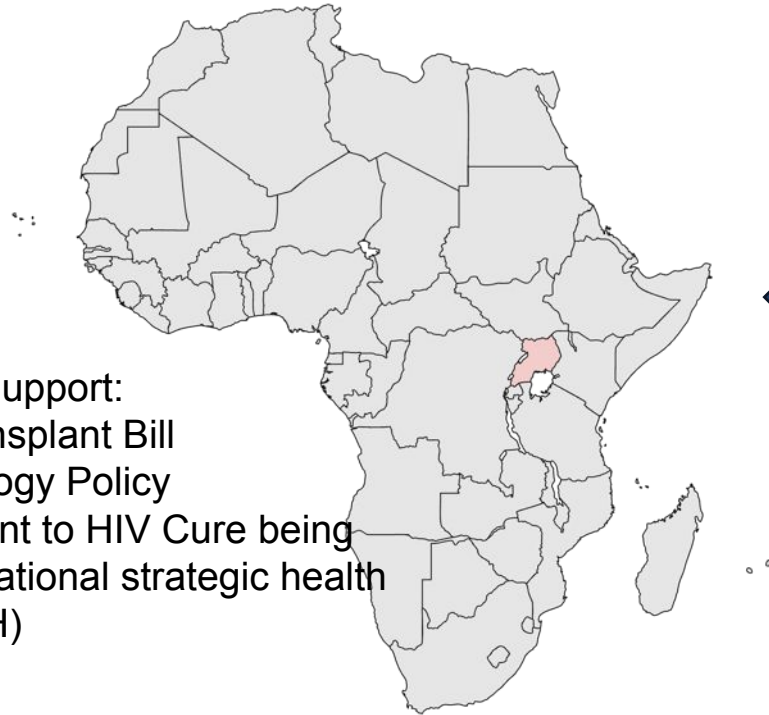
[Ned Pagliarulo](#)

Lead Editor



Uganda's HIV Population and Interest is Ideal USA's Technology and Knowledge is Ideal

Uganda



United States



Knowledge Transfer



Government Support:

- Organ Transplant Bill
- Biotechnology Policy
- Commitment to HIV Cure being added to national strategic health plans (MoH)

Research Support:

- Abandoned therapeutic pipelines create opportunity for technology transfer to 'leapfrog'

1.4M PLWIH
860,000 Women
80,000 Children

↑ Genetic diversity
↑ Biologic diversity
↑ Viral diversity
↑ Economic need

1.2M PLWIH
269,000 Women
1,700 Children

↑ Advanced technologies
↑ Economic capability
↑ Translational capacity

Uganda + United States = Research Partnership with Short – and Long-term ROI



Outcomes for both nations:

- Robust HIV cure approaches with potential for global impact
 - Guidance for US
 - Low-cost development
 - Experience in rural implementation
- Reduced international aid burden
- Knowledge for future viral epidemics
- Ongoing partnerships that leverage shared learning and development

The problems we solve to enable access to gene therapy in LMICs will advance access to gene therapy for everyone, everywhere.





CaringCross
CREATING ACCESS TO CURES



UCSF



**JOINT CLINICAL
RESEARCH CENTRE**
A Centre of Excellence

William Blair

**Christian Medical
College
Vellore, India**



Yale School of Medicine



UW Medicine
UW SCHOOL
OF MEDICINE



GEORGETOWN UNIVERSITY
Georgetown University Medical Center



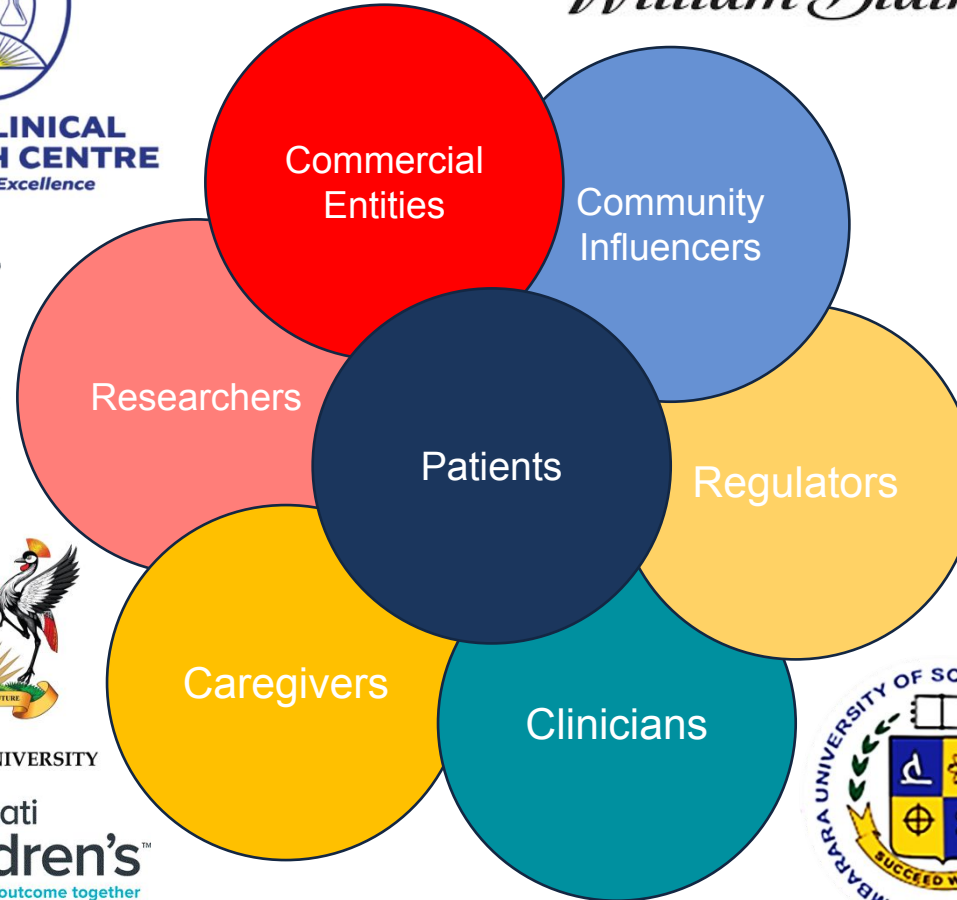
MAKERERE UNIVERSITY



UC San Diego



**BILL &
MELINDA
GATES
foundation**



Cell And Gene
Therapy Center



Achievements Will Be Made By Working Together In Partnerships

