Towards Hepatitis C Elimination in Georgia: Successes, Challenges, and the Road Ahead

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Georgian Implementation Fellowship Training Summer Bootcamp

Day 2, July 31, 2025

Outline

Background

Successes

Challenges

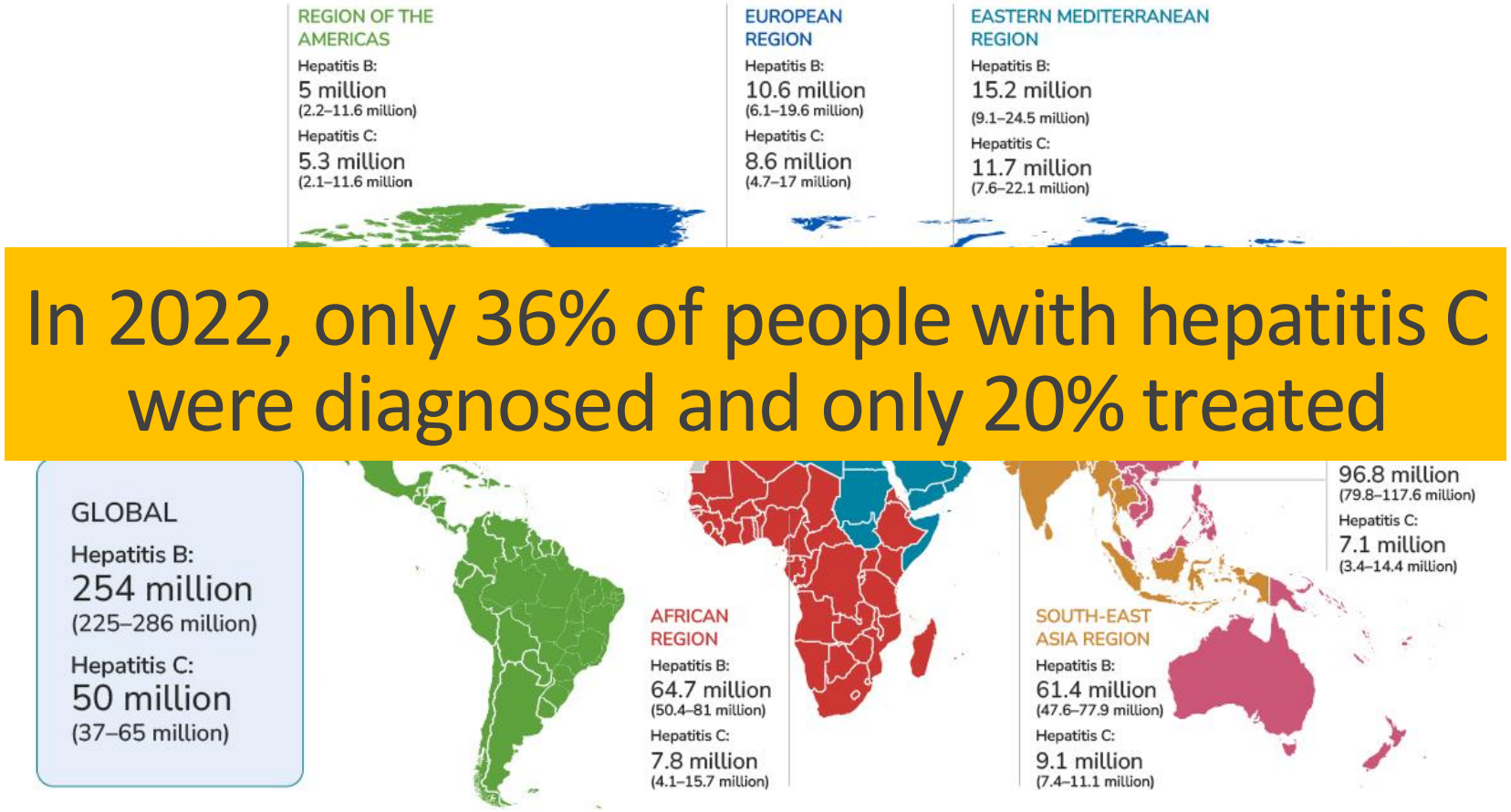
Road ahead

Addressing the loss to follow-up

Background

Global epidemiology of hepatitis C infection

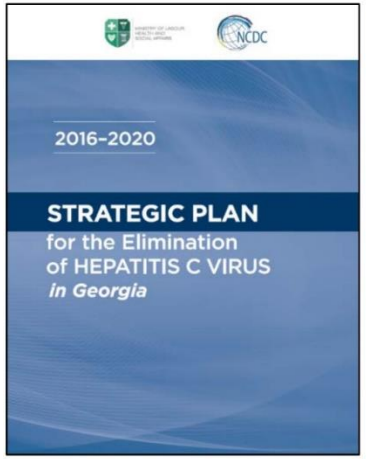
- In 2022:
  - 50 million people living with hepatitis C worldwide
  - 1 million people newly infected
- WHO goal: to eliminate viral hepatitis as public health threat by 2030



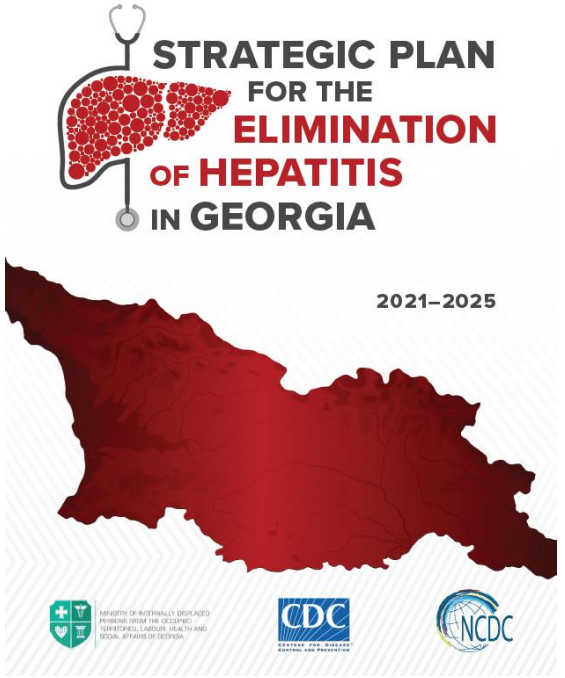
Source: https://www.who.int/publications/i/item/9789240091672; https://www.cdc.gov/hepatitis/global/index.html

National HCV Elimination Program

- World's first formal nationwide hepatitis C elimination program launched in 2015
- Elimination strategy encompasses six strategic direction to ensure comprehensive approach for controlling hepatitis C



- Promote advocacy, awareness and education, and partnerships for HCV associated resource mobilization
- Prevent HCV transmission
- Identify Persons Infected with HCV
- Improve HCV Laboratory Diagnostics
- Provide HCV Care and Treatment
- Improve HCV Surveillance

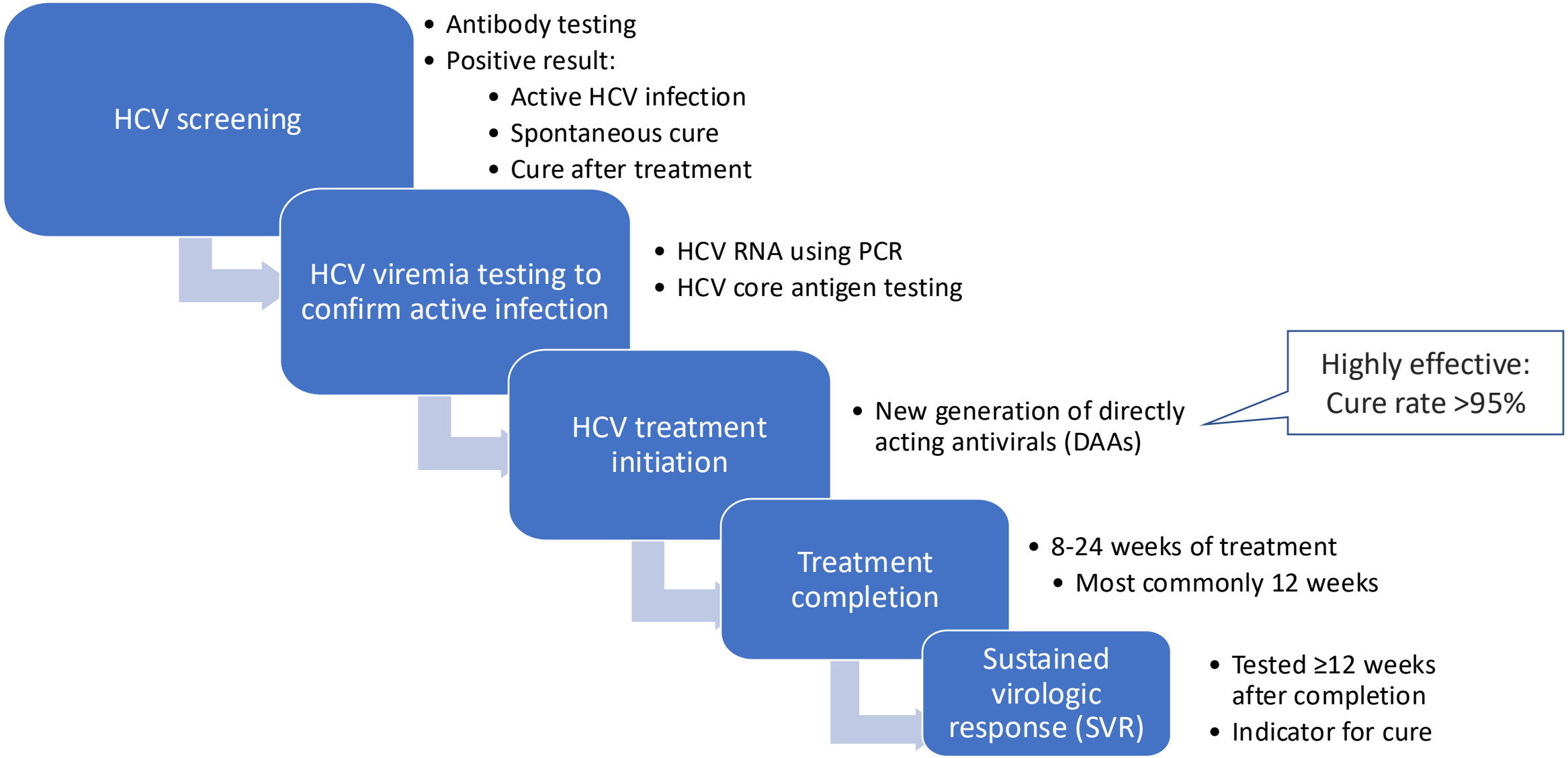


Source: 1. NCDC, Hepatitis C Elimination in Georgia, Country Brief; 2. Monthly care cascade analysis reports

Screening for hepatitis C

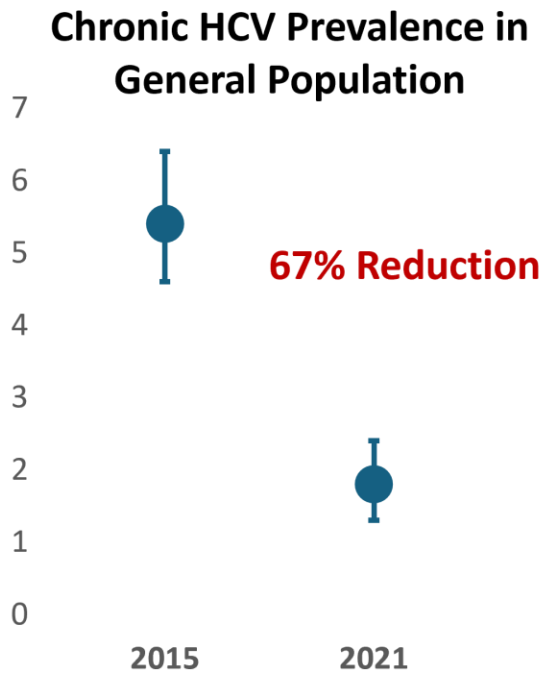
- Blood donors
- NCDC
- Pregnant women/ANCs
- Hospitalized patients
- Harm reduction beneficiaries
- Outpatients
- Prisoners
- Military recruits
- Persons living with HIV
- Persons diagnosed with TB

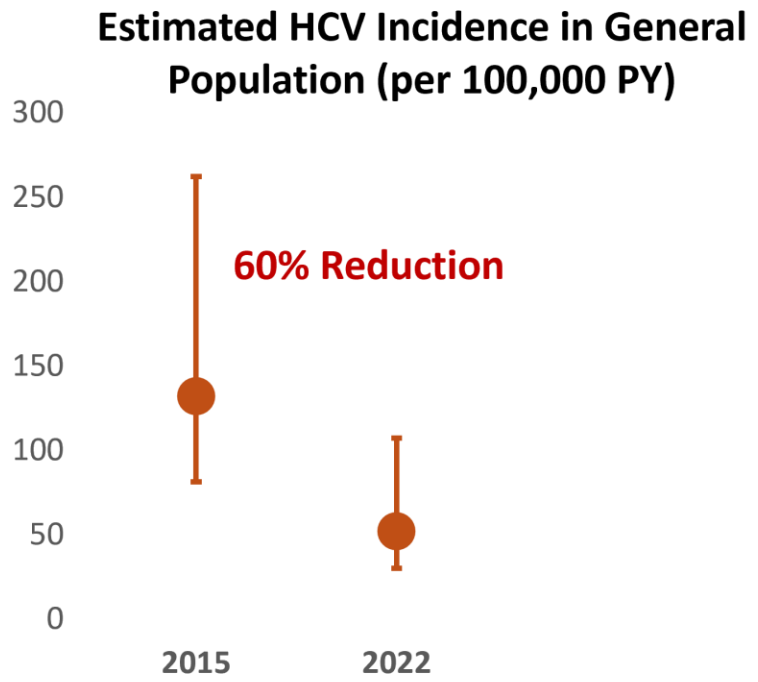
Hepatitis C care cascade

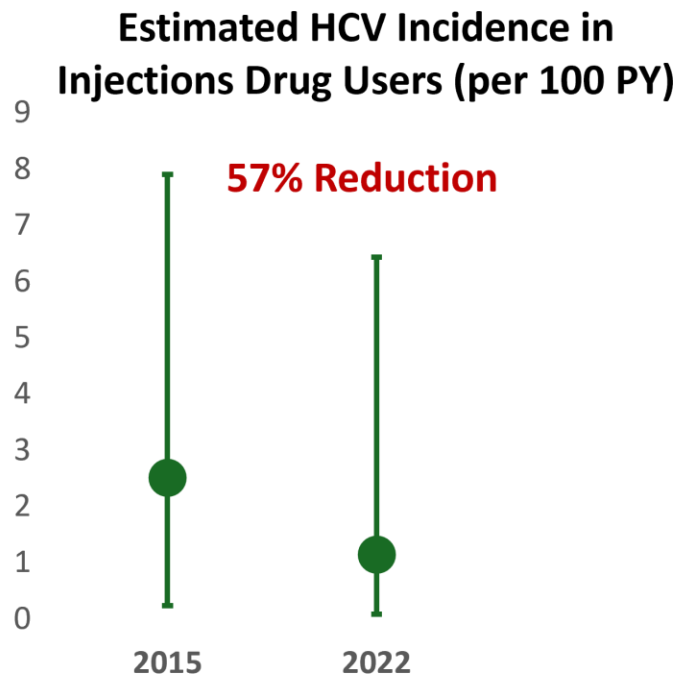


Successes

Decreasing burden







https://academic.oup.com/jid/article/228/6/684/7080306

https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2023.28.30.2200952

Decreasing burden

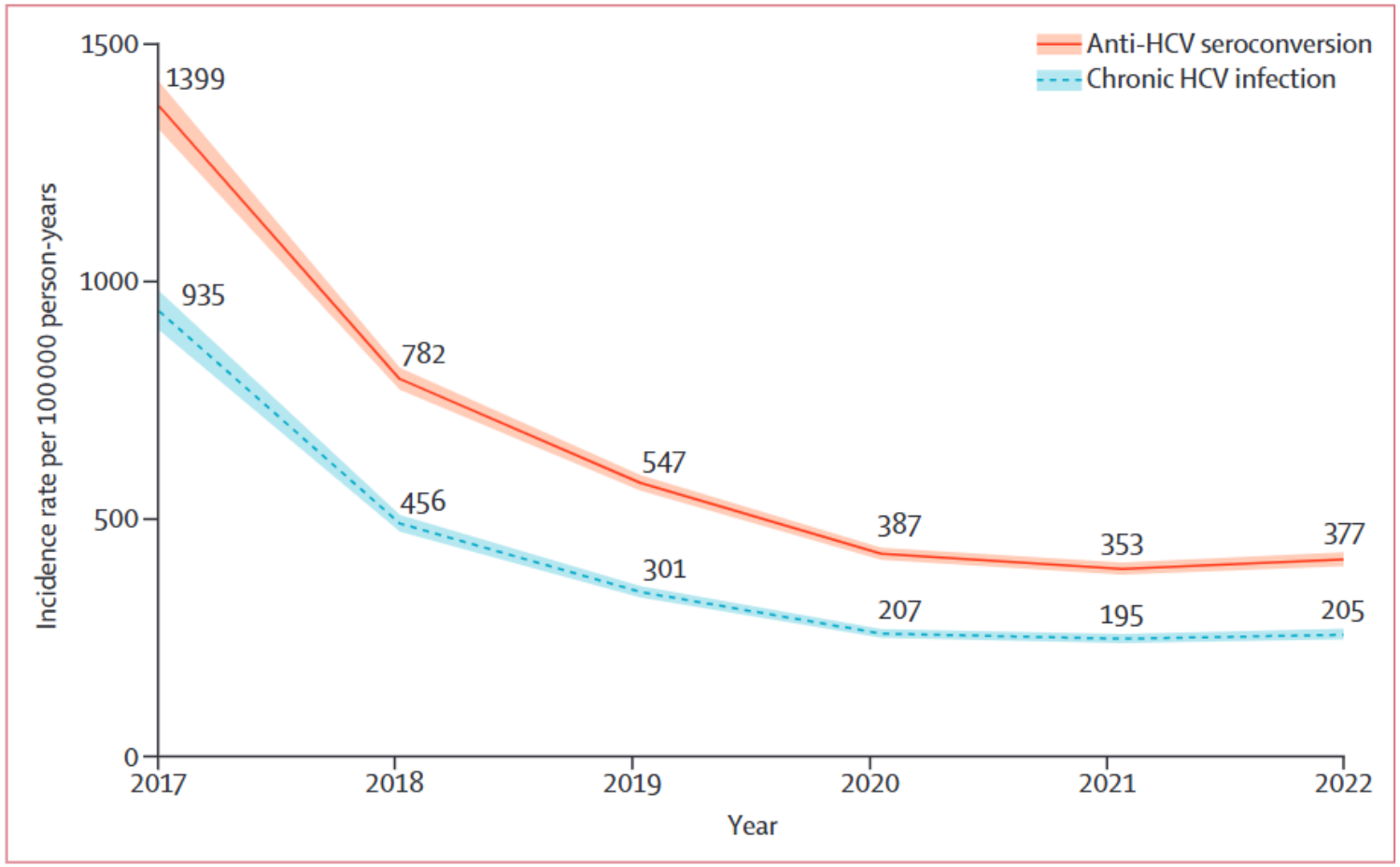
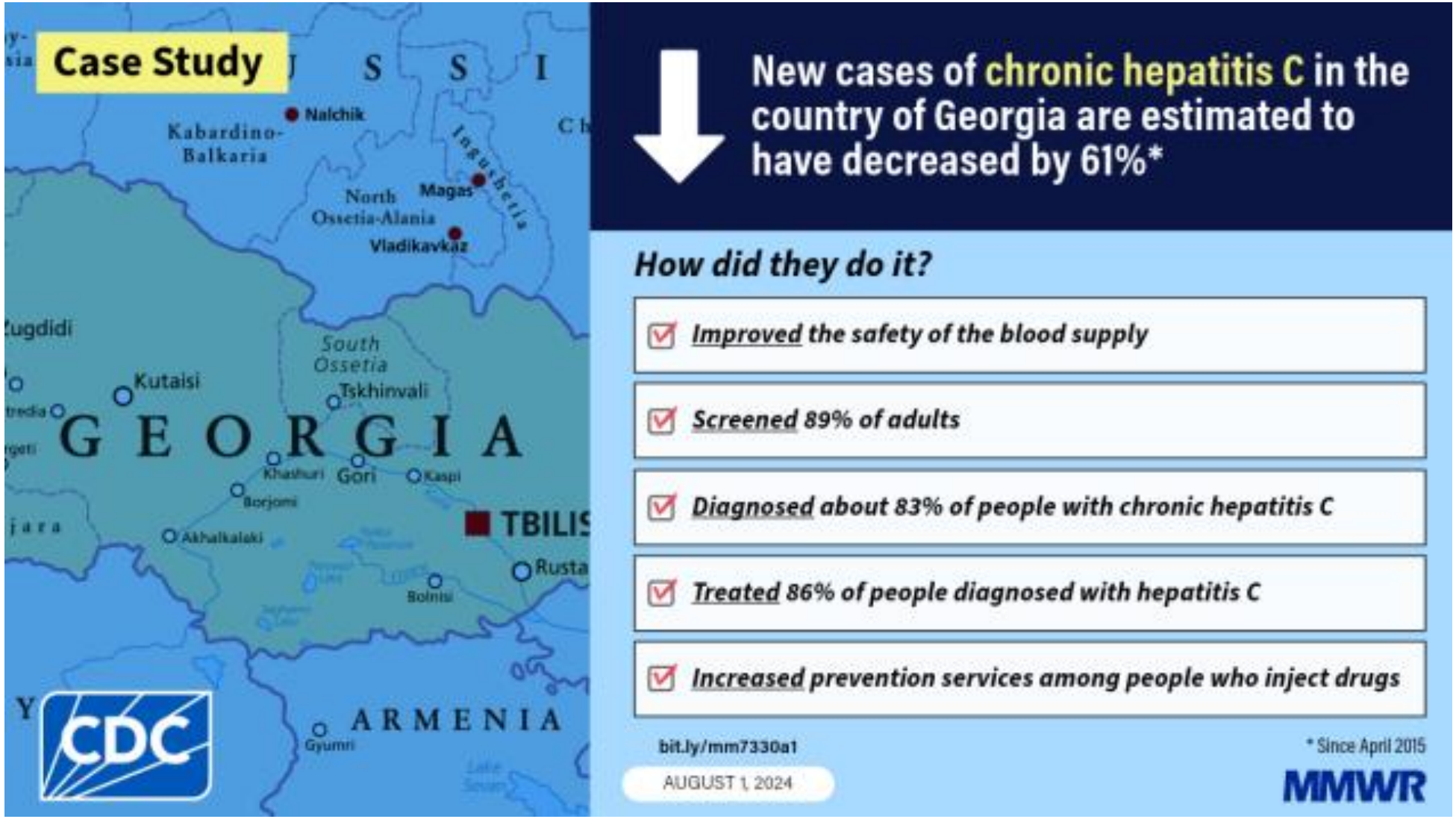


Figure 3: **Annual incidence rates of anti-HCV seroconversion and chronic HCV infection in repeat testers in Georgia, 2017–22**

The shaded areas around lines represent 95% CIs. Anti-HCV=HCV antibody. HCV=hepatitis C virus.

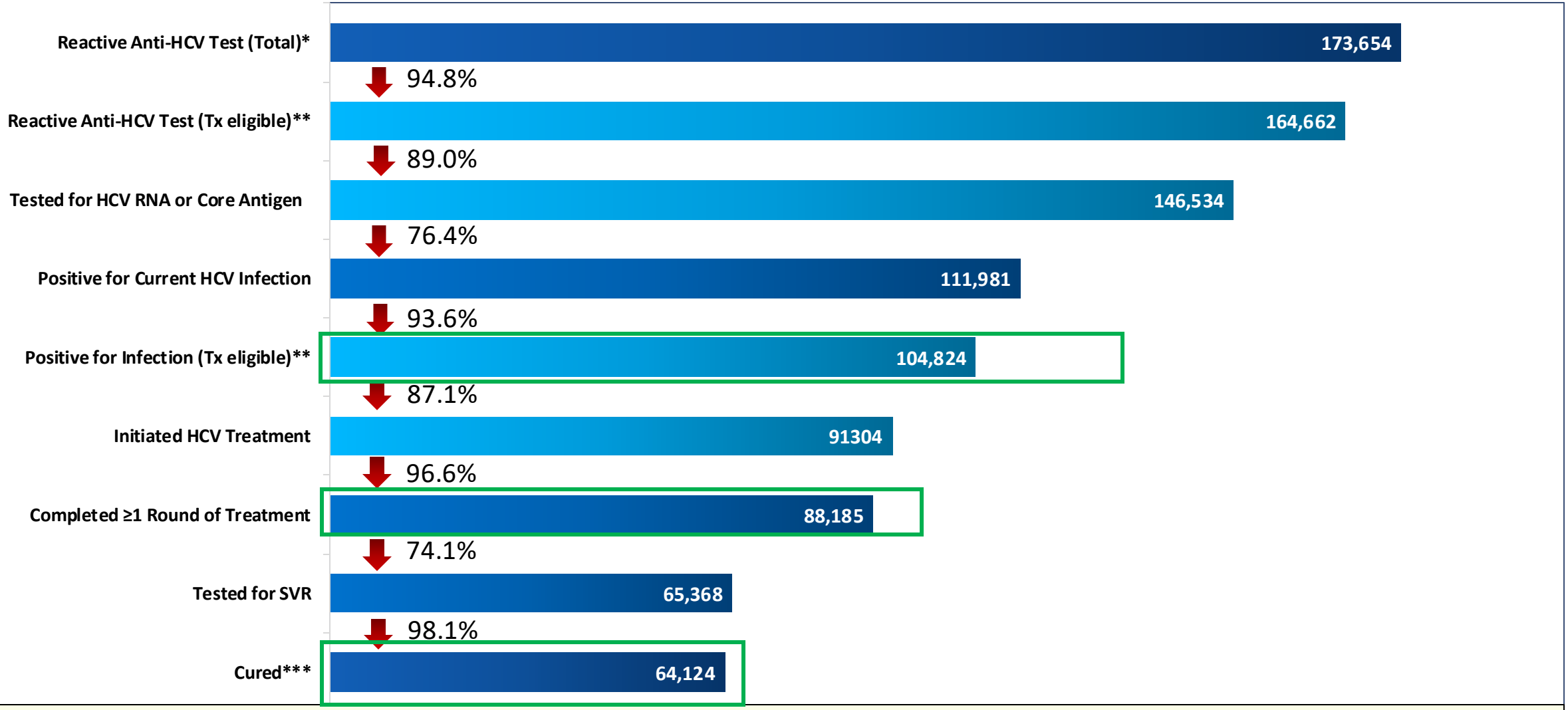
https://www.thelancet.com/journals/langas/article/PIIS2468-1253(25)00124-4/fulltext

Key components of the success



https://www.cdc.gov/mmwr/volumes/73/wr/mm7330a1.htm

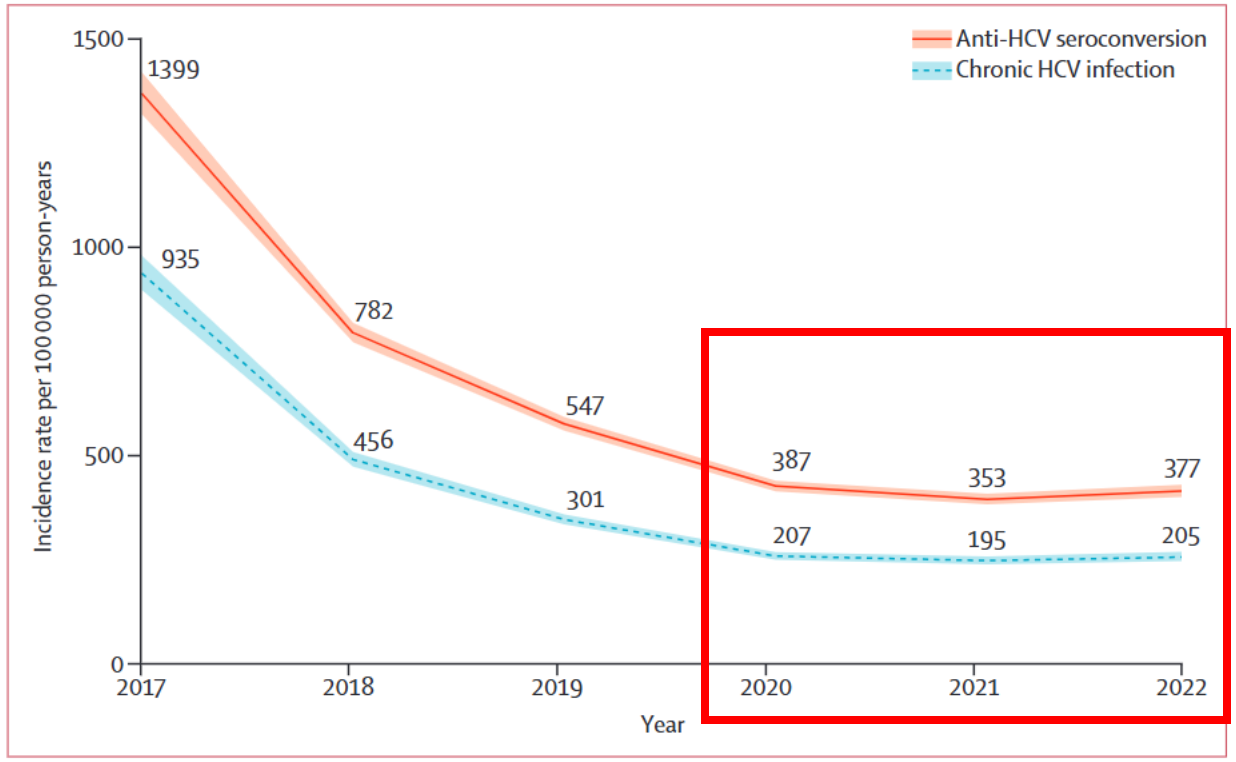
Georgia Hepatitis C Elimination Program Care Cascade, 28 April 2015 – 30 June 2025



* Among persons with national ID number.
** Age ≥12 years with no mortality data prior to progressing in cascade
*** Per-protocol, includes retreatments.

Challenges

Great, but not enough



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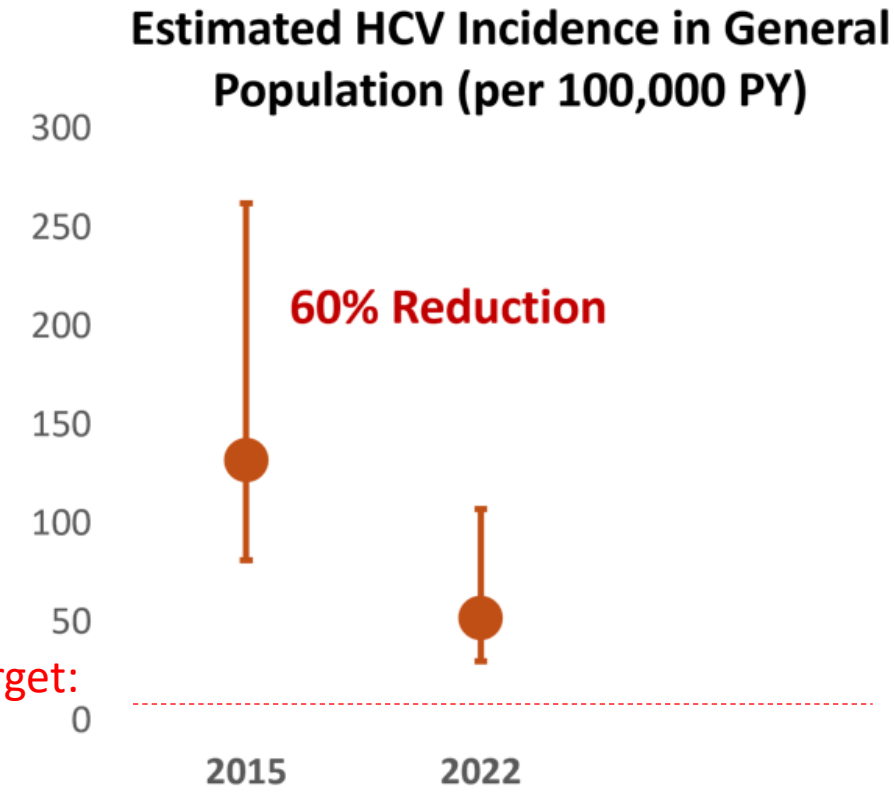
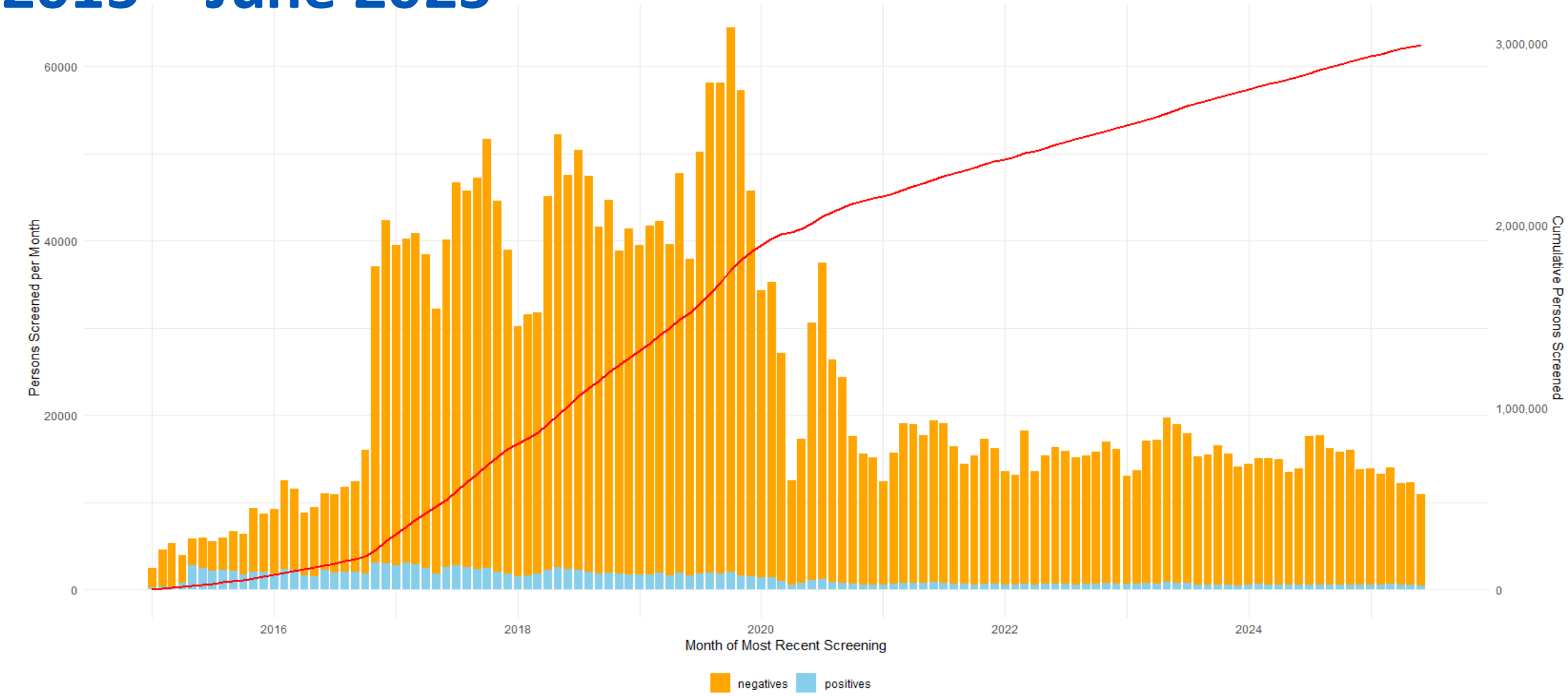


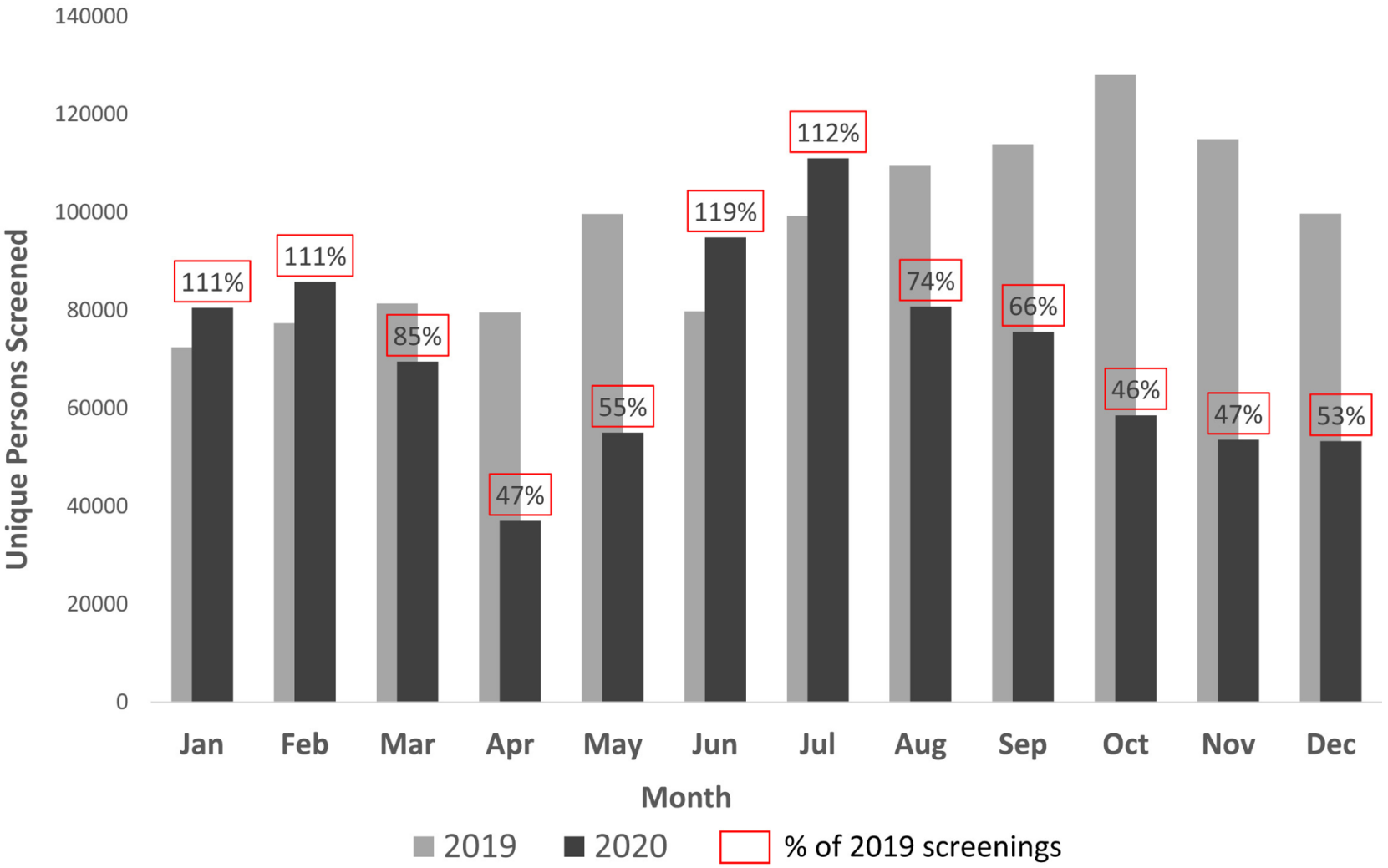
WHO Target: 5

Persons* newly screened per Month, Georgia, January 2015 – June 2025



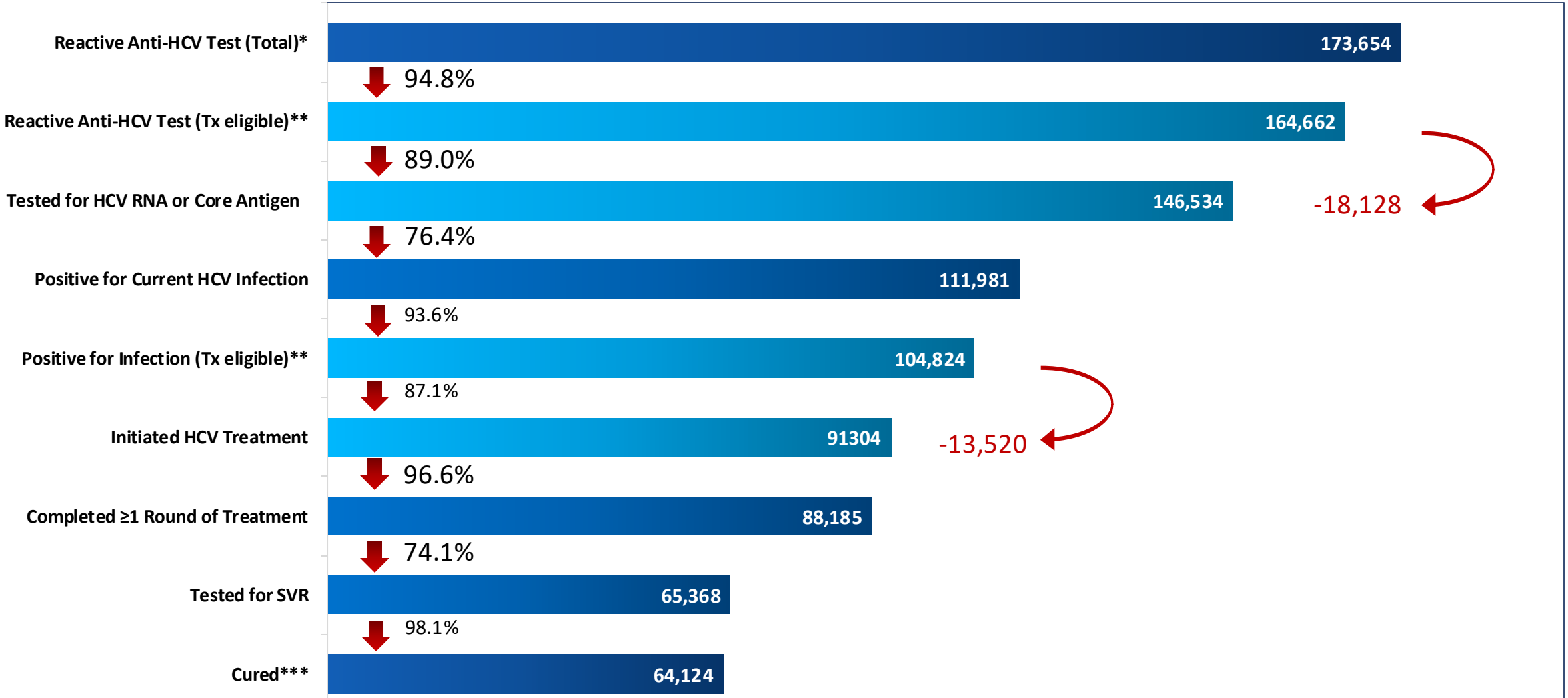
* Among all persons with national ID. Does not include persons with 15-dgit code
Re-screened persons represented only once by their most recent screening

Impact of COVID on HCV screening



Source: Gamkrelidze et.al., The impact of COVID-19 pandemic on the 2020 hepatitis C cascade of care in the Republic of Georgia. Public Health. 2022 Apr;205:182-186. doi: 10.1016/j.puhe.2022.01.040. Epub 2022 Feb 9.

Georgia Hepatitis C Elimination Program Care Cascade, 28 April 2015 – 30 June 2025

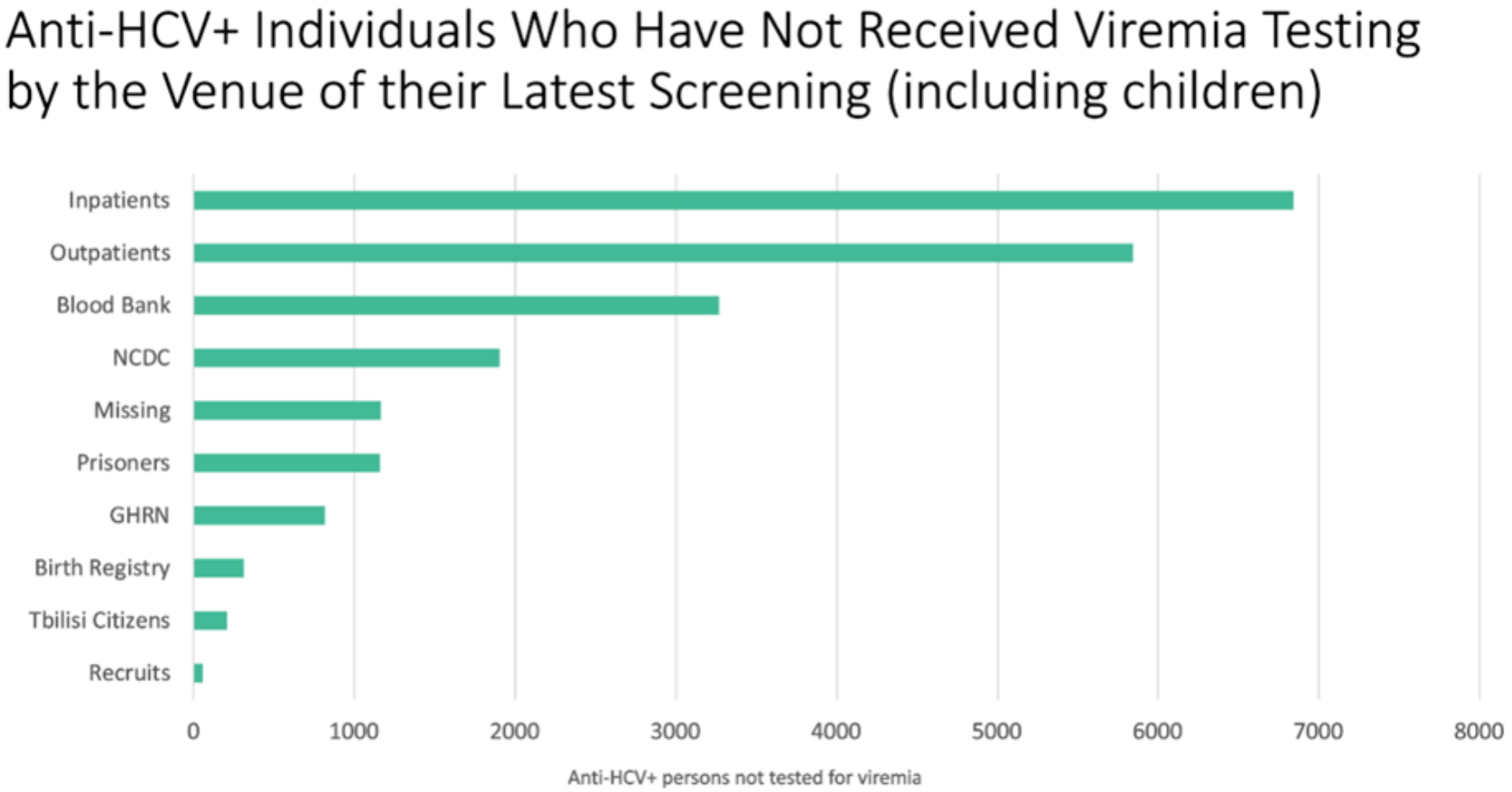


* Among persons with national ID number. An additional 18,586 screened anti-HCV+ using an anonymized 15-digit code. Thus, their representation in the cascade cannot be confirmed;

** Age ≥12 years with no mortality data prior to progressing in cascade

*** Per-protocol, includes retreatments.

Loss to follow-up as a remaining challenge



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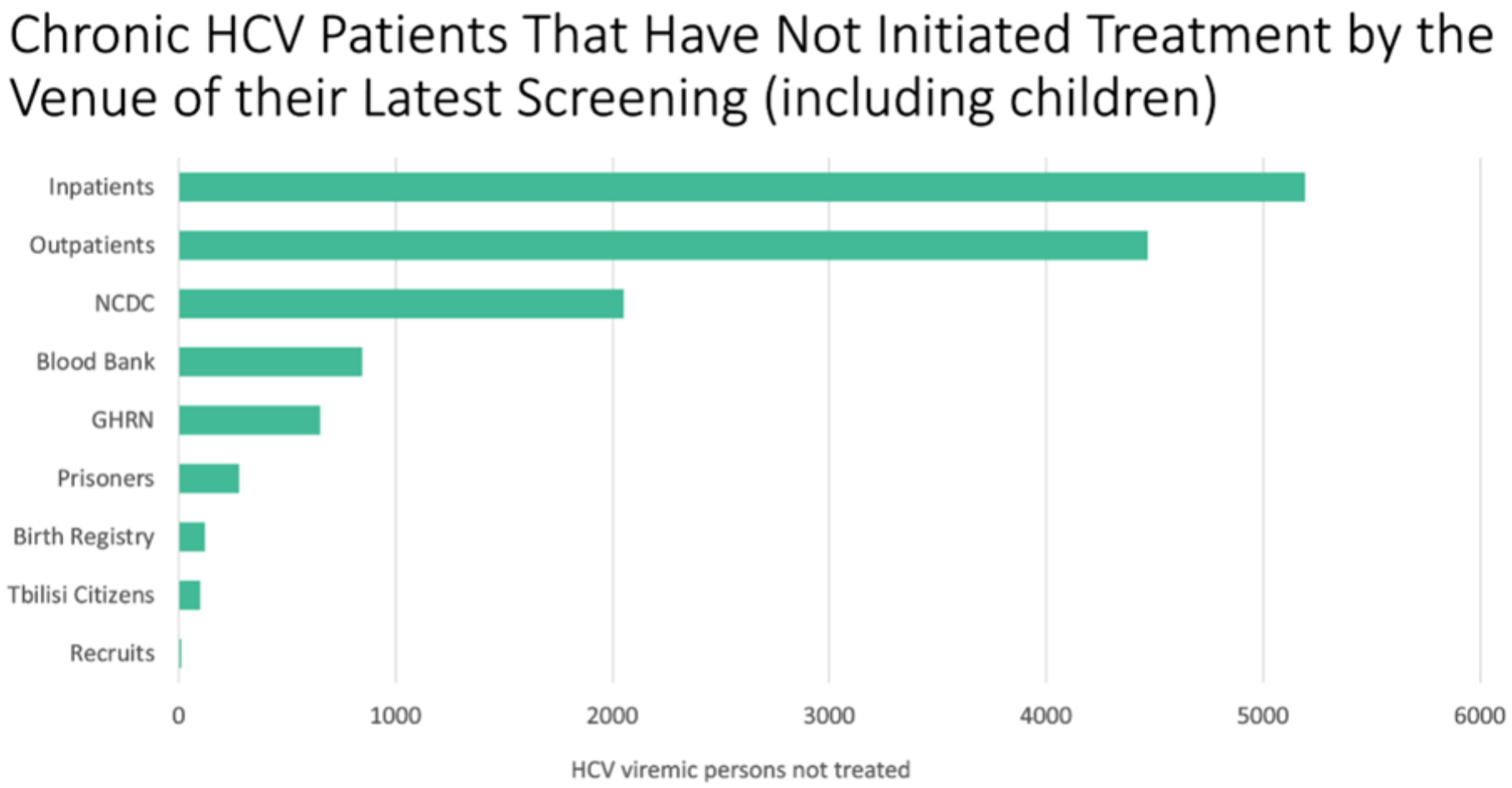


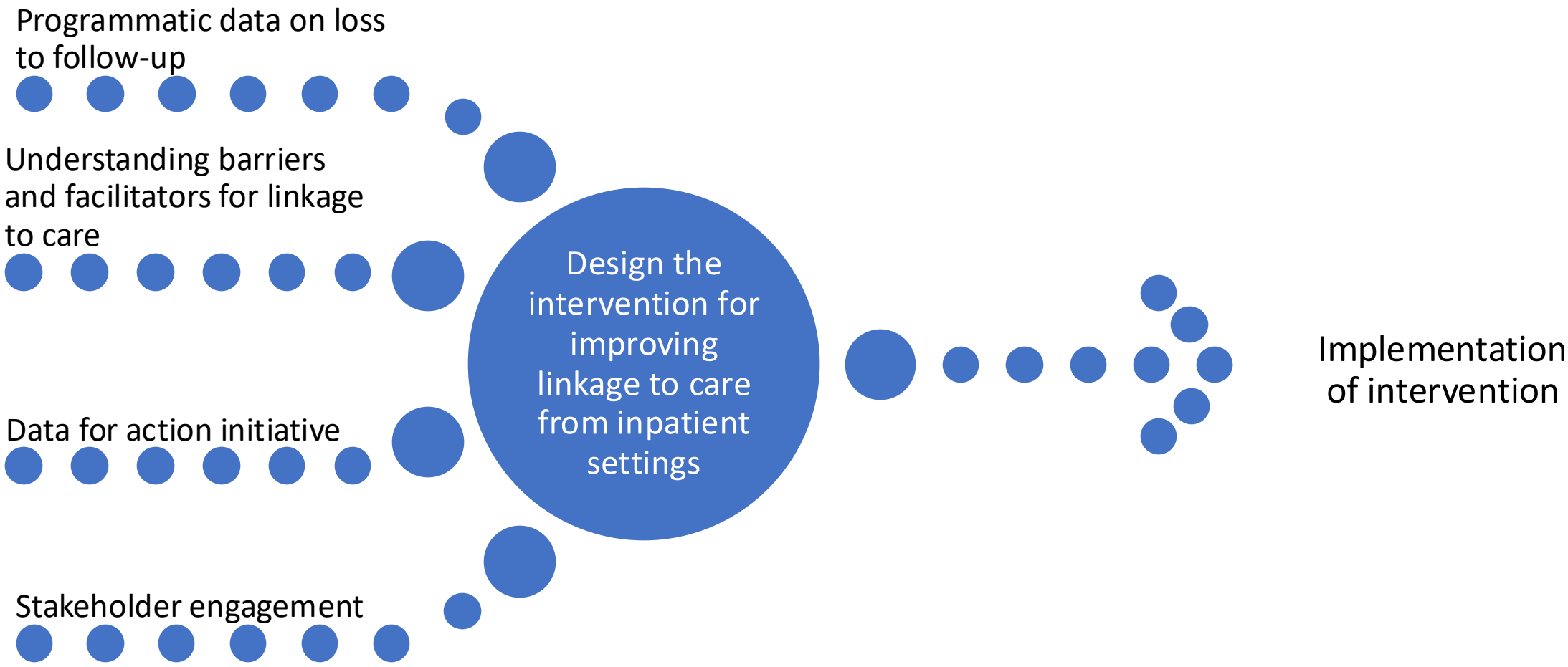
Road ahead

Addressing the loss to follow-up

Framing the Problem

- **There are more than 18,000 anti-HCV positive and 13,000 HCV RNA positive individuals remaining outside of the National HCV elimination program and not receiving HCV treatment and care services in Georgia**
  - Loss to follow-up threatens the ongoing progress of the HCV elimination program in Georgia
- **Importance of the intervention:**
  - Improving the linkage-to-care services of the remaining infected individuals will be a major contributor to achieving the elimination of hepatitis C as a public health threat in Georgia

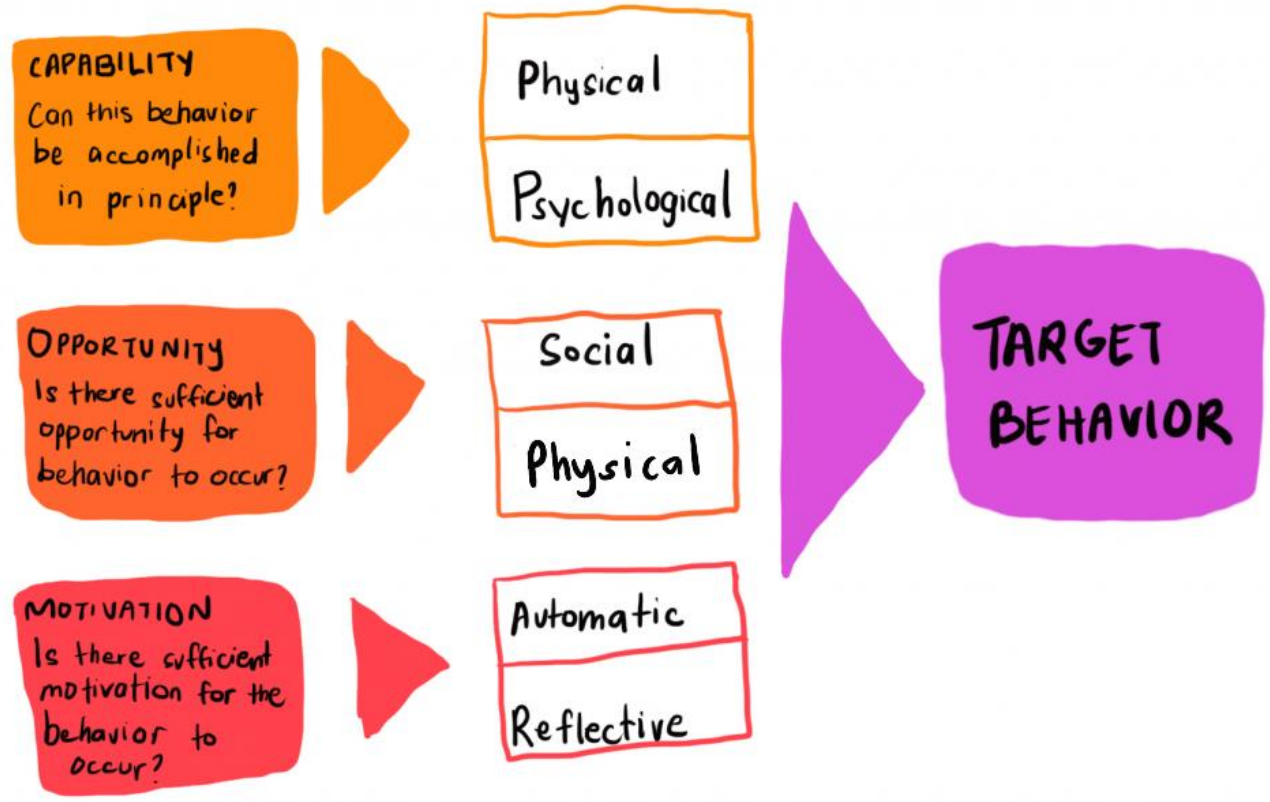
Addressing the loss to follow-up



Understanding barriers and facilitators for linkage to care – a qualitative study

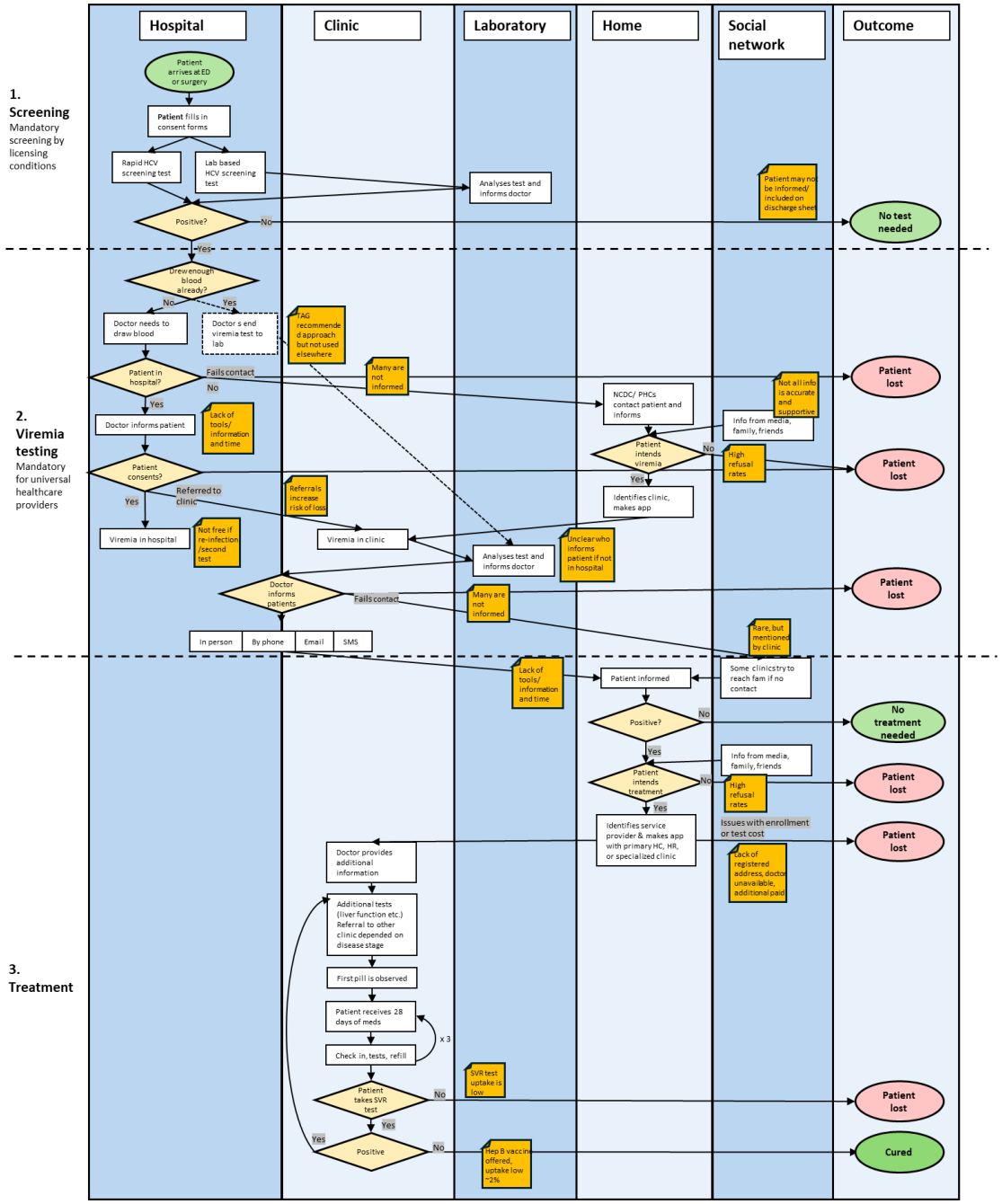
Using COM-B framework to:

- **Gain insights** into the drivers and barriers impacting patients' ability to:
  - Conduct confirmatory testing
  - Initiate HCV treatment?
- **Identify opportunities** for interventions and policies to enable/encourage patients to conduct confirmatory testing and initiate treatment



https://thedecisionlab.com/reference-guide/organizational-behavior/the-com-b-model-for-behavior-change

Patient Journey Map



Understanding barriers and facilitators for linkage to care – a qualitative study

- **A total of 24 interviews were conducted with patients, divided into three groups:**
  - Those who tested positive on an initial screening test but who had not undergone confirmatory testing,
  - Those who had undergone confirmatory testing but did not initiate treatment, and
  - Those who had completed treatment for Hepatitis C
- **Focus group discussions were held in six hospitals and included healthcare workers from various professional fields, including doctors, nurses, senior leadership and lab technicians.**

Completed. Final report and manuscript pending

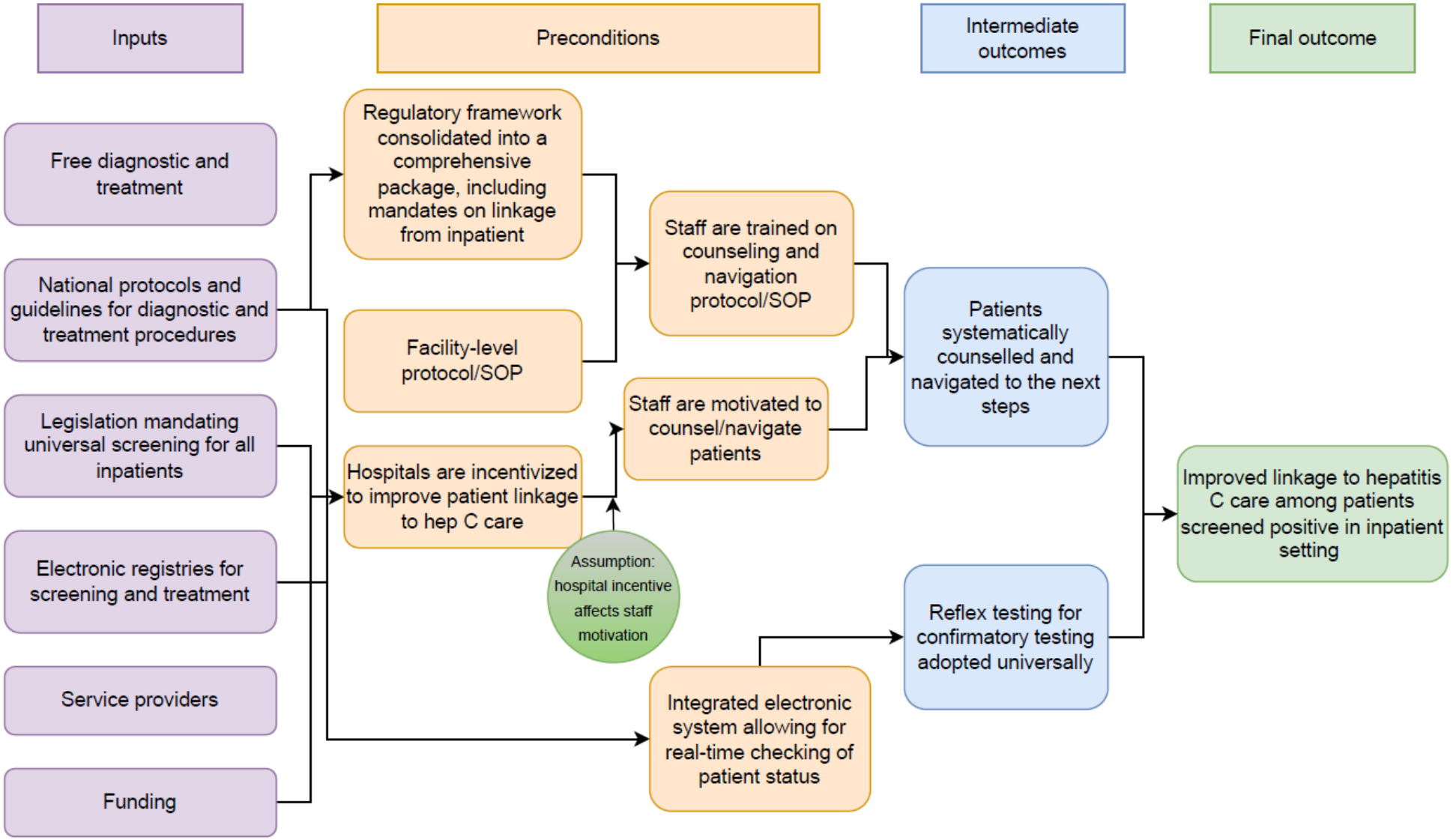
Data for Action

Goal: To strengthen core capabilities with the collection, analysis, and use of data for public health action

Approach

- Develop a real-world example (or “use-case”) through which teams work to diagnose their specific data-for-action problem and design intervention(s)
- Implement and evaluate intervention(s) over the period of one year
- Emphasis on learning from professional peers through practical implementation

Theory of Change



Root Cause Analysis – Loss to follow-up from inpatient settings

People/manpower

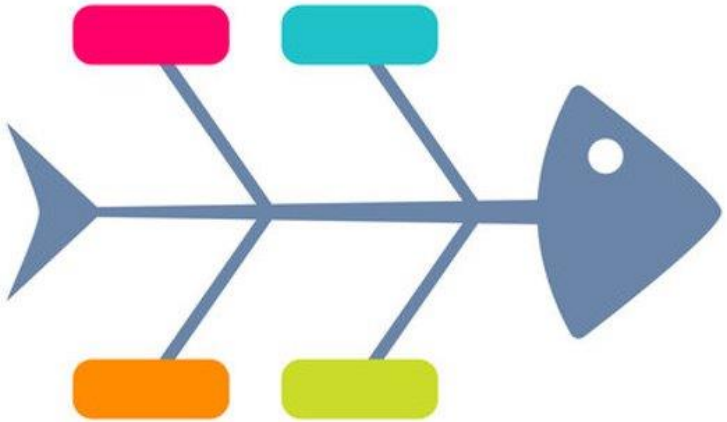
- Lack of awareness among personel
- Lack of awareness among patients
- Unclear responsibilities
- Lack of motivation
- Lack of Protocol knowledge
- Limited capacity to follow up

Methods/Processes

- Patient notification issues
  - Inaccurate/missing contact information
  - Migration
  - Communication gap among stakeholders

Technology

- No linkage between databases
- Gaps in data entry reporting responsibilities



Loss to follow-up among patients with HCV antibody positive result in inpatient setting

Regulatory Environment

- Transperancy
- Volume of the regulations
- Limited interest for private hospitals
  - Hospitals not incentivized
  - Different health priorities

System

- No reflex testing
  - Reflex requires goverment approval
- Fragmented system screening/lab

Planned intervention

- **Goal: improve linkage to HCV care for people with anti-HCV positive results in inpatient settings**

- **Objectives:**
  - Refine regulatory framework related to hepatitis C screening and linkage to care in inpatient settings
  - Implement enhanced patient counselling and navigation system in four inpatient facilities in Tbilisi
  - Build institutional capacity of inpatient facilities through training and continuous quality improvement;

Acknolwedgements

- Clinicians, policy-makers, public health specialists and many more involved in the implementation of hepatitis C elimination
- Shaun Shadaker
- Nikoloz Chkhartishvili
- Sophia Surguladze
- Irina Tskhomelidze
- Vladimer Getia
- Anna Khoperia
- Georgia D4A workshop team

Thank you

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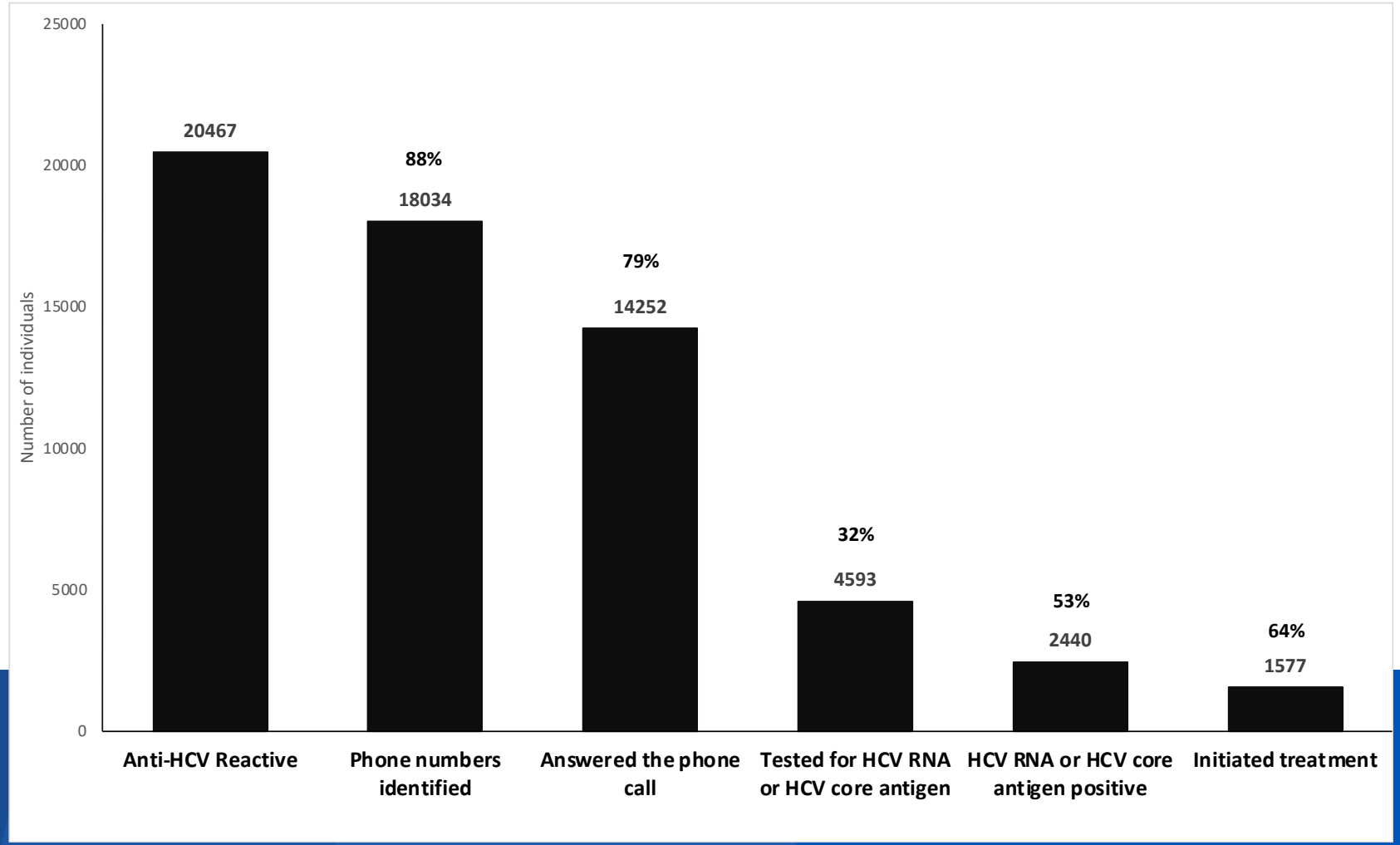
Email: DBaliashvili@cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the U. S. Centers for Disease Control and Prevention.

Supplemental slides

Linkage to hepatitis C care and treatment through active outreach among anti-HCV reactive persons who had been lost to follow-up, Georgia, February 2023–September 2024



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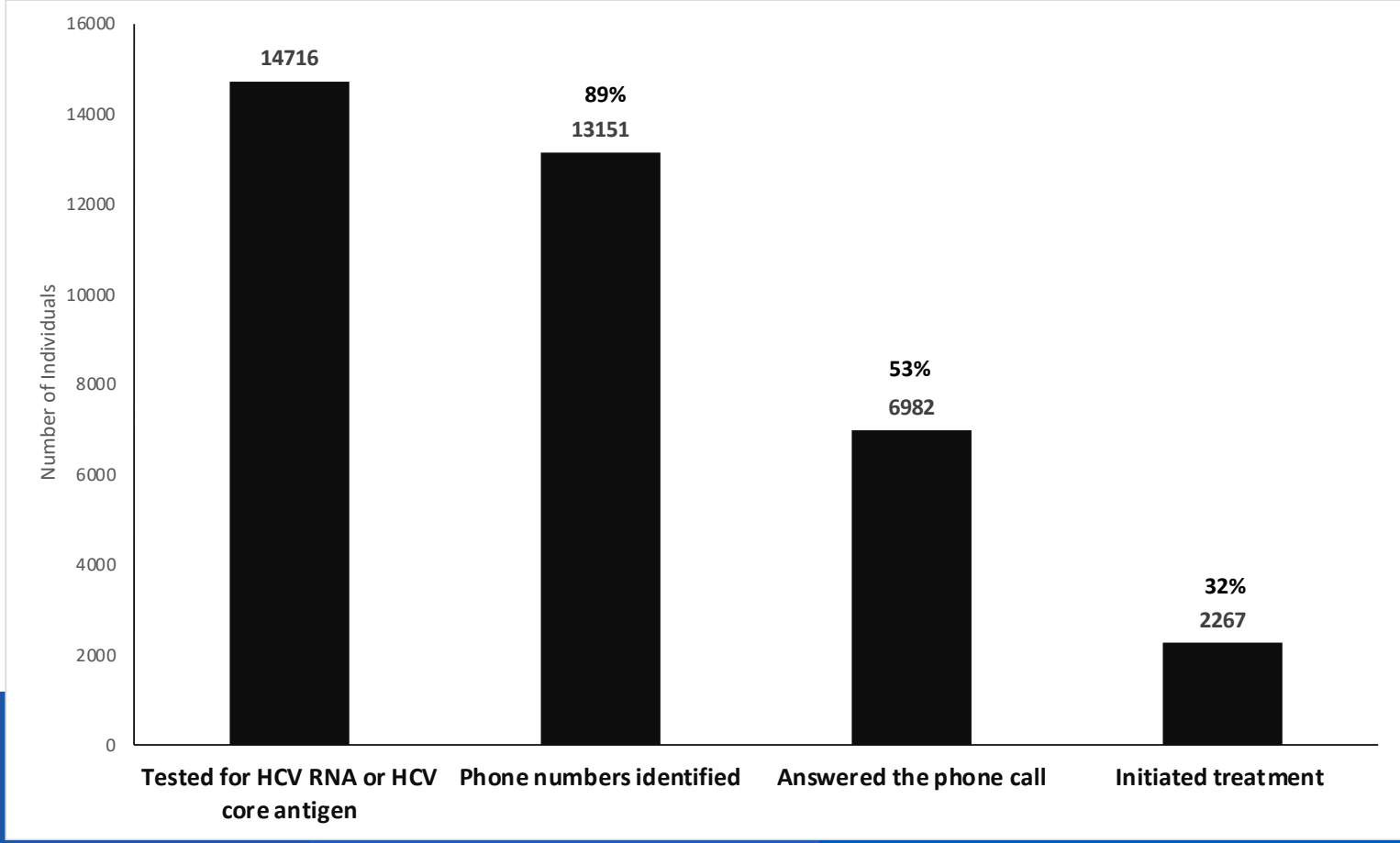
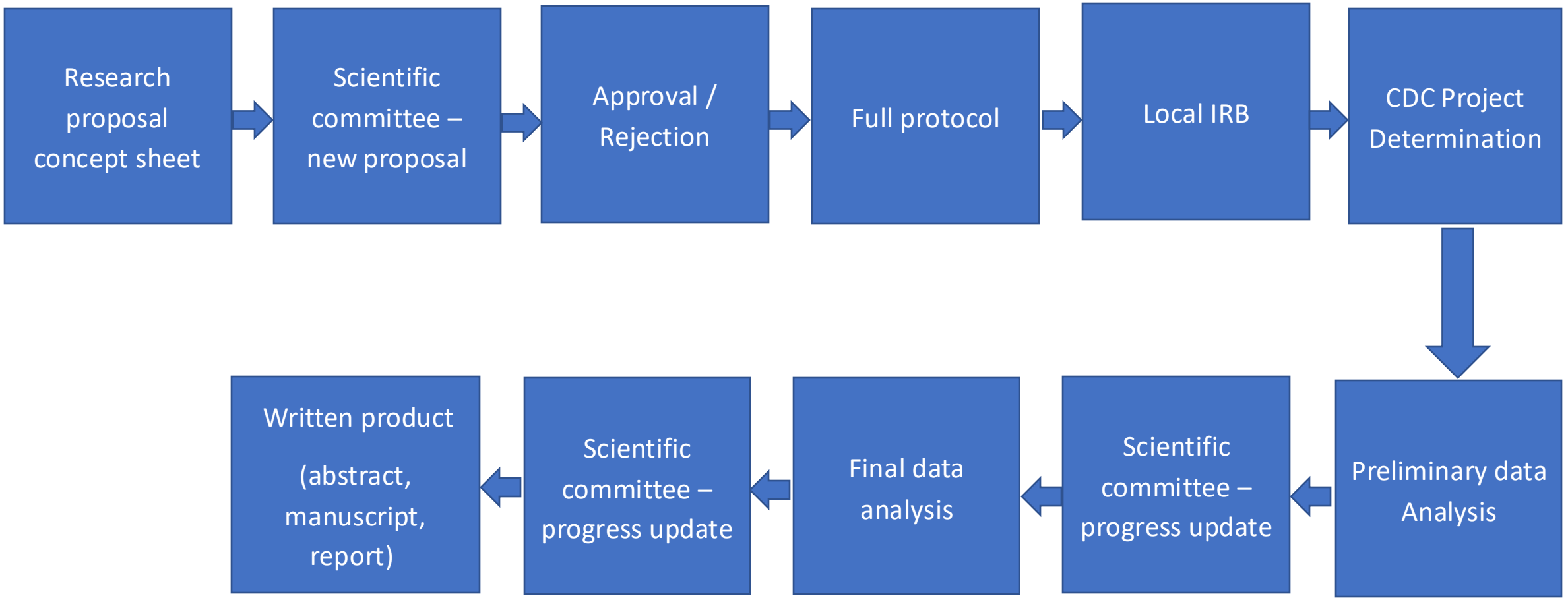


Coordination of the viral hepatitis scientific activities in Georgia – Scientific Committee

- Established in August, 2016
  - Coordination
  - Communication
  - Dissemination
  - Transparency
- Members
  - MoH
  - NCDC
  - CDC
  - Clinicians, researchers, policy-makers
- Non-member participants per invitation –
  - NGOs, universities, and other partners may be invited ad hoc

53 meetings, >100 projects discussed

From idea to product



Sources of data

- Seroprevalence surveys
- HCV screening registry
- Elimination C (HCV treatment registry)
- Other nationwide electronic databases
- Special studies

Scientific products of elimination program 2015-2024

Presence at conferences

>100 abstracts at international conferences

Published articles

>70 articles in peer-reviewed journals

Recent publications

Transfusion Clinique et Biologique

Available online 11 March 2023

In Press, Corrected Proof | What's this?

Original article

Advancing blood transfusion safety using molecular detection in the country of Georgia

Maia Alkhazashvili [a b], Evan M. Bloch [c], Shaun Shadaker [d], Tinatin Kuchuloria [e], Vladimer Getia [a], Alexander Turdziladze [a], Paige A. Armstrong [c], Amiran Gamkrelidze [a b]

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First published: 07 February 2022 | https://doi.org/10.1111/liv.15191

Sonjelle Shilton and Jessica Markby contributed equally to this work.

Handling Editor: : Alessio Aghemo

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