
2023
COMMUNITY
HIV CURE RESEARCH
WORKSHOP
2022 HIV Cure-Related Research Survey Results
& Participant Demographics Update

# Disclaimer

- This work was performed in my individual capacity as consultant for TAG

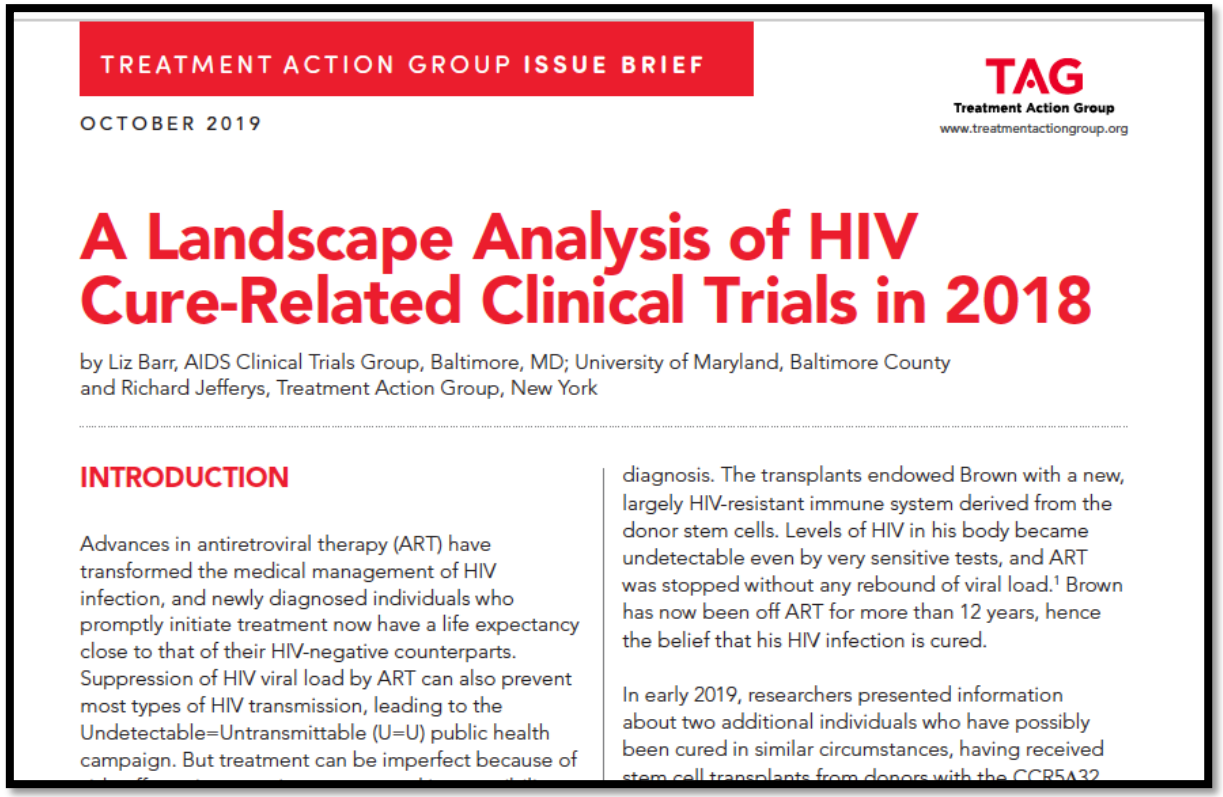
# Acknowledgements


- 14,136 participants whose experiences are reflected in this work
- Investigators and study teams for 130 cure-related studies
- Advocacy and activist communities
- Richard Jefferys & everyone at TAG

# Presentation Overview

- Recap of 2018 & 2019 landscape analyses
- Preliminary results of 2022 landscape analysis

# Previous landscape analyses found a wide range of curative strategies but a lack of geographic & participant diversity



TREATMENT ACTION GROUP **ISSUE BRIEF**

OCTOBER 2019

TAG
Treatment Action Group
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## A Landscape Analysis of HIV Cure-Related Clinical Trials in 2018

by Liz Barr, AIDS Clinical Trials Group, Baltimore, MD; University of Maryland, Baltimore County and Richard Jefferys, Treatment Action Group, New York

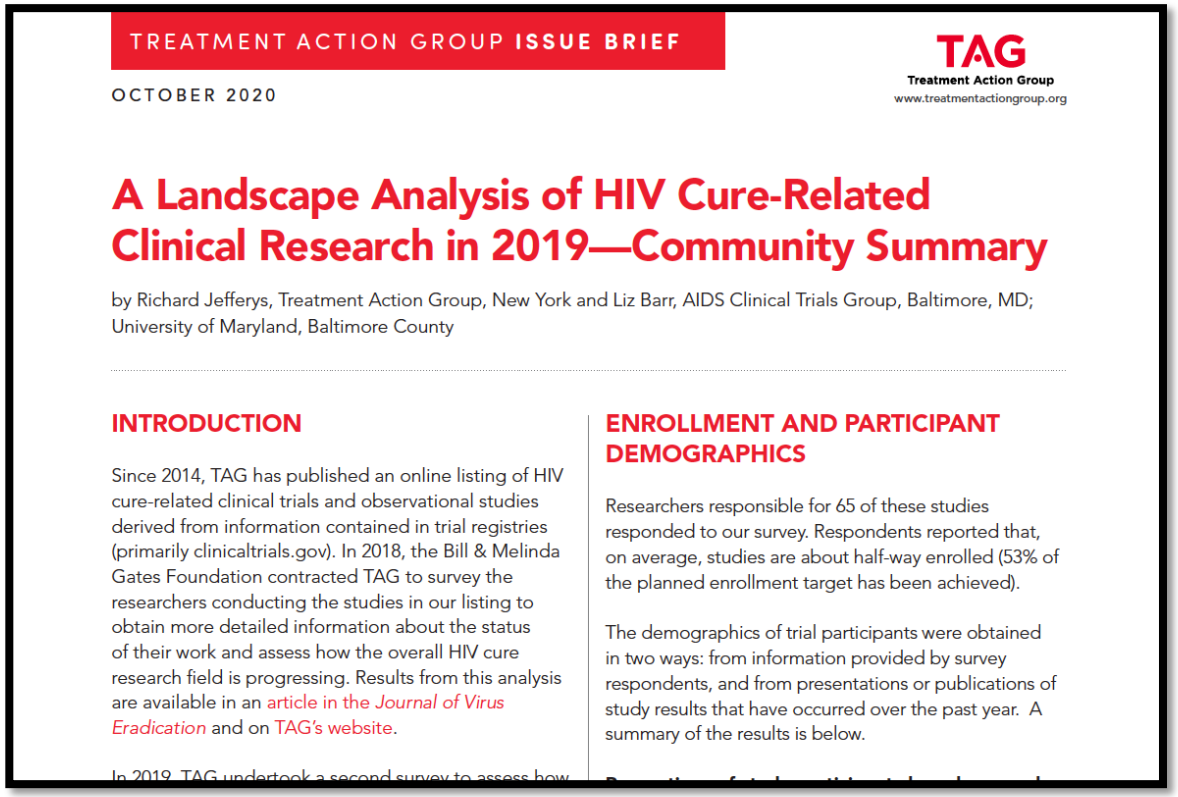
### INTRODUCTION

Advances in antiretroviral therapy (ART) have transformed the medical management of HIV infection, and newly diagnosed individuals who promptly initiate treatment now have a life expectancy close to that of their HIV-negative counterparts. Suppression of HIV viral load by ART can also prevent most types of HIV transmission, leading to the Undetectable=Untransmittable (U=U) public health campaign. But treatment can be imperfect because of

diagnosis. The transplants endowed Brown with a new, largely HIV-resistant immune system derived from the donor stem cells. Levels of HIV in his body became undetectable even by very sensitive tests, and ART was stopped without any rebound of viral load.[1] Brown has now been off ART for more than 12 years, hence the belief that his HIV infection is cured.

In early 2019, researchers presented information about two additional individuals who have possibly been cured in similar circumstances, having received stem cell transplants from donors with the CCR5Δ32

https://www.treatmentactiongroup.org/publication/landscape-analysis-of-hiv-cure-related-clinical-trials-in-2018/



TREATMENT ACTION GROUP **ISSUE BRIEF**

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## A Landscape Analysis of HIV Cure-Related Clinical Research in 2019—Community Summary

by Richard Jefferys, Treatment Action Group, New York and Liz Barr, AIDS Clinical Trials Group, Baltimore, MD; University of Maryland, Baltimore County

### INTRODUCTION

Since 2014, TAG has published an online listing of HIV cure-related clinical trials and observational studies derived from information contained in trial registries (primarily clinicaltrials.gov). In 2018, the Bill & Melinda Gates Foundation contracted TAG to survey the researchers conducting the studies in our listing to obtain more detailed information about the status of their work and assess how the overall HIV cure research field is progressing. Results from this analysis are available in an article in the *Journal of Virus Eradication* and on TAG's website.

In 2019, TAG undertook a second survey to assess how

### ENROLLMENT AND PARTICIPANT DEMOGRAPHICS

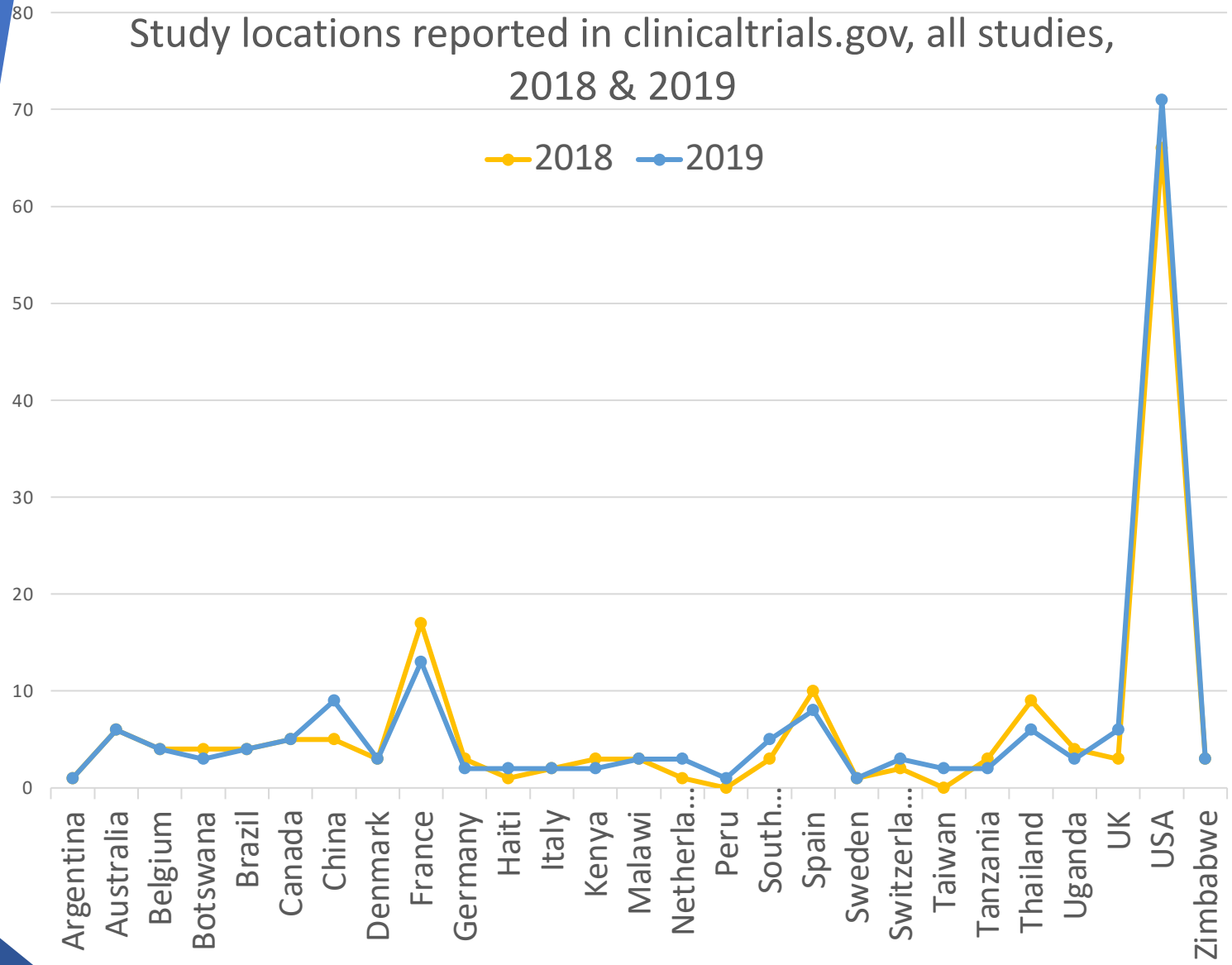
Researchers responsible for 65 of these studies responded to our survey. Respondents reported that, on average, studies are about half-way enrolled (53% of the planned enrollment target has been achieved).

The demographics of trial participants were obtained in two ways: from information provided by survey respondents, and from presentations or publications of study results that have occurred over the past year. A summary of the results is below.

https://www.treatmentactiongroup.org/publication/a-landscape-analysis-of-hiv-cure-related-clinical-research-in-2019/

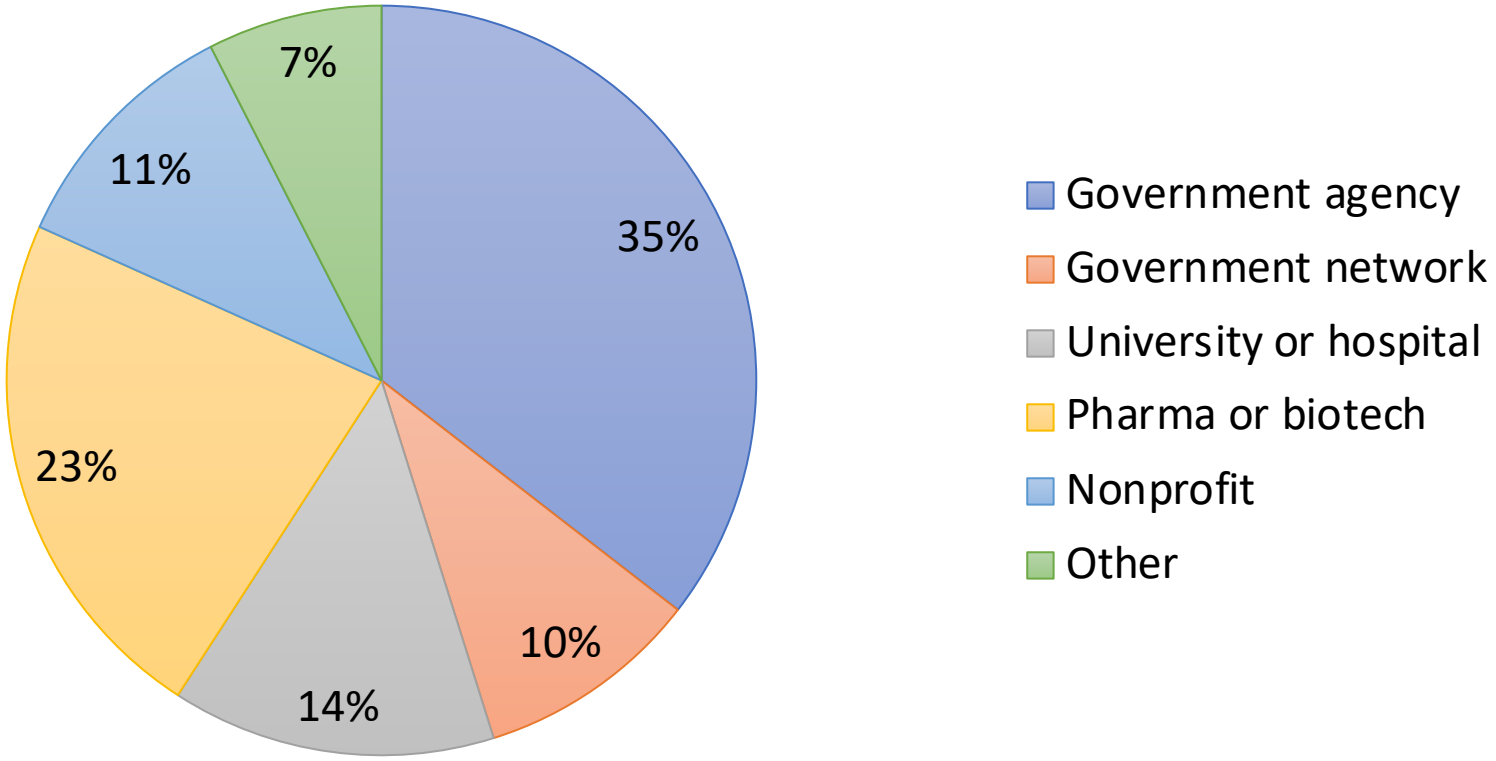
# 2018/2019 heavily skewed to USA;

# Geographic distribution stable



# Wide range of funders supported cure research in 2019

Any reported funding received, 2019 survey responses (N=67)



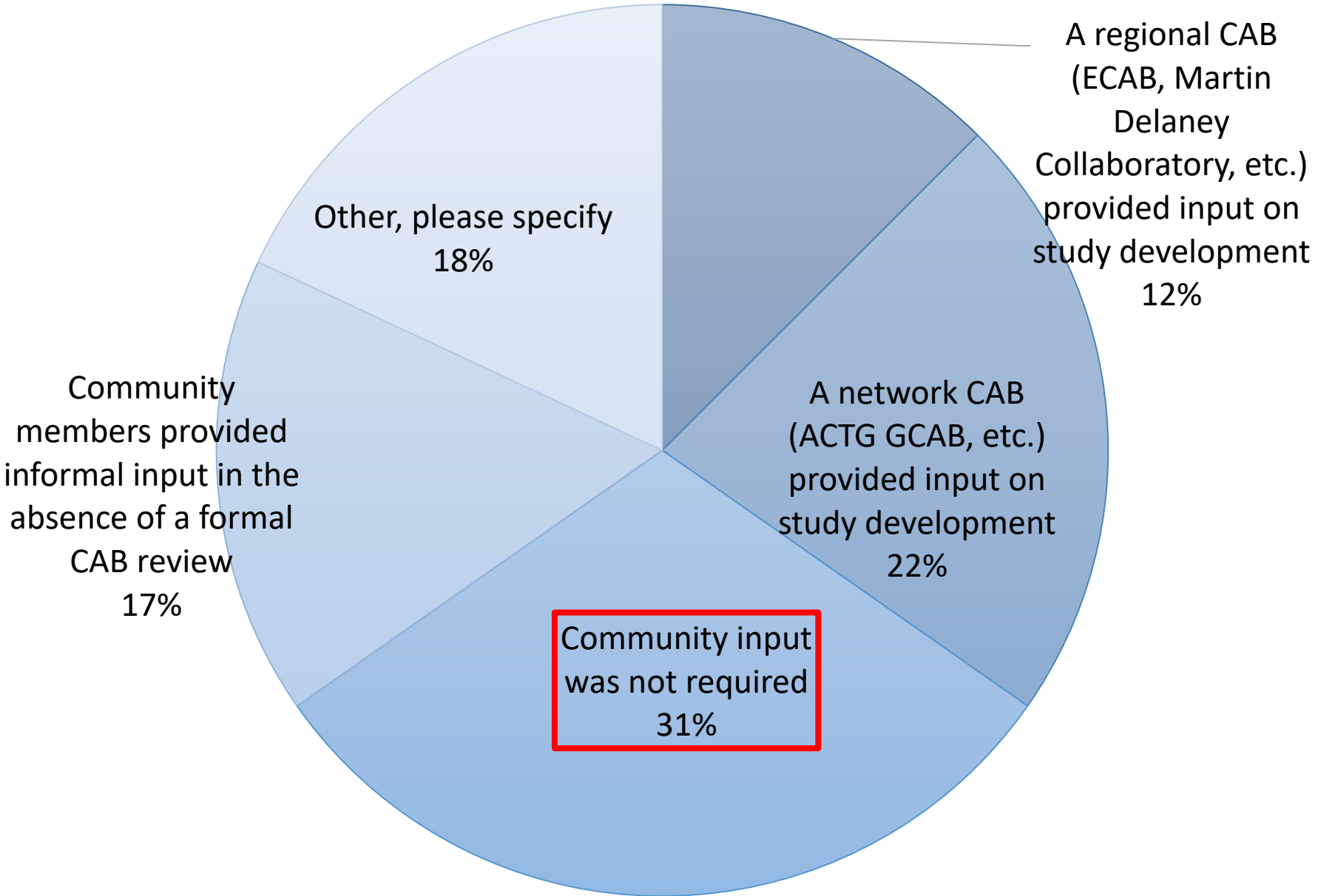
# Total projected # of participants in 2019:

# 13,732

…But most studies were very small

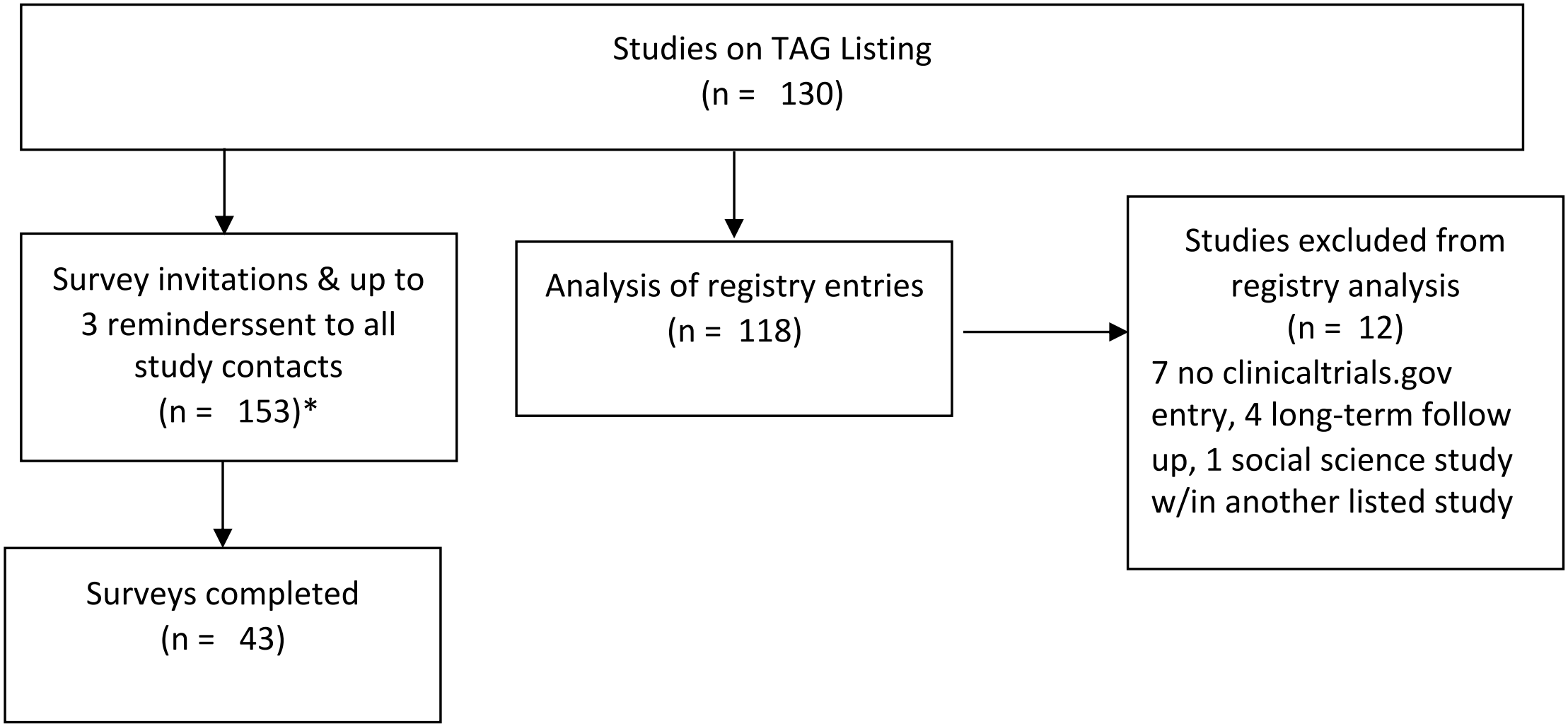
| Category | Mean | Median | Range | Total |
|---|---|---|---|---|
| Adoptive immunotherapy (N=1) | 12 | -- | -- | 12 |
| Anti-Inflammatory (N=2) | 87 | 87 | 64 - 110 | 174 |
| Anti-Proliferative (N=1) | 5 | -- | -- | 5 |
| Antibodies (N=19) | 40 | 40 | 8 - 75 | 767 |
| Antiretroviral therapy (N=1) | 40 | -- | -- | 40 |
| Cannabinoids | 26 | -- | -- | 26 |
| Combinations (N=17) | 88 | 34 | 8 - 905 | 1,507* |
| Cytokines (N=2) | 15 | 15 | 10 - 20 | 30 |
| Dual-Affinity Re-Targeting (DART) Molecules (N=1) | 26 | -- | -- | 26 |
| Gene Therapies (N=9) | 16 | 12 | 6 - 40 | 152 |
| Gene Therapies for HIV-Positive People with Cancers (N=6) | 8 | 7 | 3 - 18 | 51 |
| Gonadotropin-Releasing Hormone (GnRH) Agonists (N=1) | 52 | -- | -- | 52 |
| Hormones (N=1) | 22 | -- | -- | 22 |
| Imaging Studies (N=4) | 15 | 14 | 5 - 30 | 63 |
| Immune Checkpoint Inhibitors (N=5) | 48 | 45 | 20 - 96 | 241 |
| Latency-Reversing Agents (N=4) | 29 | 24 | 9 - 60 | 117 |
| Observational (N=33) | 252 | 66 | 3 - 2550 | 8,325 |
| Proteasome Inhibitors (N=1) | 18 | -- | -- | 18 |
| Retinoids (N=1) | 12 | -- | -- | 12 |
| Stem Cell Transplantation (N=3) | 36 | 25 | 5 - 80 | 110 |
| Stimulants (N=1) | 10 | -- | -- | 10 |
| Therapeutic Vaccines (N=7) | 38 | 40 | 24 - 60 | 268 |
| Toll-Like Receptor Agonists (N=1) | 28 | -- | -- | 28 |
| Treatment Intensification/Early Treatment (N=7) | 239 | 101 | 60 - 621 | 1,676* |
| **Total** | | | | 13,732 |

# In 2019, most (~69%) studies obtained community input



# 2022 Landscape analysis: Preliminary findings

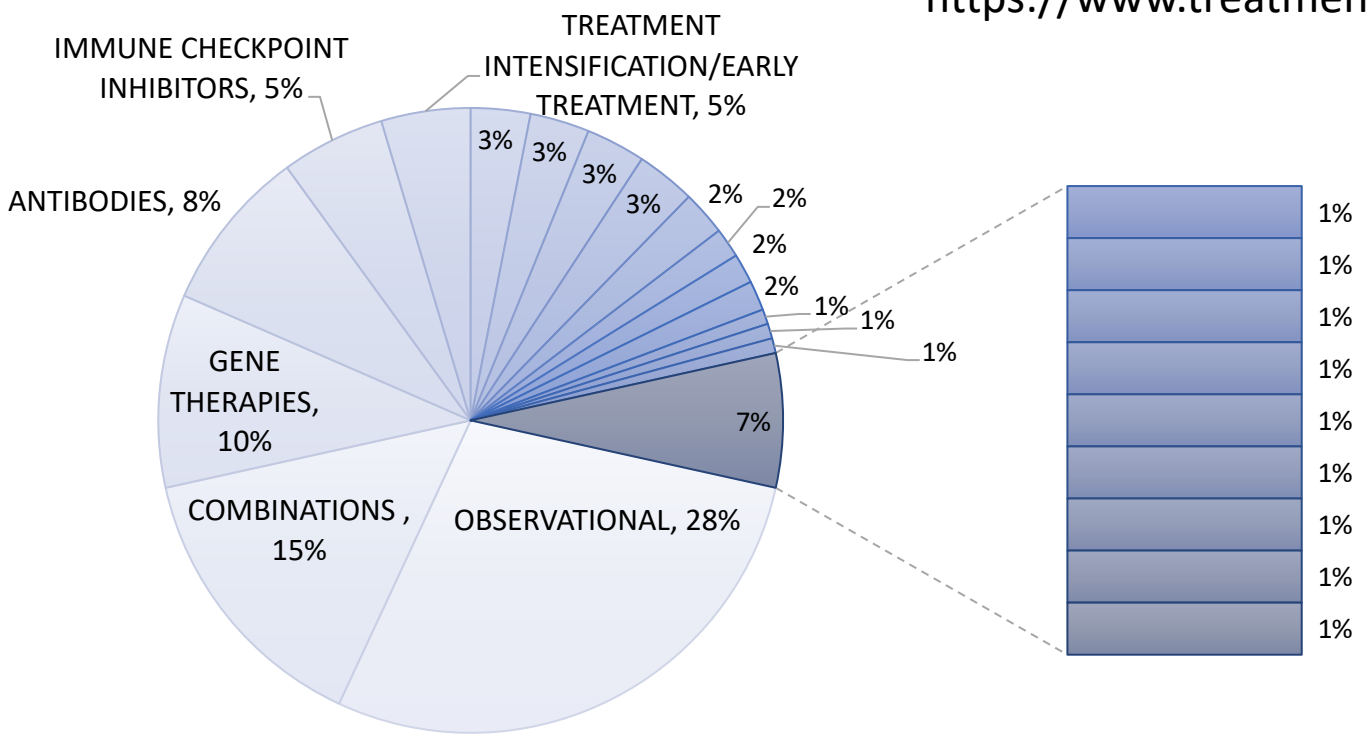
# 2022 data collection




*Studies may have multiple contacts

# Current listing has 26 categories of studies

https://www.treatmentactiongroup.org/cure/trials/




- OBSERVATIONAL
- ANTIBODIES
- LATENCY-REVERSING AGENTS
- THERAPEUTIC VACCINES
- STEM CELL TRANSPLANTATION
- GONADOTROPIN-RELEASING HORMONE (GnRH) AGONISTS
- ANTIRETROVIRAL THERAPY
- STIMULANTS
- T CELL RECEPTOR-BASED BISPECIFICS
- COMBINATIONS
- IMMUNE CHECKPOINT INHIBITORS
- ANALYTICAL TREATMENT INTERRUPTION
- ADOPTIVE IMMUNOTHERAPY
- IMAGING STUDIES
- ANTI-CMV THERAPY
- DUAL-AFFINITY RE-TARGETING (DART) MOLECULES
- TYROSINE KINASE INHIBITORS
- CANNABINOIDS
- GENE THERAPIES
- TREATMENT INTENSIFICATION/EARLY TREATMENT
- GENE THERAPIES FOR HIV-POSITIVE PEOPLE WITH CANCERS
- CYTOKINES
- TOLL-LIKE RECEPTOR AGONISTS
- mTOR INHIBITORS
- ANTI-INFLAMMATORY
- JANUS KINASE INHIBITORS

# Analytic Treatment Interruptions & Invasive Procedures

- One in four studies on the 2022 TAG listing include an ATI (33/130, 25.3%)
  - 30/133 (22.5%) of 2019 studies included an ATI
- Two-thirds of 2022 survey responders (30/44, 68.1%), reported at least 1 required or optional invasive procedure
  - Range= 0-6, median = 1

| | 2022 (44 responses) | | 2019 (66 responses) | |
|---|---|---|---|---|
| | Required | Optional | Required | Optional |
| Leukapheresis | 25.0% | 13.6% | 28.8% | 16.7% |
| GALT biopsy | 4.5% | 25.0% | 6.1% | 21.2% |
| Lumbar puncture | 0.0% | 9.1% | 3.0% | 13.6% |
| Lymph node biopsy | 0.0% | 9.1% | 3.0% | 15.2% |
| Stem cell transplant | 2.3% | 0.0% | 7.6% | 1.5% |
| Lymph node aspiration | 2.3% | 13.6% | 1.5% | 6.1% |
| Any adjunct chemotherapy | 11.4% | 0.0% | 13.6% | 1.5% |
| Fine needle aspiration | 0.0% | 9.1% | 1.5% | 7.6% |
| Other, please specify | 0.0% | 15.9% | 7.6% | 4.5% |

# Information analyzed from clinicaltrials.gov registry listings

- Study phase
- Study location (country)
- Study status (recruiting, etc.)
- Start and completion dates
- Projected number of participants
- Age or sex exclusion criteria

Important note on the limitations of registry data

33.8% of studies (N=40) had been updated w/in 90 days of data pull; 53.3% (N=63) had been updated w/in 6 months

**22.0% (N=26) had not been updated in >1 year**

# Who sponsors cure-related research?

| Sponsor category | Count (%) |
|---|---|
| University or Hospital | 60 (50.8) |
| Industry | 19 (16.1) |
| Government-funded network | 19 (16.1) |
| Government agency | 17 (14.4) |
| Research collaboration | 2 (1.6) |
| Non-profit | 1 (0.8) |
| ***Grand Total*** | ***118 (100)*** |

| Individual sponsors of 3 or more studies | Count |
|---|---|
| ANRS, Emerging Infectious Diseases | 11 |
| University of California, San Francisco | 8 |
| National Institute of Allergy and Infectious Diseases | 8 |
| South East Asia R | 3 |
| Catherine Bollard Institute | 3 |
| Centre Hospitalie | 3 |
| American Gene T | 3 |
| University Hospit | 3 |
| National Cancer Institute | 3 |
| City of Hope Medical Center | 3 |
| AbbVie | 3 |
| ***Grand Total*** | ***51*** |

Studies from these 11 sponsors account for 43.2% of current cure-related landscape

# 118 studies w/ clinicaltrials.gov entries:

| Status | # of studies | Projected # of participants |
|---|---|---|
| Not yet recruiting | 10 | 576 |
| Recruiting | 61 | 9313 |
| Enrolling by invitation only | 2 | 17 |
| Active, not recruiting | 24 | 2961 |
| Completed | 7 | 702 |
| Suspended | 3 | 219 |
| Terminated | 1 | 5 |
| Unknown | 10 | 343 |
| ***Total*** | ***118*** | ***14,136*** |

Studies will enroll 14,136 participants in 32 countries (median = 39; mean= 119; range: 2-2800)

Enrollment locations for studies with clinicaltrials.gov listings (N=118)

# 29 Observational studies **w/ clinicaltrials.gov** entries

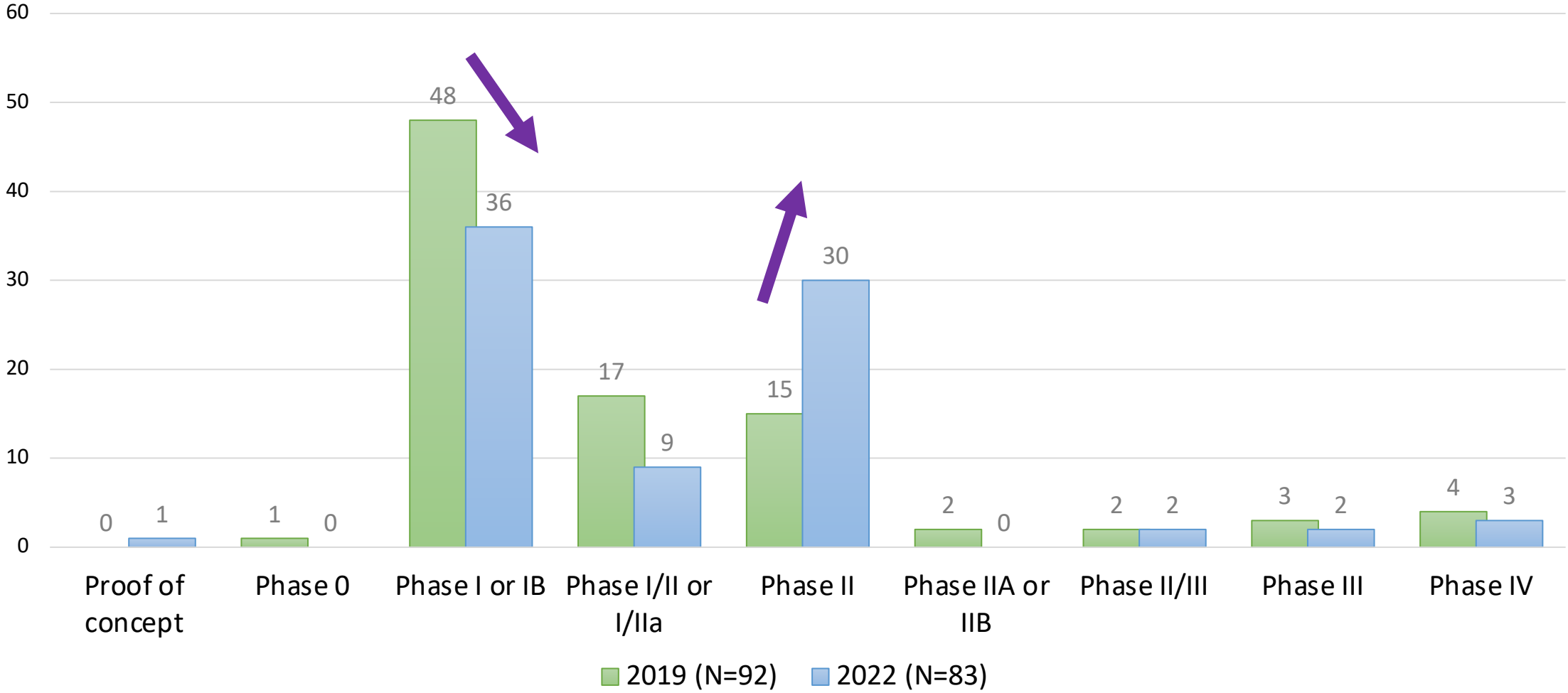
- Listed start dates range from 10/1/1996 – 10/20/2022
- Listed completion dates range from 12/1/2020 – 9/29/2038

Studies will enroll 8,315 participants in 17 countries
(mean = 332, median = 66, range 2-2800)
Observational studies with largest # participants are in France (2800); Netherlands (1909); and USA (1150)

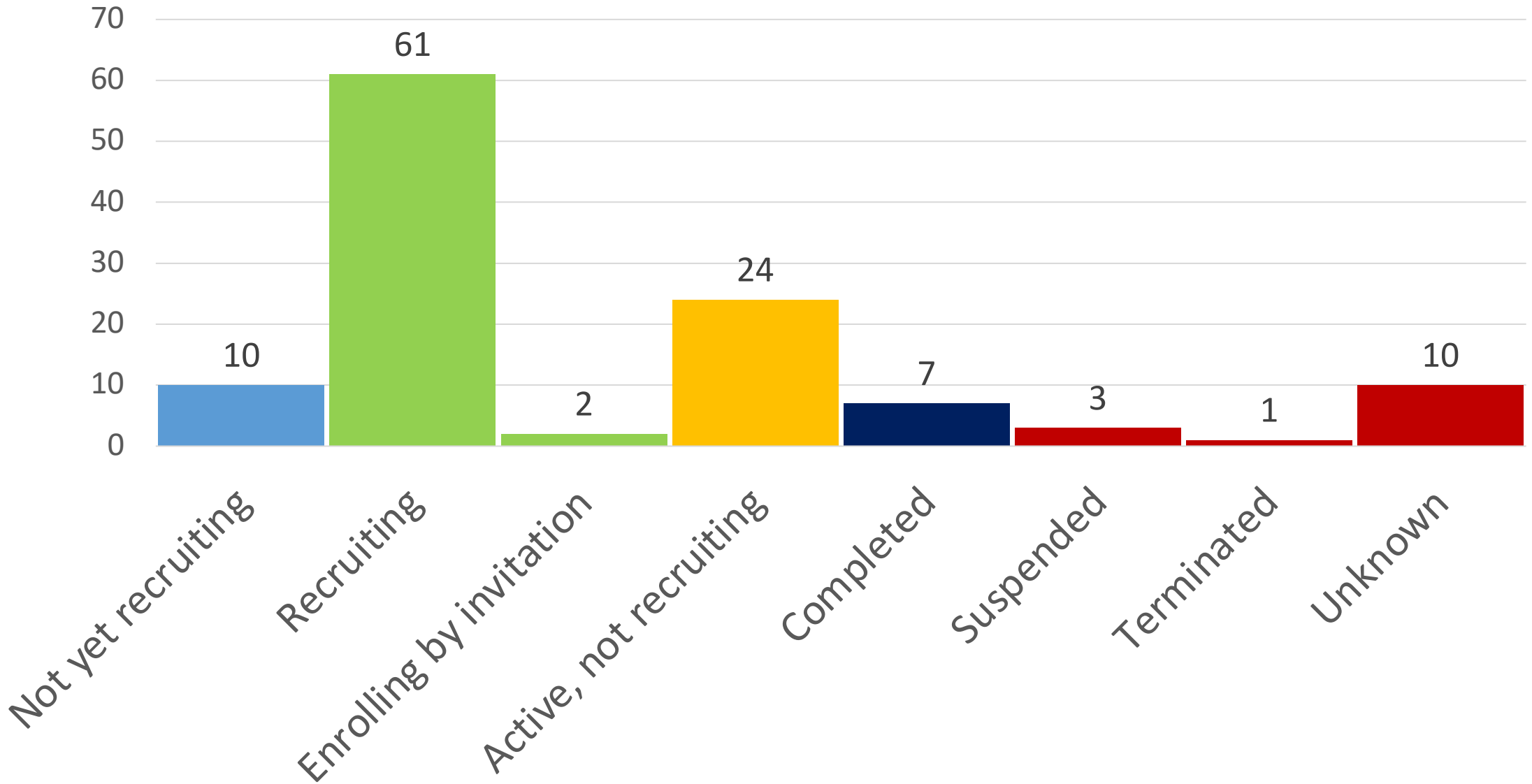
Maximum # Potential Participants, Observational Studies

| **Status** | **# of studies** | **Projected # participants** |
|---|---|---|
| Not yet recruiting | 1 | 180 |
| Recruiting | 18 | 5913 |
| Enrolling by invitation only | 2 | --- |
| Active, not recruiting | 5 | 2052 |
| Unknown | 3 | 170 |
| ***Total*** | ***29*** | ***8315*** |

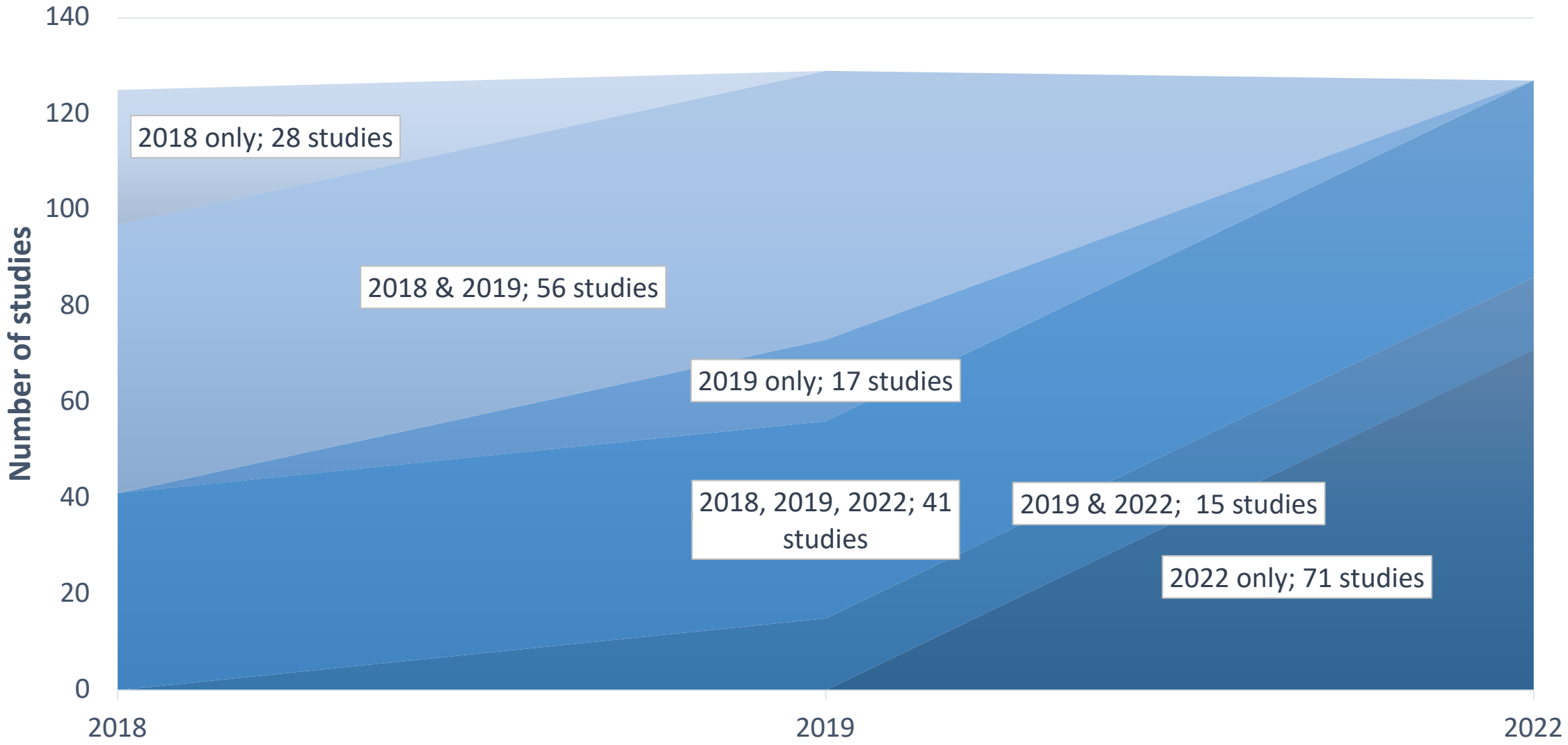
# Distribution of cure-related research by phase



# Study status in clinicaltrials.gov, Feb 2022



# Overall size of landscape remains stable as composition shifts



# Age limits

- 3 studies are enrolling children or infants
- Half (50.4%, N=58) of the 115 studies enrolling adults have **no upper age limit**
- Remaining adult studies (N=57) have **mean upper age limit of 65.17 (median =65, range =40-85)**
  - Commonly-cited reasons for upper age limit in survey responses were: Scientific rationale (N=18), limits of cohort from which study is recruiting (N=1), and funder requirement (N=1)

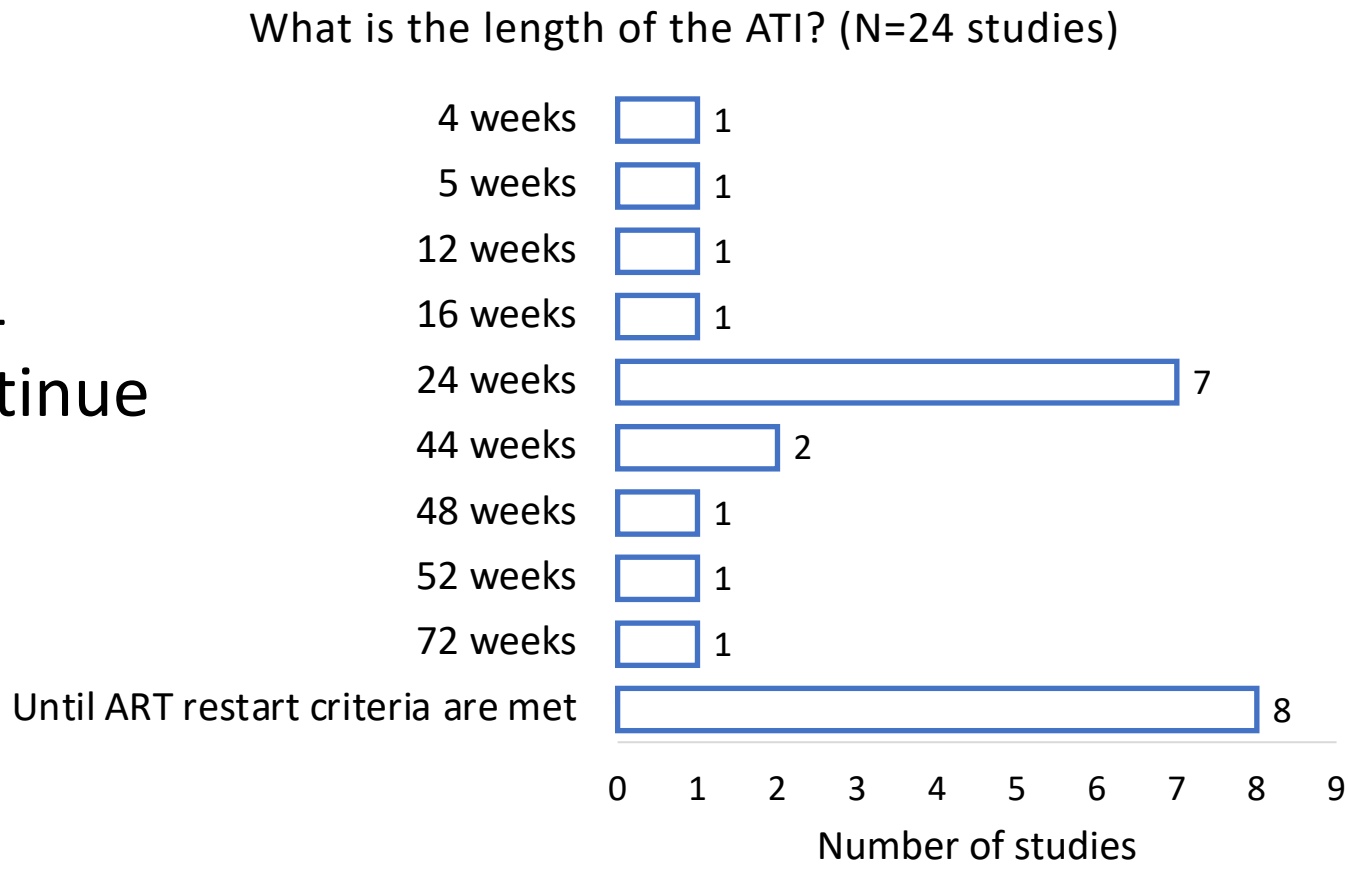
# Participant sex

- Registry entries for 5 studies indicate only males are eligible; 2 indicate only females are eligible; 111 will enroll all sexes
- Survey asked: Were differences by sex observed in interim or final analysis?
  - 33/34 respondents reported they did not analyze (1/34 reported analyzing and observing a sex difference)
- Follow-up question: Do you plan to do this analysis?
  - 15/33 respondents reported they **will** analyze sex;
  - Reasons for not planning a sex analysis: cohort is all male or all female; sample size is too small.

# ATIs and PrEP

- Defined ATI lengths range from 4 weeks – 72 weeks; 8 studies continue ATI until restart criteria are met

| **Are PrEP referrals available for sex partners of ATI study participants?** | |
|---|---|
| Yes | 18 |
| Letter for partners with information on PrEP | 2 |
| Available through local clinic | 2 |
| Extensive participant counseling | 1 |
| Not formally | 1 |
| ***Total*** | ***24*** |



# Thank you!
# Questions?

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