


# The 90-90-90 Initiative: A Roadmap to Ending the AIDS Epidemic

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## Objectives

- Describe the current HIV Care Continuum in the United States
- Describe the components of the UNAIDS 90-90-90 Initiative
- Present “Data for Care Alabama”, an initiative to improve retention in care and viral suppression in Ryan White Clinics in Alabama.



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## NATIONAL HIV/AIDS STRATEGY for the UNITED STATES:

UPDATED TO 2020

JULY 2015



- Increase the percentage of newly diagnosed persons linked to HIV medical care within one month of their HIV diagnosis to **85%**
- Increase the percentage of persons with diagnosed HIV who are retained in medical care to **at least 90%**
- Increase the percentage of persons with diagnosed HIV infection who are virally suppressed to **at least 80%**



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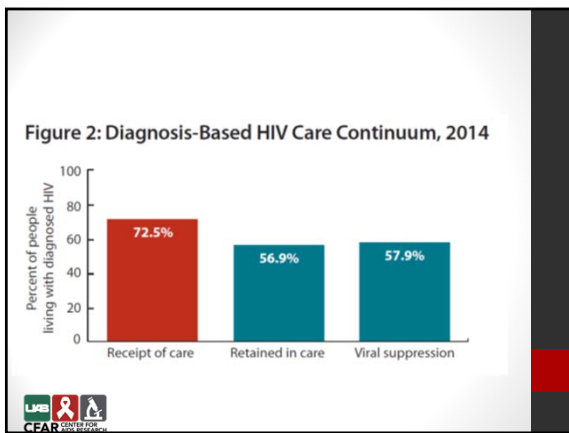
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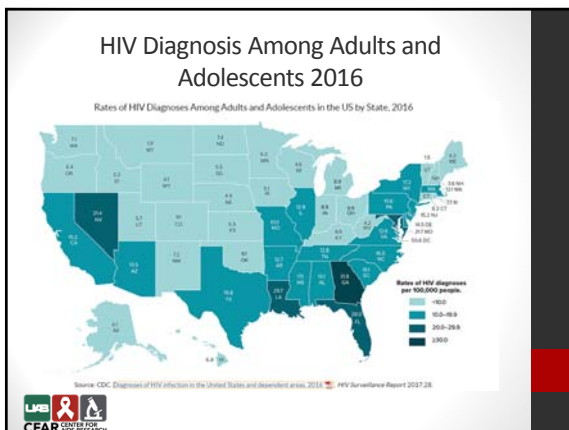
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### Ending the AIDS Epidemic

**4**  
Expansion of Treatment Access

1 Promote Sexual Health Education  
2 UPI  
5 Address comorbidities such as tuberculosis among people living with HIV  
6 Close the quality resource gap  
7 Research and dissemination  
10 Research and dissemination for stronger integration

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### Success of HIV Treatment

**START**  
57% Reduced Risk of Death or Serious Events with Immediate Therapy

Deferred ART  
Immediate ART

Months

REGIMEN START Study Group, N Engl J Med 2013

**The PARTNER study (2016)**

- 1,000 mixed status couples
- All HIV+ partners virally suppressed and on effective treatment
- 58,000 sex acts without a condom
- 0** transmissions of HIV

Viral suppression from ART prevents HIV transmission

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### Human Immunodeficiency Virus Transmission at Each Step of the Care Continuum in the United States

**A United States, 2009**

No. of Transmissions

30.2%  
61.3%

HIV Care Continuum

- HIV Infected but Undiagnosed
- HIV Diagnosed but Not Retained in Medical Care
- Retained in Care but Not Prescribed ART
- Prescribed ART but Not Virally Suppressed
- Virally Suppressed

Skarbinski et al. JAMA Intern Med. 2015;175(4):588-596. doi:10.1001/jamainternmed.2014.8180

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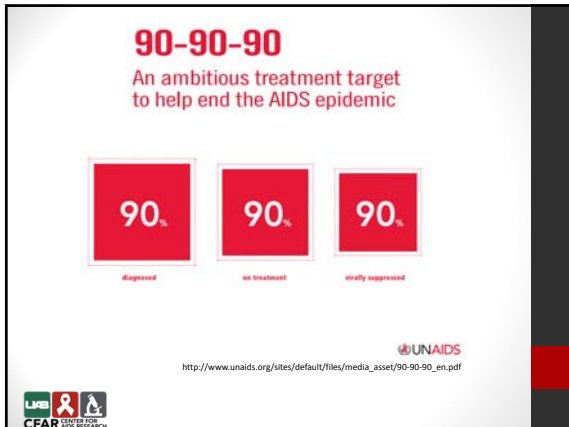
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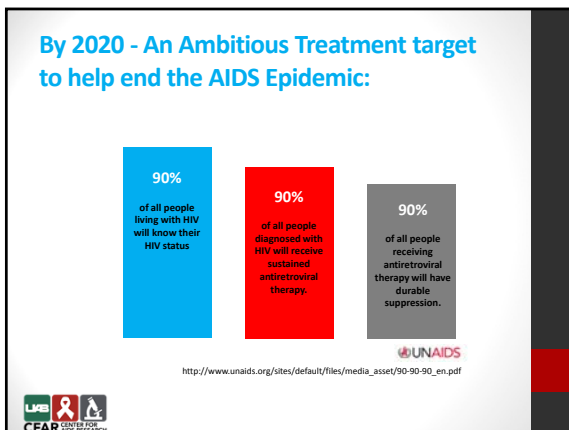
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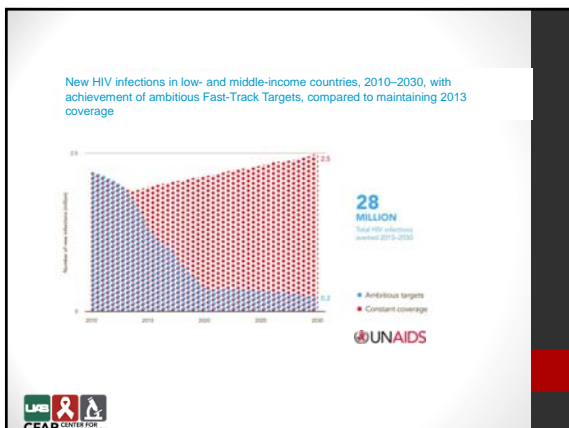
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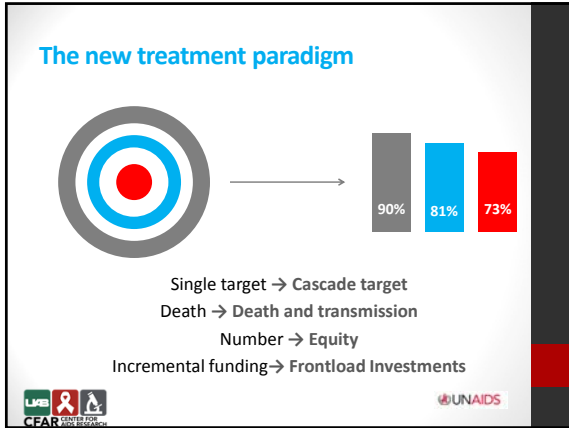
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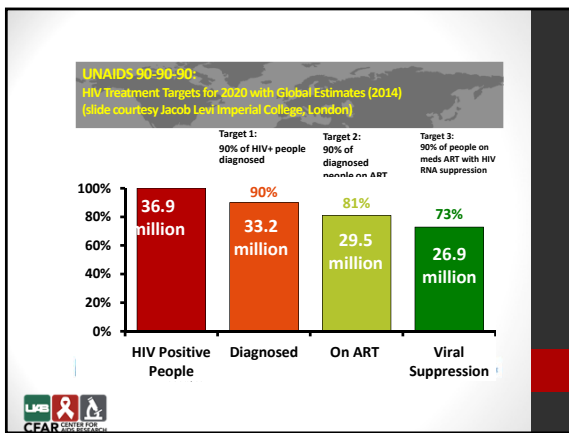
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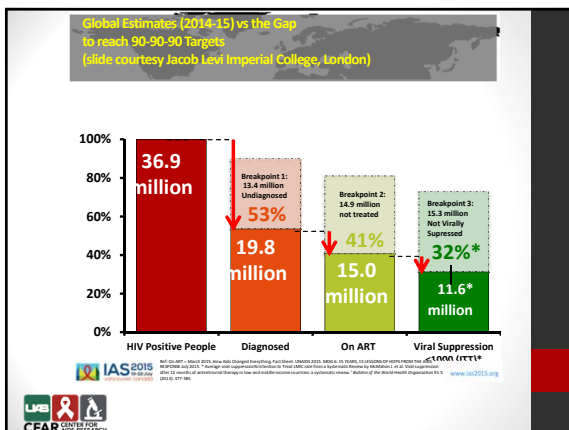
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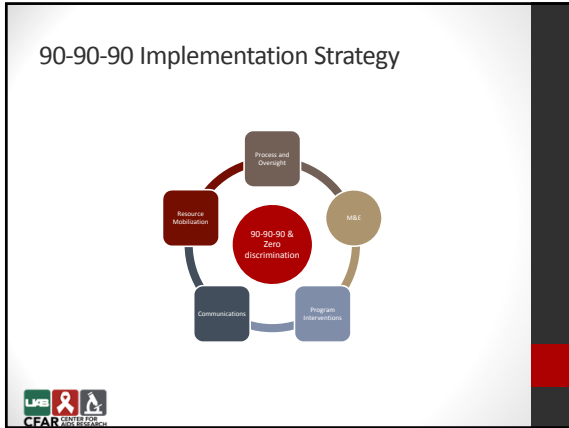
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### Washington DC

90/90/90/50 Plan

### Denver

#### Ending the HIV Epidemic: 5280

Metropolitan Denver HIV Monitoring Report 2016

**Executive Summary**

In 2015, the City of Denver signed on to a global effort to end the HIV epidemic called the [Fast-Track Initiative](#). By 2020, the goal is 90% of people living with HIV to be diagnosed and know their status, 90% of those who are diagnosed to be engaged in care, and 90% of those in care to have suppressed viral loads. By 2020, we aim to increase those percentages to 95%, which would mean that several 80% of people living with HIV have suppressed viral loads, new transmissions are rare, and people living with HIV are young, fit and enjoying life. Finally, the initiative calls for an end to HIV-related stigma, a critical element that must be addressed if any of the above goals are to be achieved and maintained.

Given the flow of people and resources through the five counties that comprise the metro area (Denver, Arapahoe, Denver, Douglas, and Jefferson), we chose to report aggregated epidemiologic data for all of these Denver (Figure 1). This report does not include Boulder and Broomfield.

**The Fast-Track to Ending HIV in San Antonio**

A Report for the Community

November 6, 2017

### San Antonio

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### Key challenges

1. Data
2. Societal
3. Diversity of facility costs
4. Gaps in the treatment cascade
5. Delivery challenges
6. Financing
7. Addressing the epidemic in most vulnerable populations



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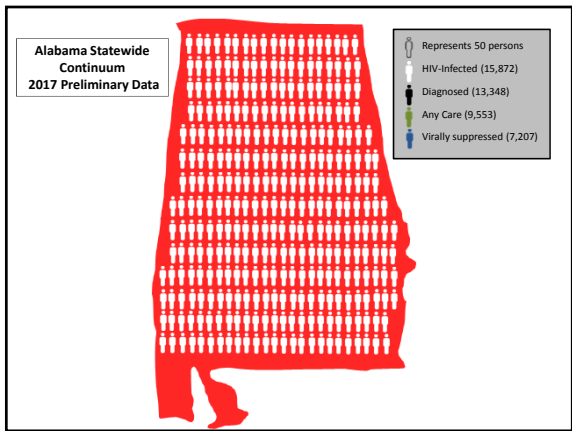
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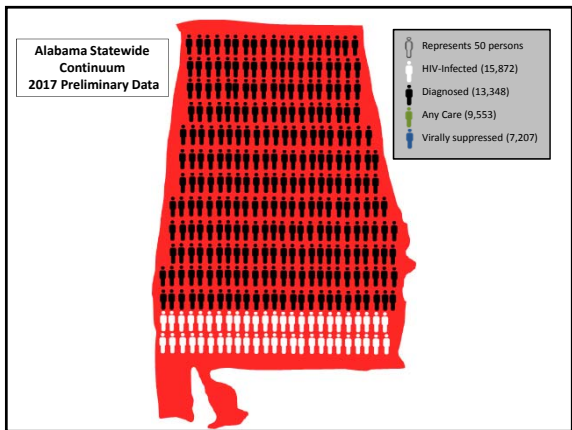
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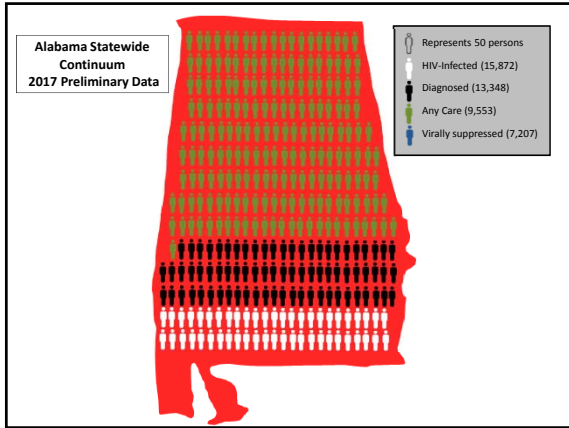
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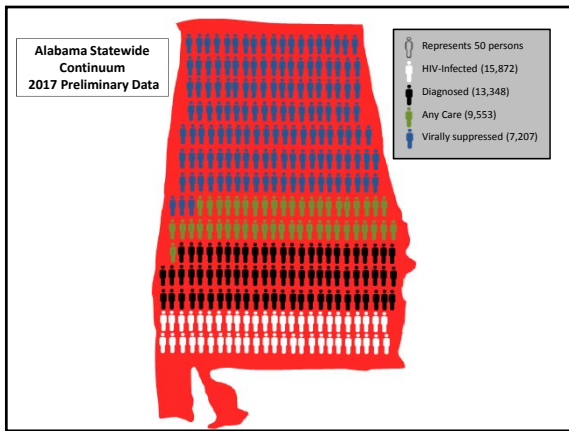
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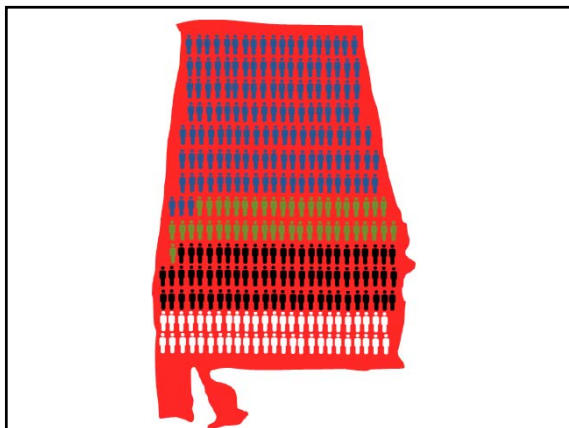
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Ending the Epidemic Initiative

UAB CFAR CENTER FOR AIDS RESEARCH

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HIV Service Providers Collaborative Meeting, BAO, Dec 2015, Nov 2016, Nov 2017

UAB CFAR CENTER FOR AIDS RESEARCH

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Ending HIV in Alabama Scientific Working Group

- Ending HIV in Alabama Scientific Working Group (SWG) is comprised of UAB CFAR members including clinical investigators, public health researchers, community stakeholders, and consumers with broad expertise in public health, clinical and behavioral research, epidemiology and biostatistics, and community engagement.
- The purpose of this SWG is to foster opportunities for collaboration across the aforementioned body of experts with the purpose of achieving the Joint United National Programme on HIV and AIDS (UNAIDS) 90-90-90 targets in Alabama.

UAB CFAR CENTER FOR AIDS RESEARCH

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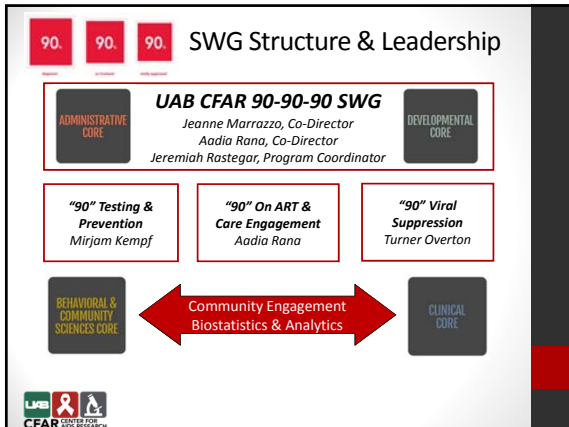
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**First 90 – 90% Diagnosed, Prevention**

- Estimating Undiagnosed PLWH in Alabama by Demographics and Geography, Dustin Long PhD
  - Comparison of the CD4 depletion model and the Seattle method for HIV prevalence.
  - Aims 1 and 2: Using multiple data sources (Alabama Department of Public Health, Jefferson County Department of Health, Commercial Labs, and Medicaid) estimate time from infection to diagnosis for each PLWH in AL using the CD4 depletion and Seattle methods.
  - Aim 3: Estimation of Geographic Association
- ED testing and linkage (Galbraith J, Heath S); Evaluation of Testing and PrEP services (Elopre, BAO, JCDH)

UAB CFAR logo

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**Second and Third 90s  
'On Treatment' and 'Viral Suppression'**

- **Data to Care**
  - Laboratories report CD4 & VL results to the health department in most U.S. states
  - Uses surveillance data to identify & re-engage out-of-care PLWH
  - May or may not involve coordination with medical providers
- **Evaluation of Existing Programs**
  - Housing, Food Insecurity, and Residential Rehabilitation Programs in Birmingham
- **Data for Care**

UAB CFAR logo

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### Data For Care Alabama: D4C AL



- Quality Improvement Initiative to enhance retention in care and viral suppression at 7 Ryan White Clinics statewide via partnership with the Alabama Regional Quality Management Group.
- Implementation of an CDC Evidence Based Intervention (Retention through Enhanced Personal Contacts-REPC) targeting those with a history of missed HIV medical visits using risk stratification.
- Training, Implementation, Evaluation; Plan→Do→Study→Act
- Funded through the Alabama Department of Public Health RFP for HIV/AIDS prevention services (CDC-RFA-PS-18-18020)




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### Implications of Missed HIV Medical Care Visits

PLWH initiating outpatient HIV medical care at UAB Clinic, 2000 - 2005 (N=543)

Missed HIV medical care visits associated with:


- Delayed ART initiation
- Poor retention in care
- Longer time to VS
- Greater cumulative VL burden (viremia copy-years)
- Racial disparities in VS
- Declines in CD4 count
- Inpatient hospitalization
- Mortality

Characteristic	HR (95%CI) <sup>a</sup>
"No show" visit in 1 <sup>st</sup> year	<b>2.90 (1.28- 6.56)</b>
Age (HR per 10 years)	<b>1.58 (1.12-2.22)</b>
CD4 count <200 cells/mL	<b>2.70 (1.00-7.30)</b>
Log <sub>10</sub> plasma HIV RNA	1.02 (0.75-1.39)
ART started in 1 <sup>st</sup> year	0.64 (0.25-1.62)

<sup>a</sup> Cox proportional hazards (PH) analysis also adjusts for sex, race/ethnicity, insurance, affective mental health disorder, alcohol abuse, and substance abuse.

Mugavero M, et al *CID* 2014 ;  
Horberg 2013, Coblentz, 2012

Mugavero et al. *Clin Infect Dis* 2009;48




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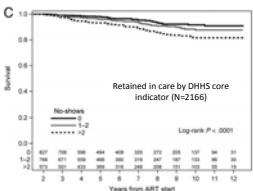
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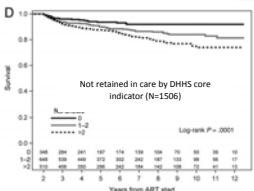
### Importance of No-Show Visits

No-show visits are an independent predictor of mortality



**C**


Retained in care by DHHS core indicator (N=2166)



**D**

Not retained in care by DHHS core indicator (N=1506)

Mugavero M, et al *CID* 2014




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### STAY CONNECTED

Evidence-Informed for Retention in HIV Care

Low-Effort, Clinic-Wide Intervention to Improve Attendance with HIV Primary Care

- Six HIV-specialty clinics participated in a cross-sectionally sampled pretest-posttest evaluation of brochures, posters, and messages that conveyed the importance of regular clinic attendance.
- Clinic attendance for primary care was significantly higher in the intervention versus preintervention

Gardner et al. CID 2012



Sample Messages:

We have good evidence that people with HIV who come to their appointments do better than those who don't. When you miss your appointments, we can't work together to keep you healthy.

Thank you for doing such a good job of keeping your appointments. It makes it easier for all of us to work together to keep you healthy.

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### CDC/HRSA REPC Efficacious for HIV Care Engagement

- RCT at 6 HIV clinics
- N=1838
- 3 study arms (1:1:1)
  - \* Enhanced Contact (EC)
  - \* EC + skills (EC+)
  - \* SOC
- Outcomes @ 12-months:
  - \* Visit adherence
  - \* 4-month visit constancy
- EC & EC+ superior to SOC
- Efficacy in subgroups
- Not efficacious with youth, substance use, unmet needs

Gardner LI et al. Clin Infect Dis 2014;59, Shrestha RK et al. JAIDS 2015; 68  
Slide courtesy Michael Mugavero



Subgroup	SOC (%)	EC+ (%)
Overall	67%	72%
Black/AA	66%	70%
Female	65%	70%
Medicare	65%	74%
Medicaid	66%	71%

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### D4C (Data for Care) Retention: Enhanced Personal Contacts (EPC) – 1917 Clinic

**1-2 Missed Visits (Medium Risk)**


Flowchart showing intervention steps: EPC Front Desk or LRC\* for initial visits, Stay Connected, EPC LRC\*, and EPC within 2 days by LRC\* + Healthcare team.

**≥3 Missed Visits (High Risk)**

Flowchart showing intervention steps: EPC Front Desk or LRC\* for initial visits, Stay Connected, EPC LRC\* + Social Worker for patients on ICM\*\*, and EPC within 2 days by LRC\* + Healthcare team.

\*LRC = Linkage & Retention Coordinator

\*\* Intensive Case Management




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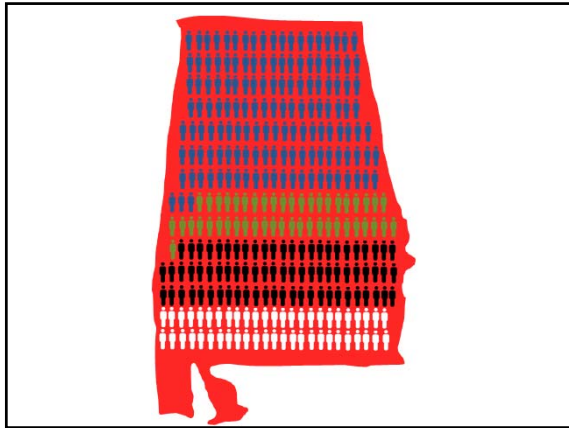
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## 90-90-90

An ambitious treatment target to help end the AIDS epidemic

- UNAIDS 90-90-90 Initiative is indeed ambitious, but assists in providing **data-driven** target using the care continuum and **accelerates** the speed of the response.
- Strengthen key partnerships to leverage existing HIV programs and resources and intensify our local response.
- A key component in writing.....

**THE FINAL CHAPTER OF THE AIDS EPIDEMIC**

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