Reauthorise PEPFAR to Prevent Death, Orphanhood, and Suffering for Millions of Children

Lucie Culver, Jeffrey W. Imani-Eaterry, Lorraine Sherr, Mary Mahy, Seth Flaxmen.
Published August 17, 2023, *The Lancet*

As researchers on HIV, AIDS, and paediatric health, nothing is more central to our work than preserving children's lives. Considering the current challenge to the 5-year reauthorisation of the US President's Emergency Plan for AIDS Relief (PEPFAR), we used 2023 UNAIDS estimates on the prevalence of children orphaned by AIDS, infant and young child HIV-infections, and incidence of adult and child AIDS deaths to estimate PEPFAR's effect on child survival and health. We focused on sub-Saharan Africa: the region receiving more than 90% of PEPFAR funds and containing two-thirds of all people with HIV. We note that PEPFAR provides support through and in partnership with the Global Fund to Fight AIDS, Tuberculosis and Malaria (to which PEPFAR is the largest donor), national governments, UNAIDS, and other UN agencies.

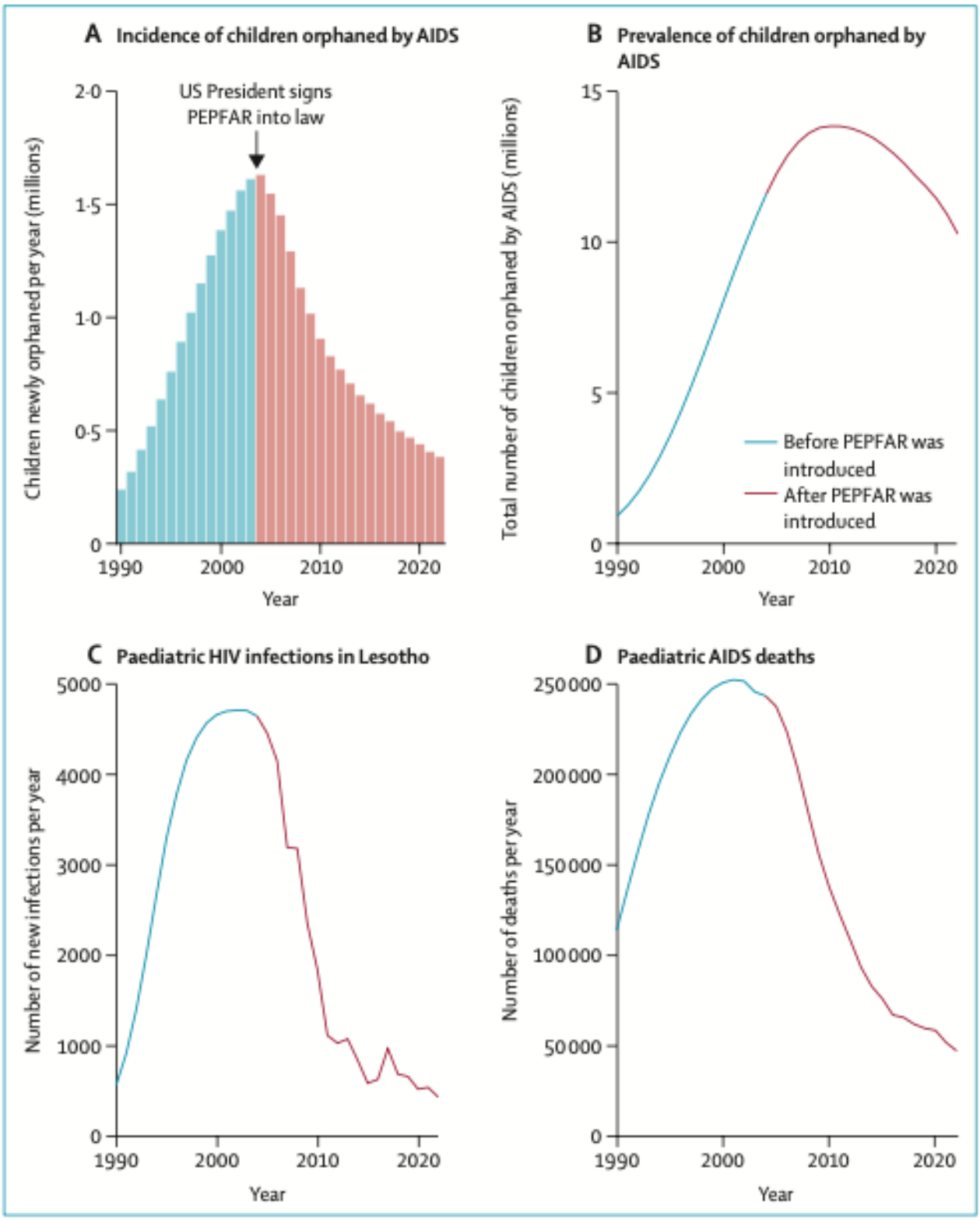

Figure: **AIDS orphanhood, infant and young child HIV infections, and infant and young child AIDS deaths in sub-Saharan Africa**

(A) Incidence of orphanhood caused by AIDS in sub-Saharan Africad (children aged <18 years who are newly orphaned per year). Regression model estimates were based on linear regression with no intercept term, 1-year lagged orphanhood prevalence, and new AIDS deaths for individuals aged 15–49 years, based on UNAIDS data. (B) Prevalence of orphanhood caused by AIDS in sub-Saharan Africa (living children

PEPFAR has substantially reversed the devastating effects of HIV and AIDS on ch

[aged <18 years] who were orphaned by the loss of at least one parent). Replication code is available at https://github.com/MLGlobalHealth/PEPFAR-letter. (C) New HIV infections due to vertical transmission (infants and young children aged <36 months) in Lesotho, 1990–2022, based on UNAIDS data. (D) Paediatric AIDS deaths in sub-Saharan Africa, based on UNAIDS data (infants and young children aged <36 months).

ildren who are newly orphaned (figure A). Loss of a parent is associated with educ

ation loss, child abuse, and child sexual exploitation, with consequent elevat

edrisks of HIV infection. Using UNAIDS data, we estimated the number of children

who were newly orphaned by AIDS annually before and after PEPFAR by regressing orph

anhood prevalence on previous-year orphanhood prevalence and adult (aged 15–49

years) AIDS deaths. Incidence of orphanhood in sub-Saharan Africa increased rapi

dly from 1990, reaching a peak of 1.6 million children newly orphaned by AIDS (age

d
<1
8
ye
ar
s)
du
ri
ng
20
04
.
In
th
is
ye
ar
,
PE
PF
AR
be
ga
n
to
pr
ev
en
t
pa
re
nt
al
de
at
hs
vi

a a massive roll-out of antiretroviral agents to 28 countries in sub-Saharan Af

rica. From 2005, the incidence of orphanhood due to AIDS has reduced annually to

382,000 in 2021.

UNAIDS data show that 10.3 million children orphaned by AIDS in su

b-Saharan Africa remain in need of support (figure B). Globally, 13.9 million ch

ildrenarеorphaned, livingwithoutoneorbothparentswhohavediedofAIDS, al

ongside 7.5 million children orphaned due to COVID-19 - associated excess deaths

.
10
%
of
PE
PF
AR
’s
bi
la
te
ra
l
fu
nd
in
g
is
de
di
ca
te
d
to
ca
re
of
or
ph
an
ed
an
d
vu
ln
er
ab

le
ch
il
dr
en
,
in
cl
ud
in
g
pr
ov
is
io
n
of
nu
tr
it
io
us
fo
od
,
sc
ho
ol
fe
es
,
sm
al
l
lo
an
s

and savings clubs for caregivers, and psychosocial support. Failure to reauth

or
is
e
PE
PF
AR
wo
ul
d
me
an
th
at
th
is
su
pp
or
t
wi
ll
no
lo
ng
er
be
gu
ar
an
te
ed
.

Th
e
PE
PF

ART has brought four-fold reductions in new HIV infections among infants and

d
yo
un
g
ch
il
dr
en
.
PE
PF
AR
re
du
ce
s
pa
ed
ia
tr
ic
in
fe
ct
io
ns
th
ro
ug
h
pr
og
ra
mm
es
fo
r

prevention of parent-to-child transmission, and through antiretroviral agen

troll-out, which suppresses viral load and therefore the transmission of HIV

to partners and children. New HIV infections among infants and young children

(aged <36 months) in sub-Saharan Africa escalated from 250,000 in 1990 to more th

an 465,000 per year between 1999 and 2002, then reduced to 110,000 by 2022. As an

example, figure C shows incident HIV infections in infants and young children in

Lesotho. We saw rapid reductions in paediatric infections in the PEPFAR era, despit

e
in
cr
ea
si
ng
nu
mb
er
s
of
wo
me
n
wi
th
HI
V:
4,
60
0
ch
il
dr
en
we
re
in
fe
ct
ed
pe
r
ye
ar
in
20

04, which reduced to fewer than 500 per year in 2022.

Since PEPFAR's implemen

tation, AIDS deaths in infants and young children have fallen by 80% (figured).

Using the UNAIDS data, we examined deaths among infants and young children from

1990 to 2022. PEPFAR prevents child deaths by preventing infections and providing

antiretroviral agents to children born with HIV– without which 50% of infants will

die before reaching 2 years of age. Figure D shows that deaths among infants and

young children in sub-Saharan Africa more than doubled during the 1990s, reaching

240,000 per year in 2004. After PEPFAR implementation deaths reduced five-fold

to 47,000 in 2022.

PEPFAR has supported 7.1 million children who are orphaned

and vulnerable and their caregivers, and provides 700,000 children per year wi

th
an
ti
re
tr
ov
ir
al
me
di
ca
ti
on
an
d
ps
yc
ho
so
ci
al
an
d
nu
tr
it
io
na
l
su
pp
or
t
to
st
ay
on

treatment. PEPFAR's direct effects extend further to the reduction of subsequent

negative outcomes on children's lives, such as avoidance of HIV-related developmen

tal delays, family breakdown and separation, abuse and mental health distress

, and reduction of poverty-driven sexual exploitation of children. But the eta

sk is far from done. During COVID-19 lockdowns, PEPFAR innovated to provide contin

uity of HIV care and child abuse prevention, but the initiative now needs to de

velop preparedness for future pandemics. Only 56 % of children aged younger than 14

years with HIV in sub-Saharan Africa have access to antiretroviral treatment. Prev

entionofparentalandchilddeathsrequiressustainedprovisionofantiretrovir

al
me
di
ca
ti
on
an
d
pr
ev
en
ti
on
of
pa
re
nt
-
to
-
ch
il
d
tr
an
sm
is
si
on
.
PE
PF
AR
is
wo
rk
in

g,
where
feasible,
to
support
sustainable
shifts
towards
national
government
ow

nership of antiretroviral programmes, but evidence shows that successful transi

tions require planning and investments in national financial, technical, and lo

gistical capacity. Abrupt halting of development aid can cause health system co

llapses. PEPFAR, the Global Fund to fight AIDS, Tuberculosis and Malaria, nation

al
go
ve
rn
me
nt
s,
an
d
do
no
rs
su
ch
as
th
e
Bi
ll
&
Me
li
nd
a
Ga
te
s
Fo
un
da
ti
on
ar
e
a
cr
uc

ial partnership for global health security.

In 2022, PEPFAR provided life-sa

viing antiretroviral medication to 20 million people—most of them parents and chil

dr
en
.
Ep
id
em
io
lo
gi
ca
l
mo
de
ls
fo
r
ch
il
dr
en
yo
un
ge
r
th
an
15
ye
ar
s
pr
ed
ic
t
th
at
a

6-month interruption in supply would cause an additional 107 300 paediatric HIV

infections and an additional 20600 childhood AIDS deaths within a year.

Loss of

PE
PF
AR
wo
ul
d
in
ev
it
ab
ly
re
su
lt
in
de
at
h,
or
ph
an
ho
od
,
an
d
su
ff
er
in
g
fo
r
mi
ll
io
ns

of children.

Further Information

For **PEPFAR's legislative background** see https://sgp.fas.org/crs/misc/IF12463.pdf

For **2023 UNAIDS estimates** see https://aidsinfo.unaids.org

For more on **global resources for the HIV/AIDS epidemic** see https://www.kff.org/global-health-policy/fact-sheet/the-global-hiv-aids-epidemic

For more on **what PEPFAR has supported** see https://www.state.gov/wp-content/uploads/2022/05/PEPFAR2022.pdf

For **further results attributed to PEPFAR** see http://www.miriamzoll.net/documents/ USAID-PEPFAR%20OVC%20Eval.pdf

Recognition

LC declares research grants to her institutions from UK Research and Innovation, UNICEF, European Research Council, Wellspring Philanthropic Fund, the LEGO Foundation, the Global Fund to Fight AIDS, Tuberculosis and Malaria, a private family foundation that wishes to remain anonymous, and UK Medical Research Foundation; LC also received a consultancy from the Unified Budget, Results and Accountability Framework. JWI-E declares research grants to his institutions from UK Research and Innovation, the National Institutes of Health, Bill & Melinda Gates Foundation, UNAIDS, and WHO; and received a consultancy from Oxford Policy Management and a

consultancy to his institution from BAO Systems. LS declares research grants to her institution from UK Research and Innovation. SF declares research grants to his institution from UK Research and Innovation, the US Centers for Disease Control, and WHO; and a consultancy from WHO. MM declares that UNAIDS receives funding from the US President's Emergency Plan for AIDS Relief and from the Bill & Melinda Gates Foundation, among other funders. All authors had full access to all the data and had final responsibility for the decision to submit for publication. All data is available on the UNAIDS website or from UNAIDS Data for Impact Practice. For any requests for data, please contact aidsinfo@unaids.org.

*Lucie Cluver, Jeffrey W Imai-Eaton, Lorraine Sherr, Mary Mahy, Seth Flaxman lucie.cluver@spi.ox.ac.uk

Department of Social Policy and Intervention (LC) and Department of Computer Science (SF), University of Oxford, Oxford, OX1 2ER, UK; Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, South Africa (LC); Center for Communicable Disease Dynamics, Department of Epidemiology, Harvard T H Chan School of Public Health, Harvard University, Boston, MA, USA (JWI-E); MRC Centre for Global Infectious Disease Analysis, School of Public Health, Imperial College London, London, UK (JWI-E); Institute for Global Health, Faculty of Population Health Sciences, University College London, London, UK (LS); Data for Impact, UNAIDS, Geneva, Switzerland (MM)

Footnotes

1 Diamond D. Lifesaving HIV program faces a new threat: US abortion politics. 2023. https:// www.washingtonpost.com/ health/2023/07/29/pepfar-aids-hiv-abortion- congress/ (accessed July 30, 2023).

2 Operario D, Underhill K, Chuong C, Cluver L. HIV infection and sexual risk behaviour among youth who have experienced orphanhood: systematic review and meta-analysis. J Int AIDS Soc 2011; 14: 25.

3 Hillis S, N'konzi JN, Msemburi W, et al. Orphanhood and caregiver loss among children based on new global excess COVID-19 death estimates. JAMA Pediatr 2022;176: 1145–48.

4 Newell M-L, Coovadia H, Cortina-Borja M, Rollins N, Gaillard P, Dabis F. Mortality of infected and uninfected infants born to HIV- infected mothers in Africa: a pooled analysis. Lancet 2004; 364: 1236–43.

5 Holtzman CW, Godfrey C, Ismail L, et al. PEPFAR's role in protecting and leveraging HIV services in the COVID-19 response in Africa. Curr HIV/AIDS Rep 2022; 19: 26–36.

6 Huffstetler HE, Bandara S, Bharali I, et al. The impacts of donor transitions on health systems in middle-income countries: a scoping review. Health Policy Plan 2022; 37: 1188–202.

7 Stover J, Glaubius R, Teng Y, et al. Modeling the epidemiological impact of the UNAIDS 2025 targets to end AIDS as a public health threat by 2030. PLoS Med 2021; 18: e1003831.

8 Chun HM, Dirlikov E, Cox MH, et al. Vital signs: progress toward eliminating HIV as a global public health threat through scale-up of antiretroviral therapy and health system strengthening supported by the US President's Emergency Plan for AIDs Relief—worldwide, 2004–2022. MMWR Morb Mortal Wkly Rep 2023; 72: 317–24.

9 Flanagan CF, McCann N, Stover J, Freedberg KA, Ciaranello AL. Do not forget the children: a model-based analysis on the potential impact of COVID-19-associated interruptions in paediatric HIV prevention and care. J Int AIDS Soc 2022; 25: e25864.