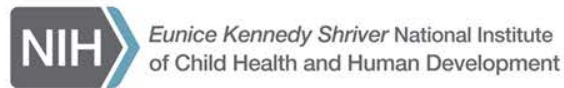


NICHD and IeDEA

Rohan Hazra, MD

Maternal and Pediatric Infectious Disease Branch



Acknowledgments



Maternal and Pediatric Infectious Disease Branch

- ❑ Nahida Chakhtoura, MD – obstetrics and women's health
- ❑ Bill Kapogiannis, MD – peds and adult ID, adolescent medicine
- ❑ Sonia Lee, PhD – psychologist, behavioral medicine
- ❑ Eric Lorenzo, PhD – HIV cure
- ❑ Denise Russo, PhD – immunology

Population Dynamics Branch, Contraception Research Branch and many colleagues at NIAID, NIMH, NIDA, NIAAA and other NIH institutes

Annette Sohn, Mary-Ann Davies, Rachel Vreeman
and the leDEA Pediatric WG

Outline

- NICHD – some background
- NICHD priorities for leDEA
- leDEA accomplishments in priority areas
- Next steps



Eunice Kennedy Shriver

5th of 9 Kennedy
children

Born in 1921 in
Brookline, MA

Camp Shriver in
1962 → Special
Olympics in 1968



NICHD



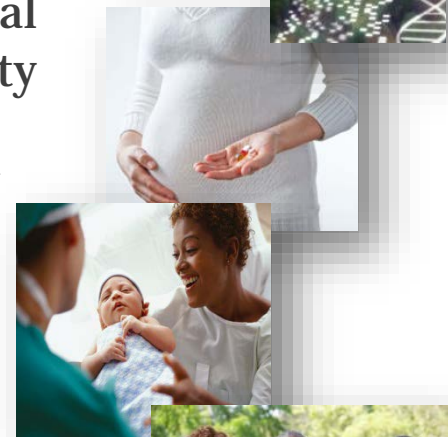
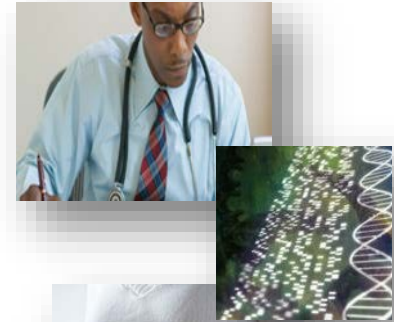
- President Kennedy established NICHD in 1962 (Public Law 87-838)
- Renamed in 2008 – *Eunice Kennedy Shriver* National Institute of Child Health and Human Development

The NICHD Mission is to ensure...

- That every person is born healthy and wanted
- That women suffer no harmful effects from reproductive processes
- That all children have the chance to achieve their full potential for healthy and productive lives, free from disease or disability
- The health, productivity, independence, and well-being of all people through optimal rehabilitation

NICHD's efforts encompass:

Activities from basic science to clinical applications to public and provider education



Outline

- NICHD – some background
- **NICHD priorities for leDEA**
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- Next steps



NICHD Priorities for IeDEA

- Pregnancy and infant outcomes in the Option B+ era
- Long term outcomes in HIV-exposed uninfected children
- Early diagnosis, treatment, and management of infants with HIV infection – outcomes and trends over time
- Long term outcomes in children, adolescents, and young adults with perinatally-acquired HIV infection
- Improving global estimates of the pediatric HIV epidemic
- Models of care across the pediatric, adolescent and maternal lifespan
- Assessment of the impact of changing guidelines with respect to pediatric HIV



Shared interests with other institutes

- Disclosure
- Adherence
- Mental health
- Adolescents



Substudies

- Enhanced data collection
- Laboratory assays
- Innovative statistical approaches
- Clinical evaluations
- Junior investigators



leDEA accomplishments in the NICHD priority areas

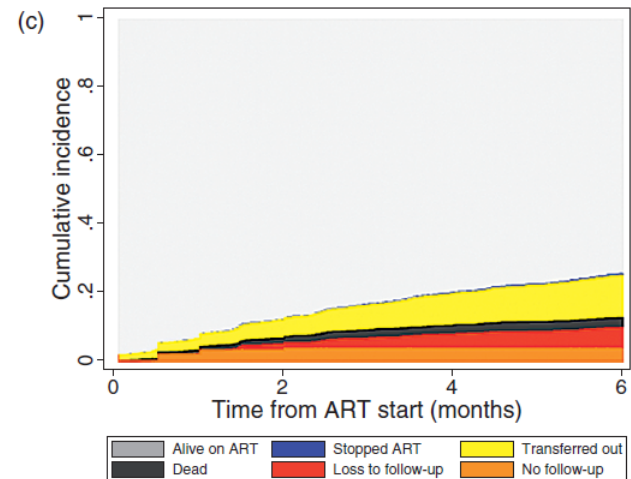
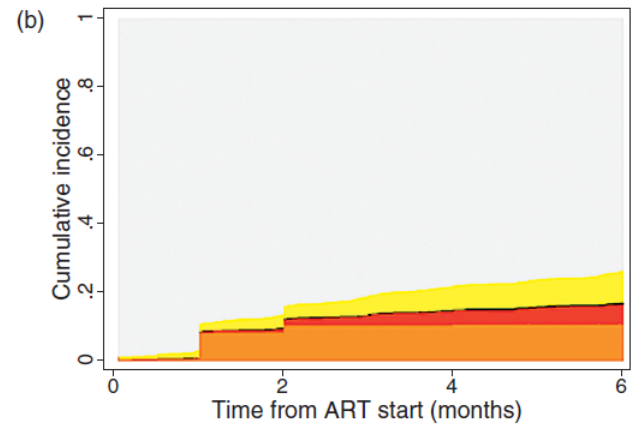
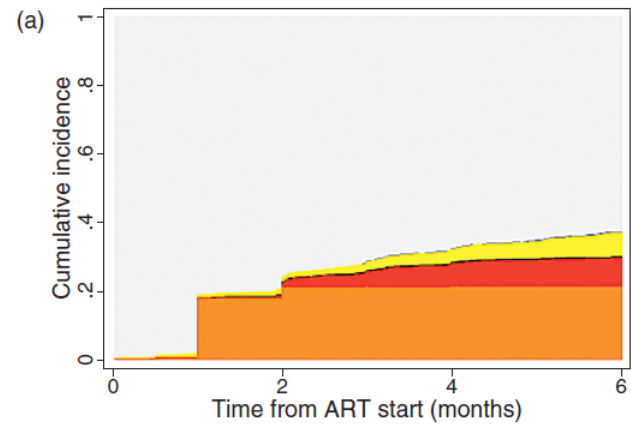
- **Pregnancy and infant outcomes in the Option B+ era**
at least 15 publications

B+, ART start
during pregnancy

*Tenthani, et al,
AIDS 2014*

B+, ART start
during BF

ART start for
WHO 3 or 4
and/or CD4 \geq
350





leDEA accomplishments in the NICHD priority areas

- **Long term outcomes in HIV-exposed uninfected children**
at least 4 publications



leDEA accomplishments in the NICHD priority areas

- **Early diagnosis, treatment, and management of infants with HIV infection – outcomes and trends over time**
at least 29 publications

EID in the CEPAC Model

- Simulate all steps in the EID cascade
- Nucleic acid test (NAT) at select ages
 - Birth, 6 weeks, 10 weeks, and combinations
- Sensitivity:
 - 0% first month after infection (except IU detectable at birth)
 - 100% thereafter
- Specificity: 98.8%
- Costs:
 - Assay \$25; result return \$1.83 (HIV -), \$3.05 (HIV +)
- All input parameters can be varied



leDEA accomplishments in the NICHD priority areas

- **Long term outcomes in children, adolescents, and young adults with perinatally-acquired HIV infection**
at least 56 publications

Risk factors for incident malignancy in HIV-infected children (n=11,707)

		Analysis based on imputed data (n=11,689)	
		Univariable	Multivariable*
ART treatment (time updated)	Not on ART	1	1
	On ART	0.43 (0.15-1.22)	0.29 (0.09-0.86)
Gender	Male	1	1
	Female	0.74 (0.33-1.67)	0.69 (0.30-1.56)
Age at enrolment into ART program [years]	< 3 years	1	1
	3 to < 5 years	3.69 (1.15 – 11.84)	3.41 (1.06 – 10.97)
	5 to < 10 years	2.75 (0.95 – 7.97)	2.89 (1.00 – 8.36)
	≥ 10 years	7.05 (2.11 – 23.53)	7.33 (2.19 – 24.57)
Immunodeficiency at enrolment	No / mild	1	1
	Advanced / severe	2.59 (0.89 – 7.57)	3.54 (1.05 – 11.97)
Calendar year of starting ART	Before 2005	1	-
	≥ 2005 to 2009	0.45 (0.17 – 1.17)	-
	≥ 2010	0.26 (0.03 – 2.27)	-
Calendar year of enrolment	Before 2005	1	-
	≥ 2005	0.55 (0.22 – 1.35)	-

- Linkage of leDEA pediatric data to the Pediatric Cancer Registry in SA
- Incidence = 82/100,000 patient years



leDEA accomplishments in the NICHD priority areas

- **Improving global estimates of the pediatric HIV epidemic**

at least 4 publications

Sohn AH and Hazra R. *Journal of the International AIDS Society* 2013, 16:18555
<http://www.jiasociety.org/index.php/jias/article/view/18555> | <http://dx.doi.org/10.7448/IAS.16.1.18555>



Review article

The changing epidemiology of the global paediatric HIV epidemic: keeping track of perinatally HIV-infected adolescents

Annette H Sohn^{§,1} and Rohan Hazra²



leDEA accomplishments in the NICHD priority areas

- **Models of care across the pediatric, adolescent and maternal lifespan**
at least 9 publications

Short report

A survey of paediatric HIV programmatic and clinical management practices in Asia and sub-Saharan Africa—the International epidemiologic Databases to Evaluate AIDS (IeDEA)

IeDEA Pediatric Working Group

Tuberculosis in Pediatric Antiretroviral Therapy Programs in Low- and Middle-Income Countries: Diagnosis and Screening Practices

Marie Ballif,¹ Lorna Renner,² Jean Claude Dusingize,³ Valeriane Leroy,⁴ Samuel Ayaya,⁵ Kara Wools-Kaloustian,⁶ Claudia P. Cortes,⁷ Catherine C. McGowan,⁸ Claire Graber,¹ Anna M. Mandalakas,⁹ Lynne M. Mofenson,¹⁰ Matthias Egger,¹ Ketut Dewi Kumara Wati,¹¹ Revathy Nallusamy,¹² Gary Reubenson,¹³ Mary-Ann Davies,^{14,*} and Lukas Fenner^{1,15,16,*} for the International Epidemiologic Databases to Evaluate AIDS (IeDEA)^a

Pediatric HIV Clinical Care Resources and Management Practices in Asia: A Regional Survey of the TREAT Asia Pediatric Network

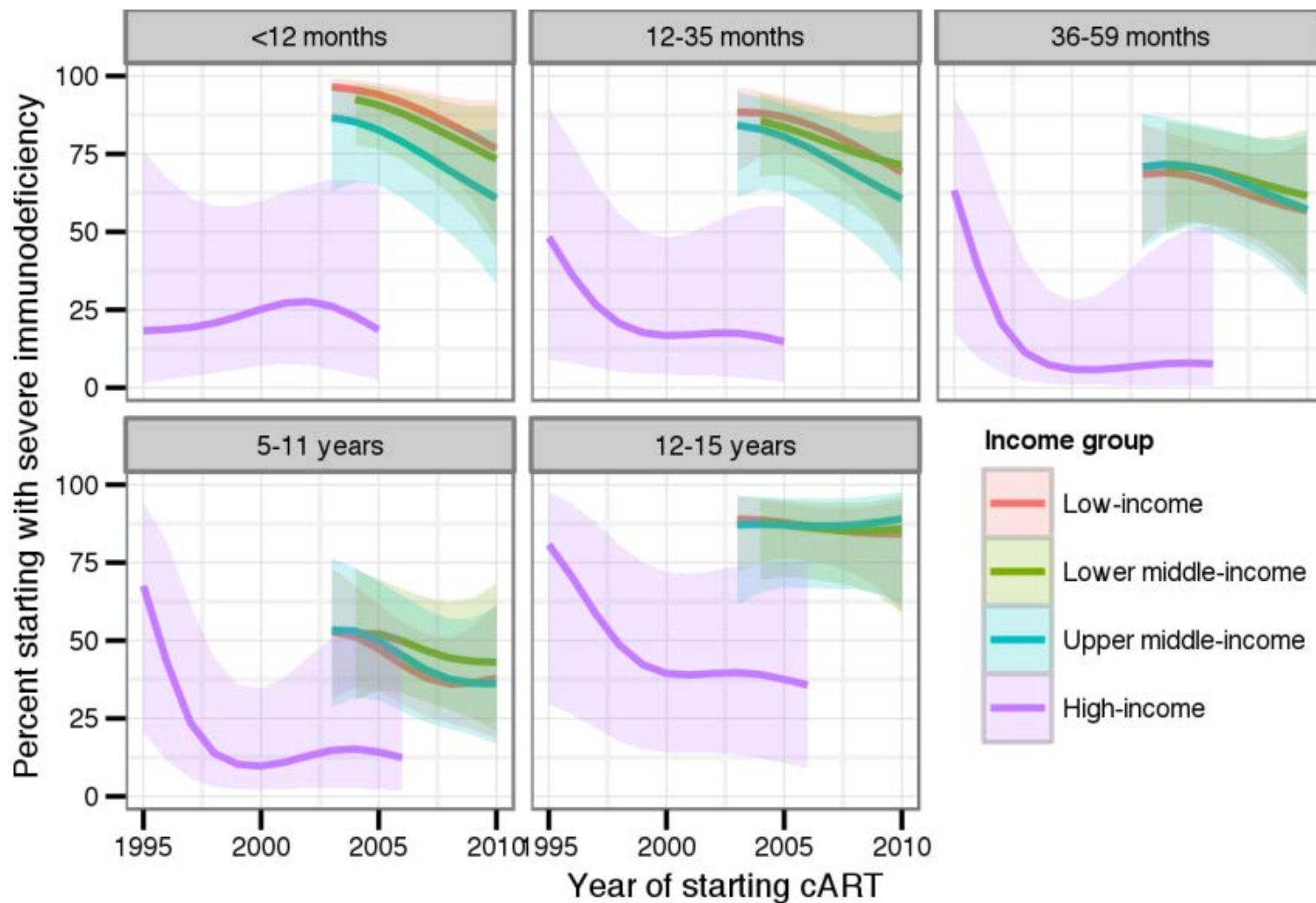
Wasana Prasitsuebsai, M.D.,¹ Asha C. Bowen, B.A., M.B.B.S.,² Joselyn Pang, M.A.,³ Cees Hesp, M.A.,⁴ Azar Kariminia, Ph.D.,⁵ and Annette H. Sohn, M.D.³ on behalf of the TREAT Asia Pediatric Program



leDEA accomplishments in the NICHD priority areas

- **Assessment of the impact of changing guidelines with respect to pediatric HIV**
at least 8 publications

Immunodeficiency in children starting ART in 20 low-, middle- and high-income countries

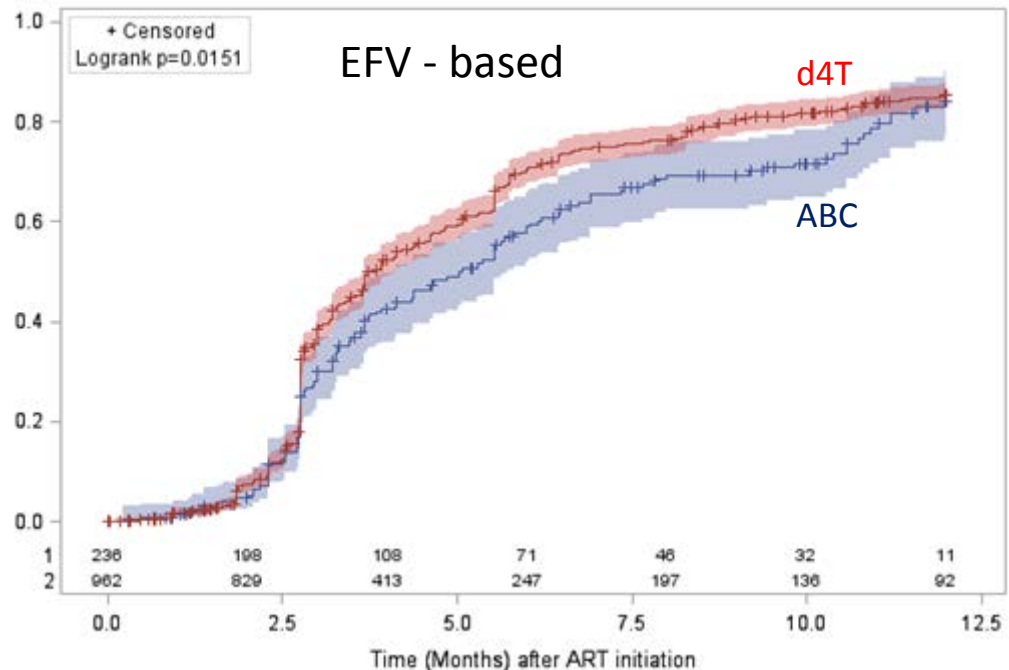
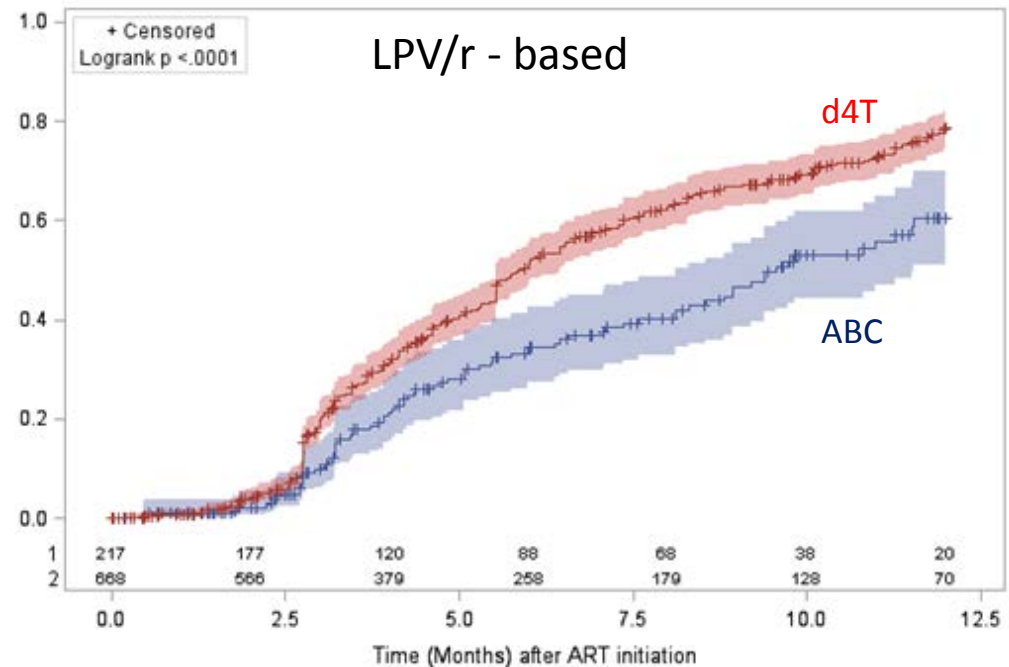


ABC vs d4T in first-line – virologic response

Rahima Moosa Mother & Child Hospital

Patients on d4T-based regimens more likely to suppress compared to those on ABC in both LPV/r and EFV-based first-line after adjustment for other predictors of virologic response

Subsequently confirmed in leDEA-SA analysis



Outline

- NICHD – some background
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- **Next steps**



Next Steps

- Important, meaningful, and impactful questions – more strategic approach
- Cross regional and global analyses
- Opportunities for substudies
- Identify a “champion”
- Collaborative opportunities



NICHD Priorities for IeDEA

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