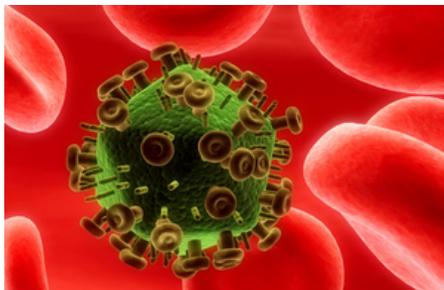
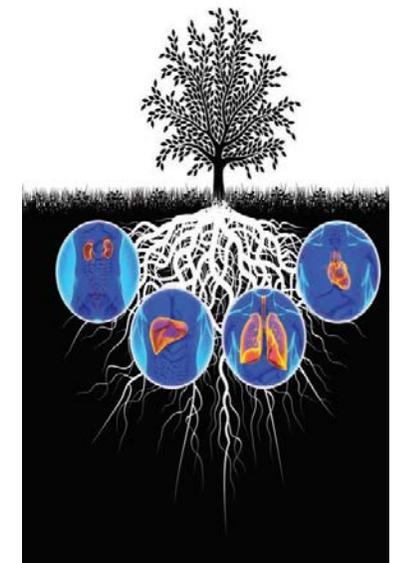


Organ Transplantation and HIV Disease

Necessity colluding with Science to save and improve life



HOPE
IN ACTION →

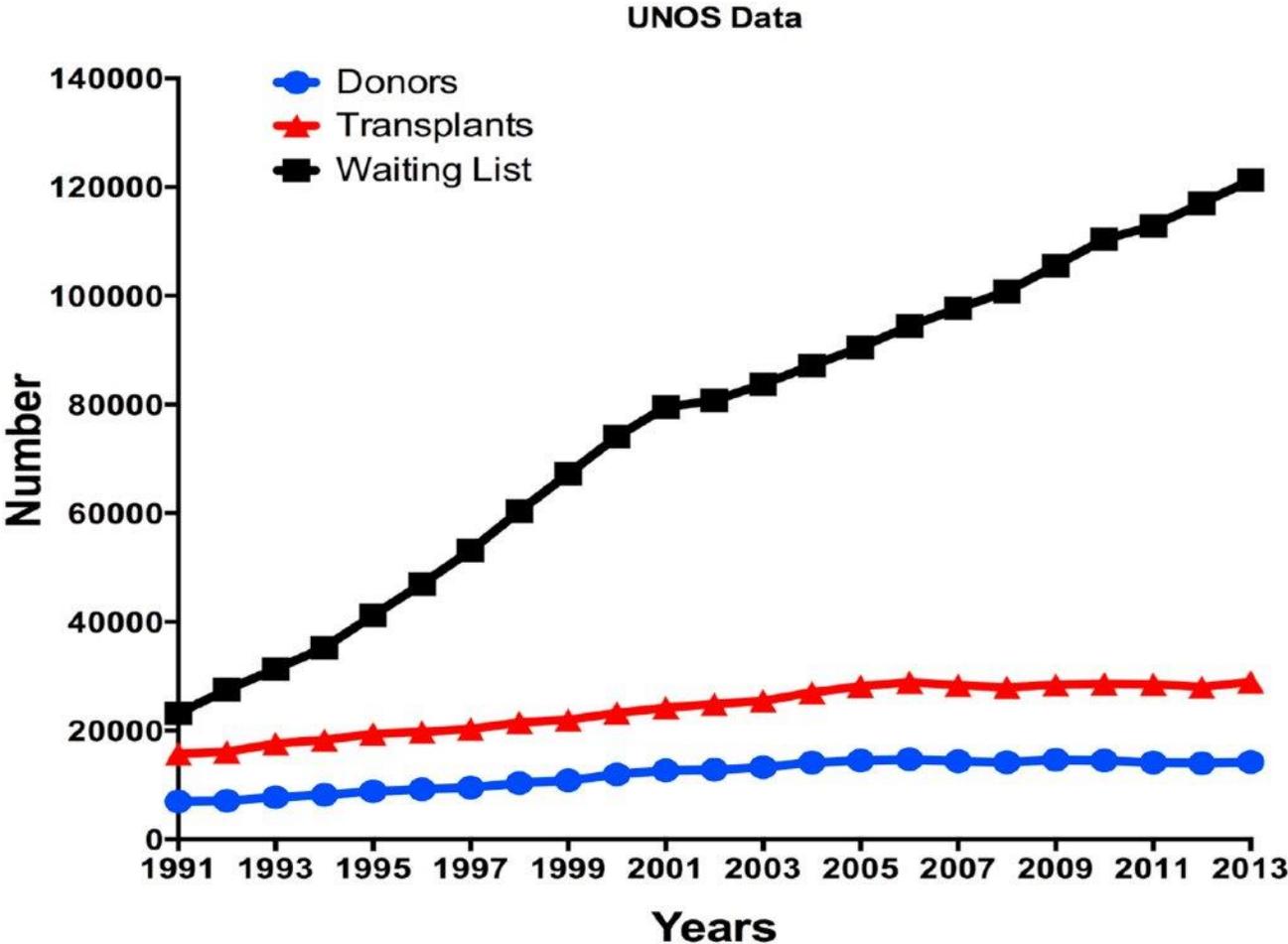


Jonah Odim
Transplantation Branch
DAIT/NIAID/NIH
December 1, 2017

HIV and Beyond: The Benefits of HIV Research
World AIDS Day 2017



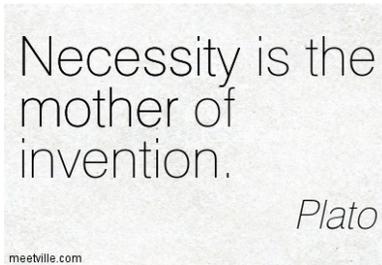
Exponentially rising numbers on the UNOS waiting list as demand continues to outstrip the meagre donor organ supply



Scarce donor organ supply paving the way for the HOPE Act and HIV+ to HIV+ transplantation...



HIV negative donor organs in recipients with HIV infection establishes appropriate HIV+ individuals as potential candidates for transplantation



South Africa: Kidney transplantation with HIV infection in donor and recipient as HIV+ patients with ESRD not candidates for dialysis



The HOPE Act (November 2013): Use of HIV+ donor organs is no longer illegal in the US (NOTA ban from 1988 is lifted)

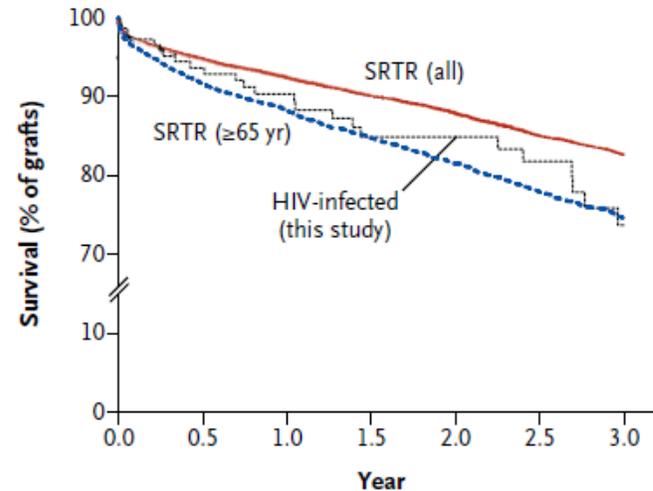
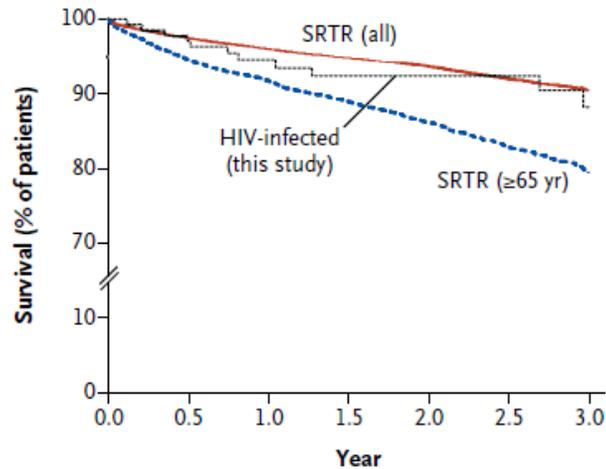


NIAID-sponsored clinical trials: CCR5 blockade (Maraviroc), HIV+ to HIV+ kidney and liver transplantation

Immunosuppression required for transplantation does not hasten HIV disease progression nor reduce survival



150 kidney TX, 75 liver TX
19 US TX centers
HIV-donors, HIV+ recipients

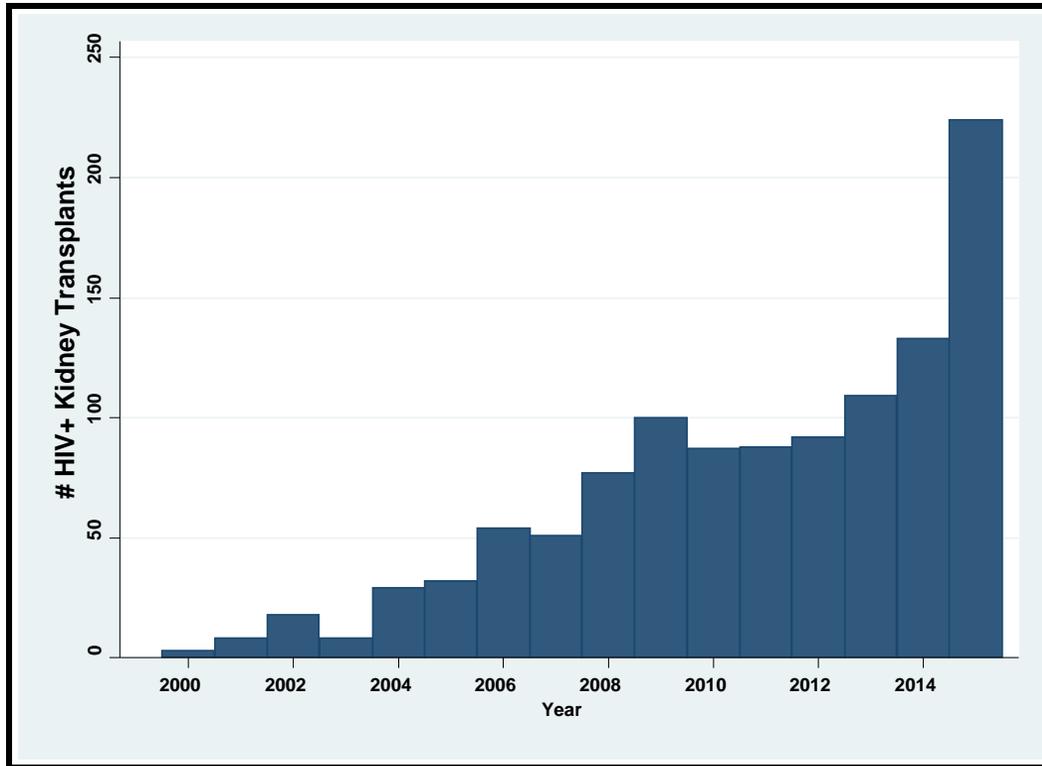


Stock PG: Outcomes of kidney transplantation in HIV-infected recipients. NEJM 363, 2004-2014, 2011

Assumption: HIV virus destroys CD4 T-cells and host immunity-the interplay of additional IS required for organ transplantation would precipitate AIDS complications



HIV+ Kidney Transplant Volume is taking off in the US



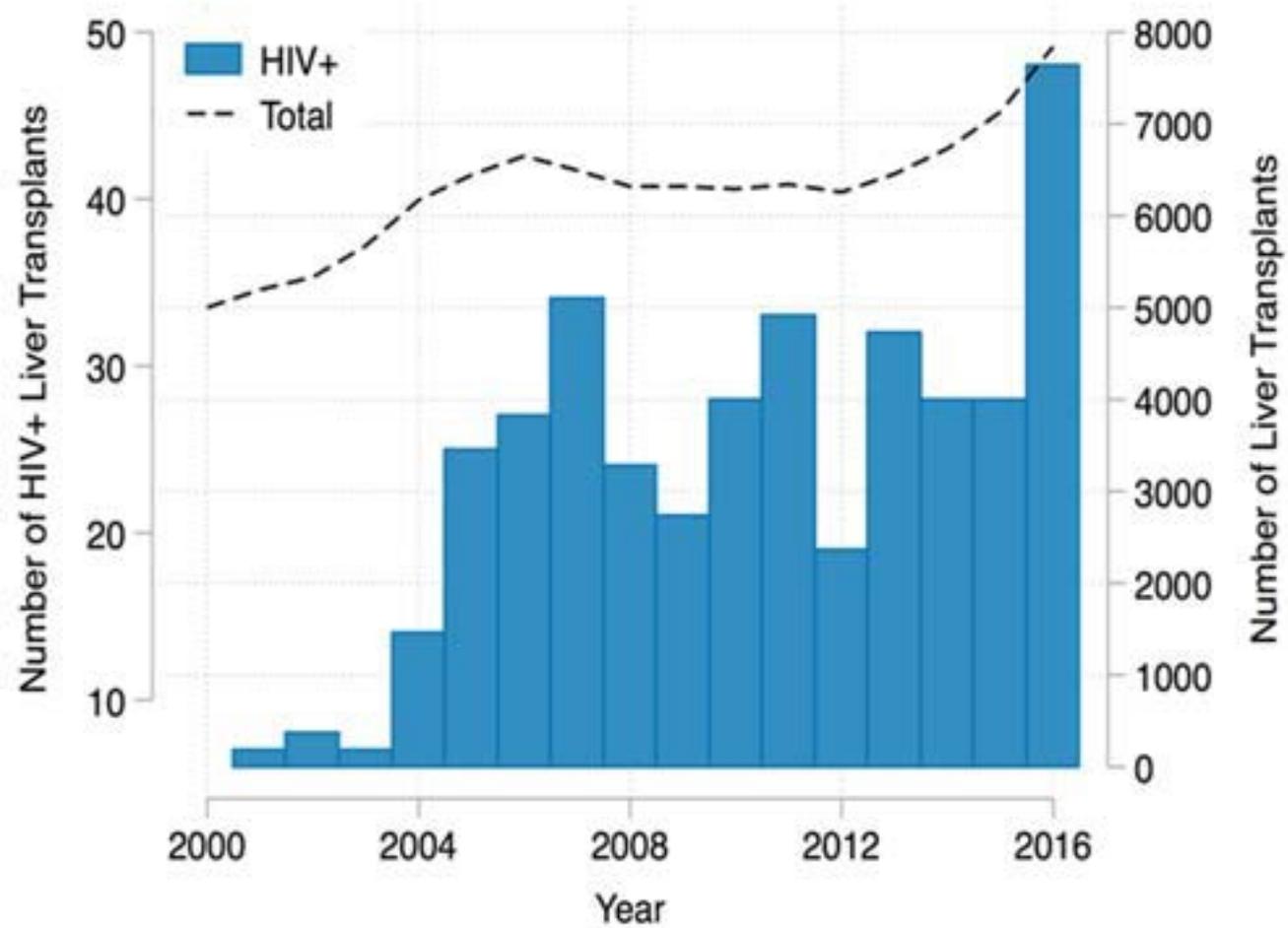
**> 40 fold increase
over the past 14
years**

**226 transplants
reported in 2015**

...from aging, antiretroviral drug (ART) toxicity, HIV infection, and other co-morbidities



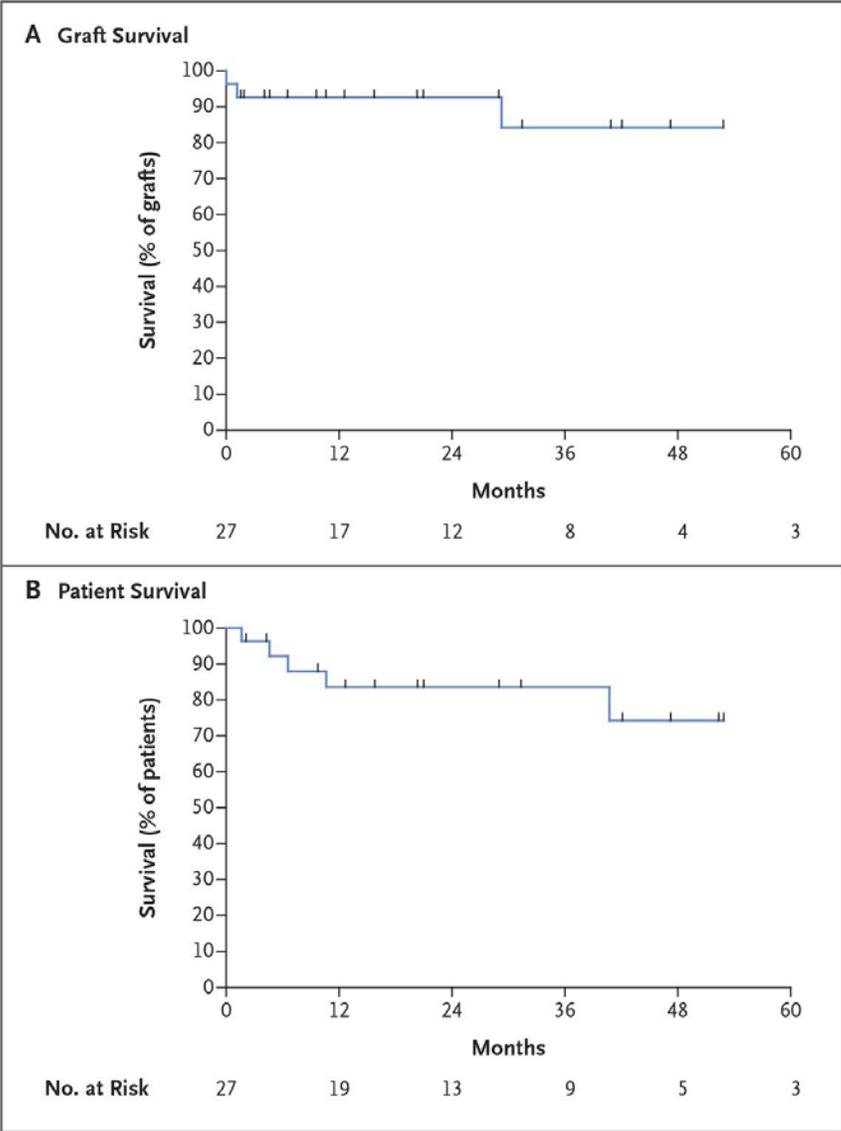
HIV+ Liver Transplant Volume is taking off in the US



...from aging, antiretroviral drug (ART) toxicity, HIV infection, and other co-morbidities



Excellent intermediate outcomes in HIV+ to HIV+ kidney transplantation



Muller E et al. N Engl J Med 2015;372:613-620

PL 113-51: The HIV Organ Policy Equity (HOPE) Act



Eliminated the prohibition on acquisition of organs from HIV+ donors, limiting their use to

- Recipients infected with HIV
- Participating in clinical research approved by an Institutional Review Board

Criteria, Standards and Regulations

- Not later than 2 years after the date of the enactment of the HIV Organ Policy Equity Act, the Secretary shall develop and publish criteria for the conduct of research relating to transplantation of organs from donors infected with human immunodeficiency virus (in this section referred to as ‘HIV’) into individuals who are infected with HIV before receiving such organ.



NIAID studies now in pipeline to improve life with an organ transplant in the context of HIV disease



Impact of CCR5 blockade in HIV+ kidney transplant recipients (Stock)

HOPE
IN ACTION →

Prospective, multicenter, clinical trial of HIV+ deceased donor kidney transplants for HIV+ recipients (Durand/Segev)

Unlocking the potential of HIV-infected deceased donors for organ transplantation (Tobian) (R01)

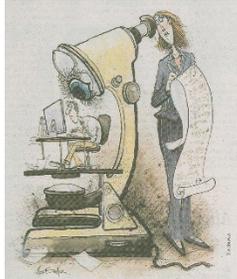


HOPE
IN ACTION →

Prospective, multicenter, clinical trial of HIV+ deceased donor liver transplants for HIV+ recipients (Durand/Segev) (scientific review pending)



HIV research contribution to organ transplantation...



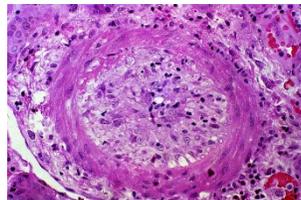
**Law, policy, regulation: HOPE Act
Harmony between new Federal and State laws**



**Ethics (justice, beneficence), informed consent, patient advocacy,
unmet need and disparities in need and access to transplantation**

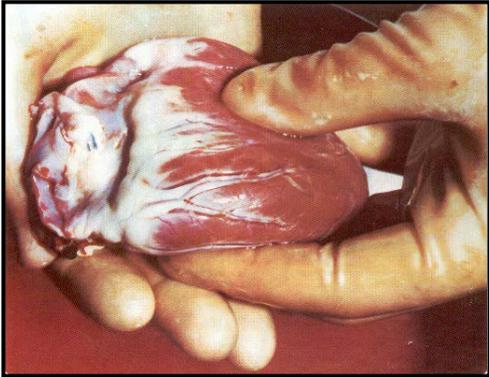
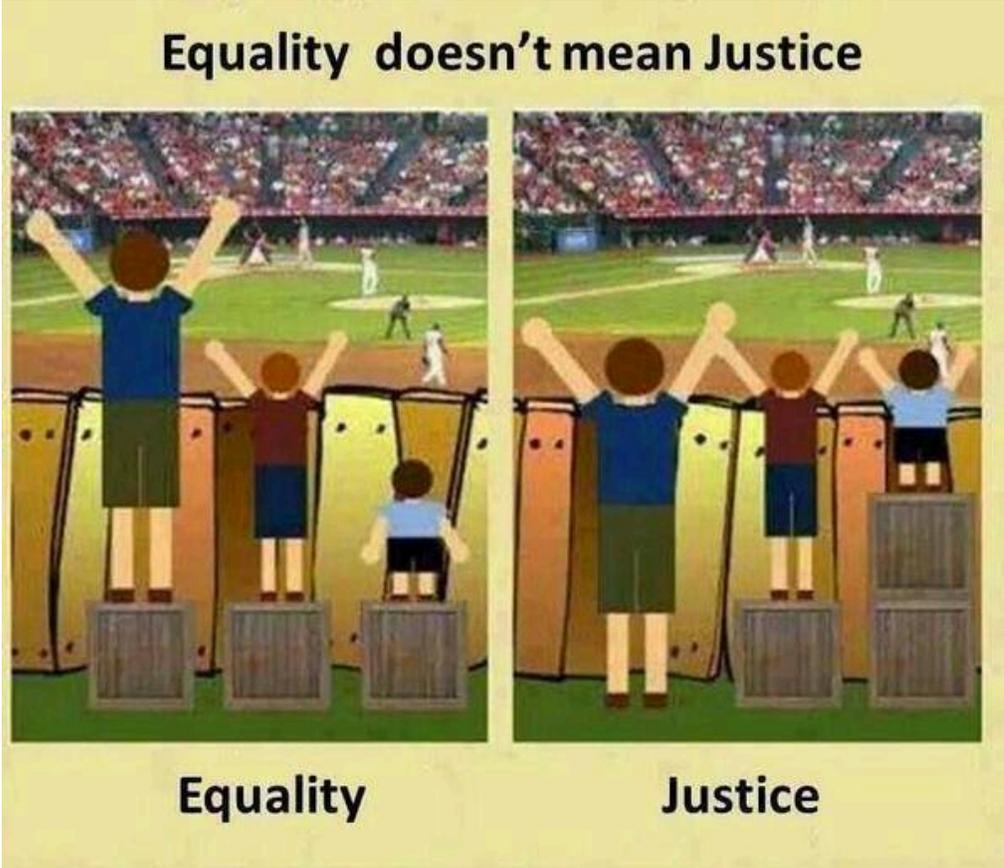


**Donor supply, organ allocation, organ discard rate, UNOS
waiting list, morbidity and mortality while waiting**



**Basic and clinic science: immunologic, virologic, clinical
outcome**

In summary, advances in HIV research are yielding dividends in organ transplantation...



Questions?



