



# Incentives? Pilot trials? Why, what, and how?

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CUTTING EDGE OF  
TRANSPLANTATION

AST | AMERICAN SOCIETY OF  
TRANSPLANTATION

**RESOLVING THE ORGAN SHORTAGE**



PRACTICE |



POLICY |



POLITICS

FEBRUARY 25-27, 2016 • PHOENIX, ARIZONA

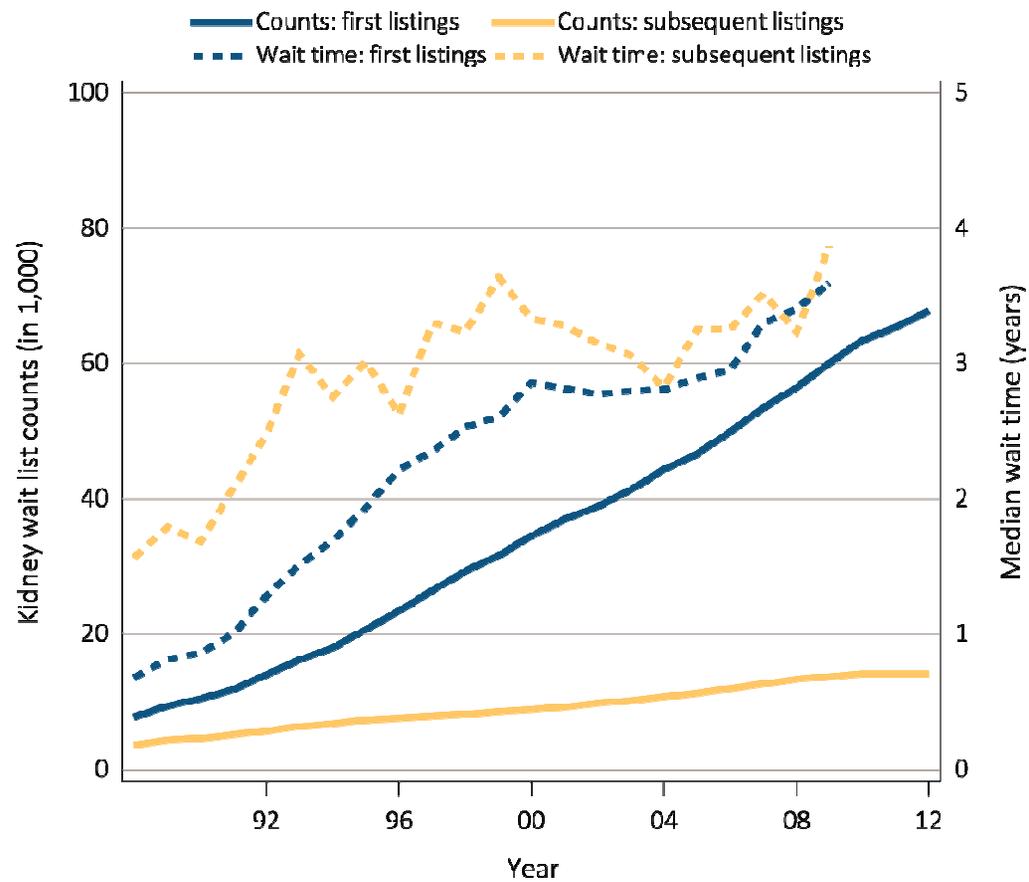
# Conflict of Interest Disclosure

- I do receive salary for caring for transplant recipients and am medical director of a large transplant center

## Other relationships (not relevant to this content)

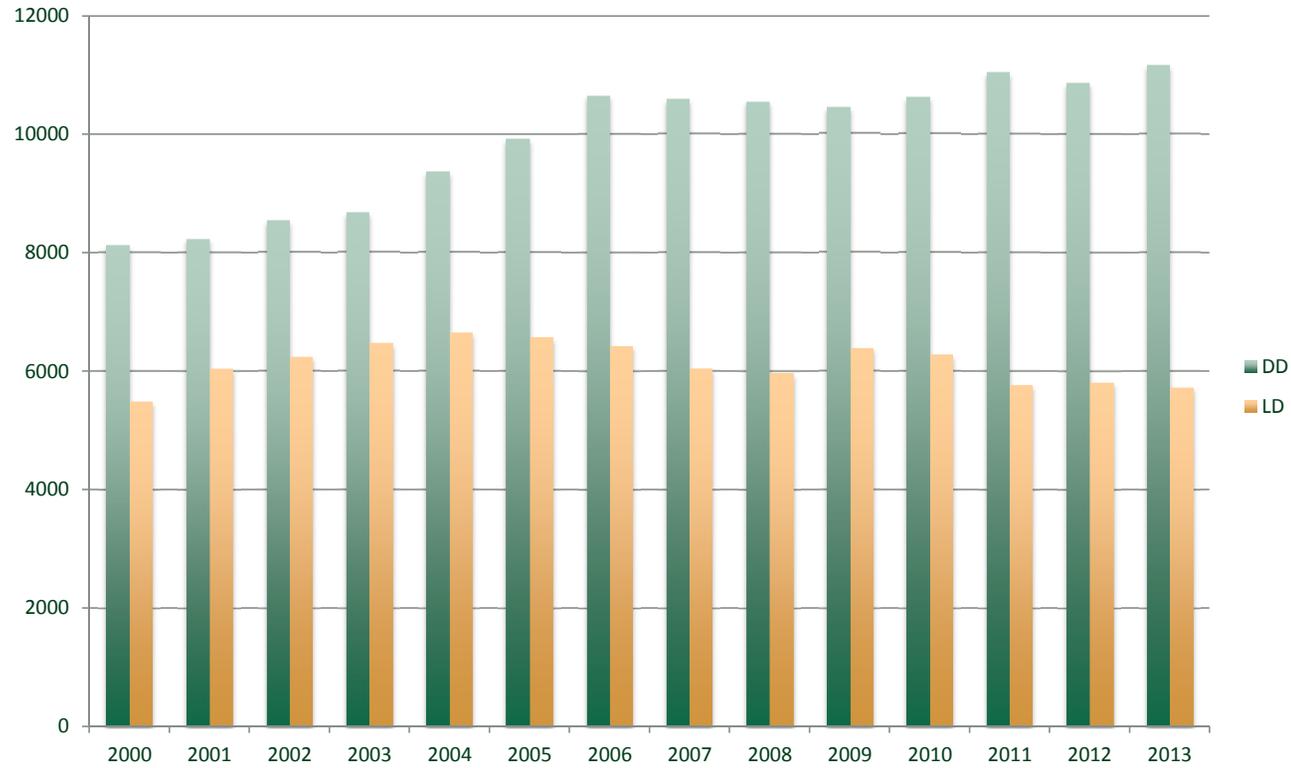
- Consultant/Independent Contractor: Novartis
- Advisory Board: Immucor
- Associate Editor: American Society of Nephrology

# Why?



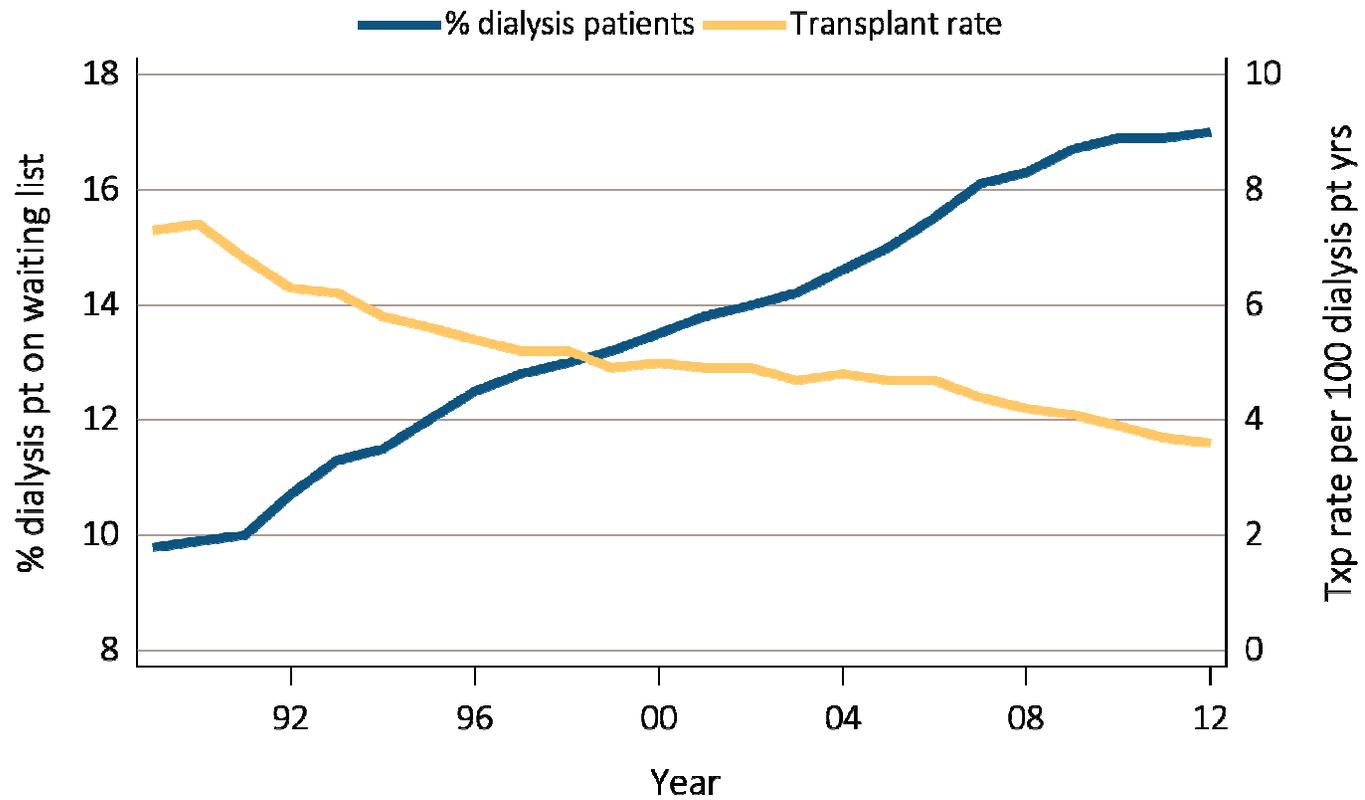
2014 Annual Data Report  
<http://www.usrds.org>

# Why?



[www.optn.transplant.hrsa.gov](http://www.optn.transplant.hrsa.gov)

# Why?



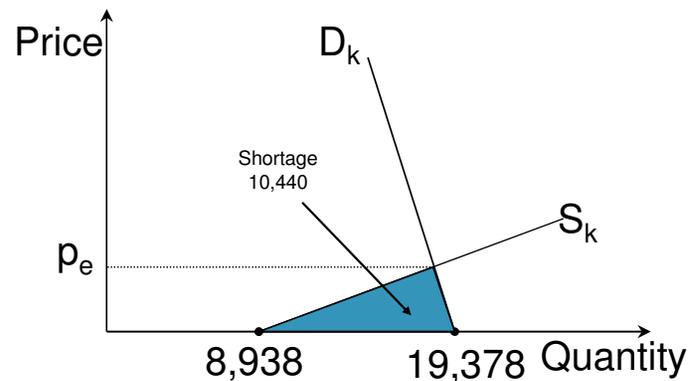
2014 Annual Data Report  
<http://www.usrds.org>

## Financial and medical risk assumed by donors are barriers to donation

- Financial risk only
- Medical risk only
- Financial and medical risk
- Neither financial nor medical risk discourage living donation

# Why?

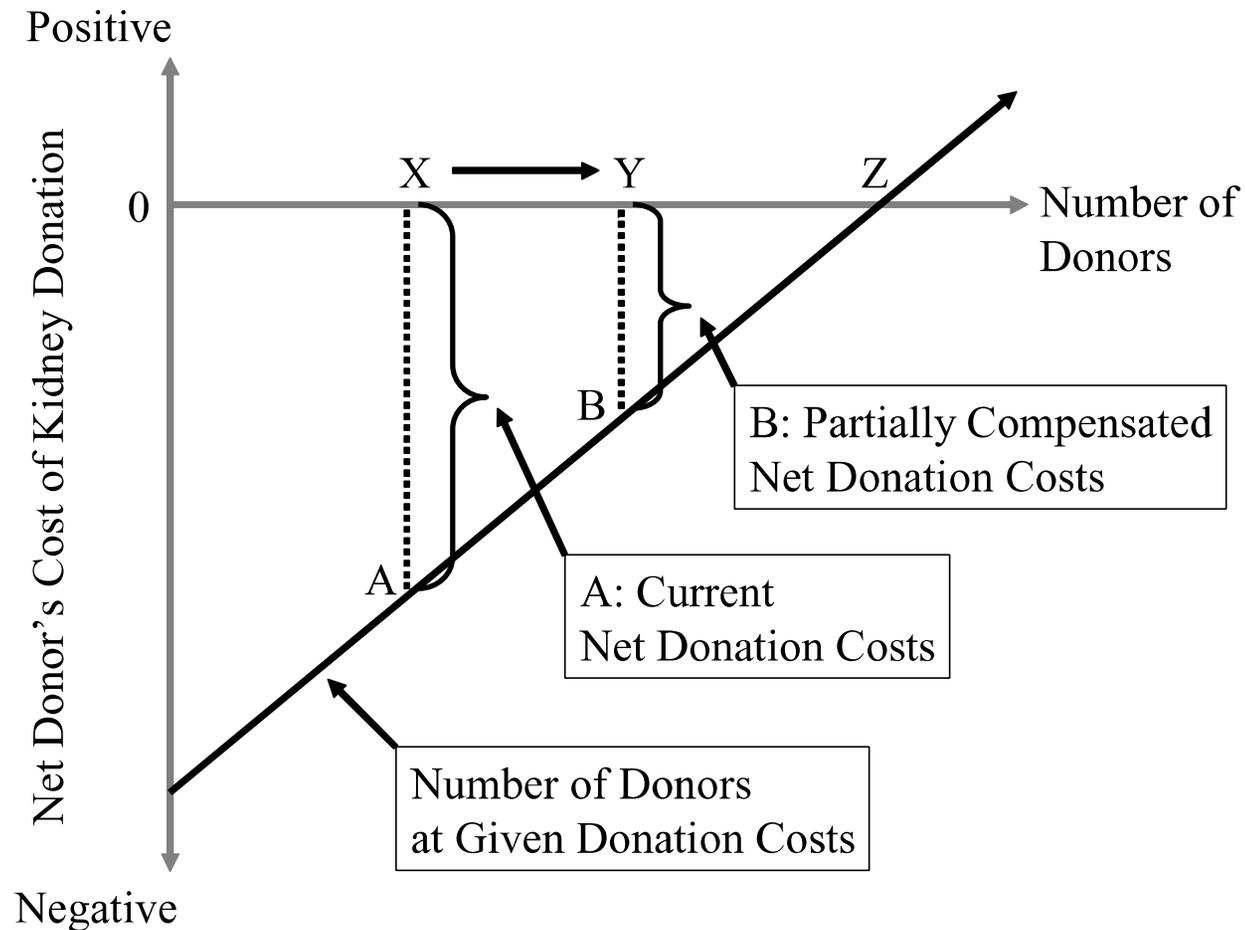
- The shortage of organs for transplantation has persisted for more than three decades...responsible for at least several thousand deaths each year
- ...is not caused by an insufficient number of potentially transplantable...organs...rather...the direct result of a public policy...
- **...the alleged moral superiority of any policy that leads to unnecessary deaths must be viewed as inherently suspect...indefensible to argue that one group of people should be denied lifesaving transplants simply because another group prefers altruistic supply over market exchange.**



Kaserman DL and Barnett AH

The US Organ Procurement System: A Prescription for Reform, 2002

# Why?



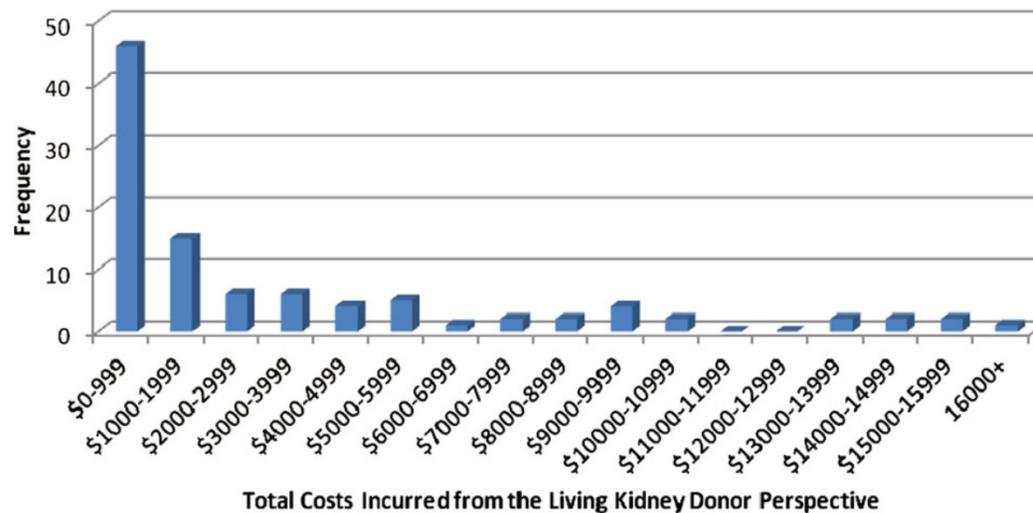
Gaston RS et al, *Am J Transplant* 6:2548-55, 2006

## Potential benefits/estimated costs

• One-year term life insurance (\$1 million)	\$ 1300-3300
• Health insurance (Medicare from donation)	15000-20000
• Expense reimbursement (inc lost wages)	2225-4500
• Compensation for inconvenience/pain	5000
• Total cost estimate per donor	\$23525-32800

Gaston RS et al, *Am J Transplant* 6:2548-55, 2006

## Estimate versus costs?



**Figure 1: Frequency distribution of total costs incurred from the living kidney donor perspective.** 25th percentile: \$205; median: \$1282; 75th percentile: \$4619. Average (SD): \$3268 (4704). Five donors incurred 0 costs. Excludes home productivity costs and time off work where no pay was lost. One donor experienced exceptional circumstances (out-of-country donor with 3-month stay) and these costs were excluded.

Klarenbach et al, *Am J Transplant* 14: 916, 2014

## Meeting Report

# Consensus Conference on Best Practices in Live Kidney Donation: Recommendations to Optimize Education, Access, and Care

D. LaPointe Rudow<sup>1,†</sup>, R. Hays<sup>2,†</sup>, P. Baliga<sup>3</sup>,  
D. J. Cohen<sup>4</sup>, M. Cooper<sup>5</sup>, G. M. Danovitch<sup>6</sup>,  
M. A. Dew<sup>7</sup>, E. J. Gordon<sup>8</sup>, D. A. Mandelbrot<sup>2</sup>,  
S. McGuire<sup>6</sup>, J. Milton<sup>9</sup>, D. R. Moore<sup>10</sup>,  
M. Morgievlch<sup>11</sup>, J. D. Schold<sup>12</sup>, D. L. Segev<sup>13</sup>,  
D. Serur<sup>14</sup>, R. W. Steiner<sup>15</sup>, J. C. Tan<sup>16</sup>,  
A. D. Waterman<sup>6</sup>, E. Y. Zavala<sup>10</sup> and  
J. R. Rodrigue<sup>17,\*†</sup>

Live donor kidney transplantation is the best treatment option for most patients with late-stage chronic kidney disease; however, the rate of living kidney donation has declined in the United States. A consensus conference was held June 5–6, 2014 to identify best practices and knowledge gaps pertaining to live donor kidney transplantation and living kidney donation. Transplant professionals, patients, and other key stakeholders discussed processes for educating transplant candidates and potential living donors about living kidney donation; efficiencies in the living donor

Policy recommendations (Highest Priority):  
Actively pursue strategies and policies that achieve the goal of  
**financial neutrality** for living donors, within the framework of federal law

# Financial neutrality means

1. Compensating out-of-pocket expenses in LD after means testing
2. Compensating out-of-pocket expenses plus lost wages after means testing
3. Compensating out-of-pocket expenses without means testing
4. Compensating out-of-pocket expenses plus lost wages without means testing
5. Compensating out-of-pocket expenses, lost wages, and health risk in some or all LD

# Strong support in transplant community

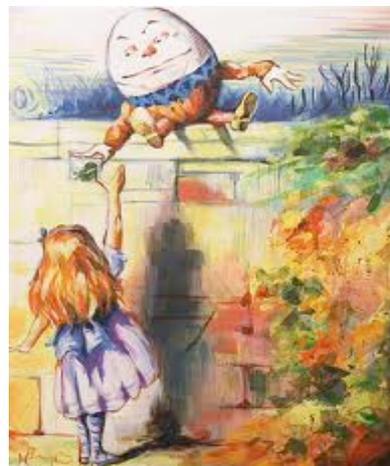
**Table 2:** Proportion of respondents who support/oppose implementation of specific government-regulated strategies to stimulate more deceased organ donation

	N	Strongly support	Support	Neutral/ undecided	Oppose	Strongly oppose
Income tax credit for registering as an organ donor	444	149 (33.6)	137 (30.9)	65 (14.6)	57 (12.8)	36 (8.1)
Income tax credit (via final return) for donating organs	439	170 (38.7)	122 (27.8)	54 (12.3)	61 (13.9)	32 (7.3)
Reimbursement for funeral expenses	438	185 (42.2)	135 (30.8)	50 (11.4)	45 (10.3)	23 (5.3)
Cash payment to the donor's estate	435	60 (13.8)	52 (12.0)	96 (22.1)	139 (32.0)	88 (20.2)
Cash payment to the donor's family	434	51 (11.8)	44 (10.1)	78 (18.0)	151 (34.8)	110 (25.3)
Contribution to a charity designated by the deceased or legal next-of-kin	439	97 (22.1)	127 (28.9)	106 (24.1)	75 (17.1)	34 (7.7)
Reimbursement of travel and lodging expenses incurred by the family in conjunction with the donor's death	440	123 (28.0)	123 (28.0)	91 (20.7)	65 (14.8)	38 (8.6)

## Public support for incentives: a question of semantics?

"When I use a word," Humpty Dumpty said in rather a scornful tone. "It means just what I choose it to mean - neither more or less."  
"The question is," said Alice, "whether you can make words mean so many different things."  
"The question is," said Humpty Dumpty, "which is to be master - that's all."

*Alice's Adventures in Wonderland, 1865*  
Lewis Carroll (1832 - 1898)



The basic tool for the manipulation of reality is the manipulation of words. If you can control the meaning of words, you can control the people who must use the words.

*How To Build A Universe That Doesn't Fall  
Apart Two Days Later, 1978*  
Philip K. Dick (1928-1982)

# The Declaration of Istanbul on Organ Trafficking and Transplant Tourism

*Participants in the International Summit on Transplant Tourism and Organ Trafficking  
convened by The Transplantation Society and International Society of Nephrology  
in Istanbul, Turkey, April 30–May 2, 2008\**

Member states should “take measures to protect the poorest and vulnerable groups from transplant tourism and the sale of tissues and organs, including attention to the wider problem of international trafficking in human tissues and organs.”

- World Health Organization, 2004



The **DECLARATION** of **ISTANBUL**  
on **ORGAN TRAFFICKING** and **TRANSPLANT TOURISM**  
[www.declarationofistanbul.org](http://www.declarationofistanbul.org)



- Section 2 – Principles
  - 4) The primary objective of transplant policies and programs should be optimal short- and long-term medical care to promote the health of both donors and recipients
    - a. Financial considerations...must not override consideration for the health and well-being of donors and recipients

## Beyond compensation?

- Organ trafficking is abhorrent
  - Exploits the vulnerable
  - Does not guarantee
    - Medical evaluation/integrity of donor
    - Donor interests (medical/financial)
    - Recipient interests (medical)
    - Due process
- Transplant commercialism (as defined) diverts resources from those in need
- All of this is a byproduct of the demand for transplantation

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    - Due process
- Transplant commercialism (as defined) diverts resources from those in need
- All of this is a byproduct of the demand for transplantation
- None of this is argument for or against incentives

# An “arc of change”

American Journal of Transplantation 2015; 15: 1173–1179  
Wiley Periodicals Inc.

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doi: 10.1111/ajt.13233

Meeting Report

## **AST/ASTS Workshop on Increasing Organ Donation in the United States: Creating an “Arc of Change” From Removing Disincentives to Testing Incentives**

**D. R. Salomon<sup>1,\*</sup>, A. N. Langnas<sup>2</sup>, A. I. Reed<sup>3</sup>,  
R. D. Bloom<sup>4</sup>, J. C. Magee<sup>5</sup> and R. S. Gaston<sup>6</sup>  
for the AST/ASTS Incentives Workshop Group**

- We believe it important not to conflate the illegal market for organs, which we reject in the strongest possible terms, with the potential in the US for concerted action to remove all remaining financial disincentives for donors and critically consider the impact and acceptability of incentives to increase organ availability in the United States
- We do not support direct payments...based on a [market-driven] process

# Potential impact of donor compensation

- Ready availability of transplantable kidneys would prevent 5-10,000 premature deaths annually and reduce suffering related to dialysis
- Particularly beneficial to poor and minority patients overrepresented on waiting lists and without living donors
- Success rates should improve
  - Increased proficiency of transplant centers
  - Eliminating “time on dialysis” effect
  - Larger pool to facilitate matching
  - Timely access to retransplantation
- Taxpayers should save \$12 billion annually paying for inferior therapy
- Elimination of any incentive for Americans to participate in transplant tourism or black markets for kidneys

Held, McCormick, et al. *Am J Transplant* epub ahead of print, 2015

## How?

- Ethical framework/underpinnings

## Principles and ethical framework

“An acceptable system of incentives for donation must ensure - for both the donor (and donor family, in the case of deceased donation) and recipient - respect, benefit, and protection from harm.”

- (i) the donor (or family) is respected as a person who is able to make choices in his or her best interest (autonomy);
- (ii) the potential donor (or family) is provided with appropriate information to support informed decision making (informed consent);
- (iii) donor health is promoted at every step, including evaluation and medical follow-up (respect for person);
- (iv) the live donor incentive should be of adequate value (and able to improve the donor's circumstances);
- (v) gratitude is expressed for the act of donation.

Working Group on Incentives for Living Donation.

*Am J Transplant 12: 306, 2012*

## Moving closer to the essence of informed consent

- *Baseline risk*  
(risk individual will have if doesn't donate)
- *Absolute risk*  
(total risk individual faces if donates)
- *Attributable risk*  
(extra risk individual faces if does donate)
- **By race, age, sex, BMI, insurance, SES, etc?**

Courtesy of Segev et al, ATC 2015

## Moving closer to the essence of informed consent

# *The* NEW ENGLAND JOURNAL *of* MEDICINE

ESTABLISHED IN 1812

FEBRUARY 4, 2016

VOL. 374 NO. 5

## Kidney-Failure Risk Projection for the Living Kidney-Donor Candidate

Morgan E. Grams, M.D., Ph.D., Yingying Sang, M.S., Andrew S. Levey, M.D., Kunihiro Matsushita, M.D., Ph.D., Shoshana Ballew, Ph.D., Alex R. Chang, M.D., Eric K.H. Chow, M.Sc., Bertram L. Kasiske, M.D., Csaba P. Kovesdy, M.D., Girish N. Nadkarni, M.D., M.P.H., Varda Shalev, M.D., M.P.A., Dorry L. Segev, M.D., Ph.D., Josef Coresh, M.D., Ph.D., Krista L. Lentine, M.D., Ph.D., and Amit X. Garg, M.D., Ph.D., for the Chronic Kidney Disease Prognosis Consortium\*

# Defining attributable risk in donors

**Lifetime ESRD Risk Calculator**

**Predicted Lifetime Incidence of End-Stage Renal Disease:**

## 0.4 %

This number represents the chance of developing ESRD during the given patient's remaining lifetime if he/she does not donate a kidney.

blue: < 1%, green: 1-2%, yellow: 2-3%, orange: 3-5%, red: >5%

**Predicted lifetime incidence of end-stage renal disease (in the absence of kidney donation):** This prediction model is intended for low-risk adults considering living kidney donation in the United States. It provides an estimate of the lifetime incidence of end-stage renal disease given a set of demographic and baseline (pre-donation) health characteristics. It does not take into account any added risk a donor might incur due to the nephrectomy or resultant single kidney status.

**Patient Characteristics:**

Age (18-80yrs)	40
Gender	Female
Race (White or Black)	White
eGFR (ml/min/1.73m <sup>2</sup> )	90
Systolic Blood Pressure (mmHg)	120
Hypertension Medication	No Medication
BMI (kg/m <sup>2</sup> )	25
Non-Insulin Dependent Diabetes	No Diabetes
Urine Albumin to Creatinine (mg/g)	10
Smoking History	Non-Smoker

## Implications

- We currently allow individuals to donate who have a very wide range of ESRD risk
- We currently decline potential donors who have conditions associated with a very wide range of ESRD risk
- We currently accept donors who have much higher risks than donors who we decline
- A new acceptable risk paradigm is needed

Courtesy of Segev et al, ATC 2015

## Principles and ethical framework

- (1) Protection: Risk to the donor should be in accord with currently accepted standards as defined for our current donors (31). The donor benefit (in addition to helping another person) must be an opportunity to improve their own (or their family's) life. Therefore, the donor must be fully informed, understand the risks, understand the nature of the incentive and how it will be distributed and receive the benefit. There must be follow-up and an opportunity to redress any wrongdoing.

## Principles and ethical framework

- (2) Regulation and Oversight: Each country will need to enact guidelines for evaluation and selection of donors, institution of the program of incentives and oversight. Regulations and oversight processes must be clearly defined and available for outside review, whether national or international. There must be clearly defined policies for follow-up, outcome determination and for detection and correction of irregularities. There should be defined consequences for entities within the system that do not adhere to policies.
- (3) Transparency: Although, for political and legislative reasons, regulation and oversight are only possible at a national level, there must be transparency so that international observation is possible.

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- (3) Transparency: Although, for political and legislative reasons, regulation and oversight are only possible at a national level, there must be transparency so that international observation is possible.

2007 COP and evolving regs  
provide basis for oversight and  
monitoring

Working Group on Incentives for Living Donation.  
*Am J Transplant* 12: 306, 2012

## How?

- Ethical framework/underpinnings
- Legal issues

# NOTA: Incentives are illegal in the US

PUBLIC LAW 98-507—OCT. 19, 1984

98 STAT. 2339

Public Law 98-507  
98th Congress

## An Act

To provide for the establishment of the Task Force on Organ Transplantation and the Organ Procurement and Transplantation Network, to authorize financial assistance for organ procurement organizations, and for other purposes.

Oct. 19, 1984  
[S. 2048]

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Organ Transplant Act".*

National Organ  
Transplant Act.  
42 USC 201 note.  
Health.

## TITLE I—TASK FORCE ON ORGAN PROCUREMENT AND TRANSPLANTATION

## TITLE III—PROHIBITION OF ORGAN PURCHASES

SEC. 301. (a) It shall be unlawful for any person to knowingly acquire, receive, or otherwise transfer any human organ for valuable consideration for use in human transplantation if the transfer affects interstate commerce.

## How?

- Ethical framework/underpinning
- Legal issues
- Scope

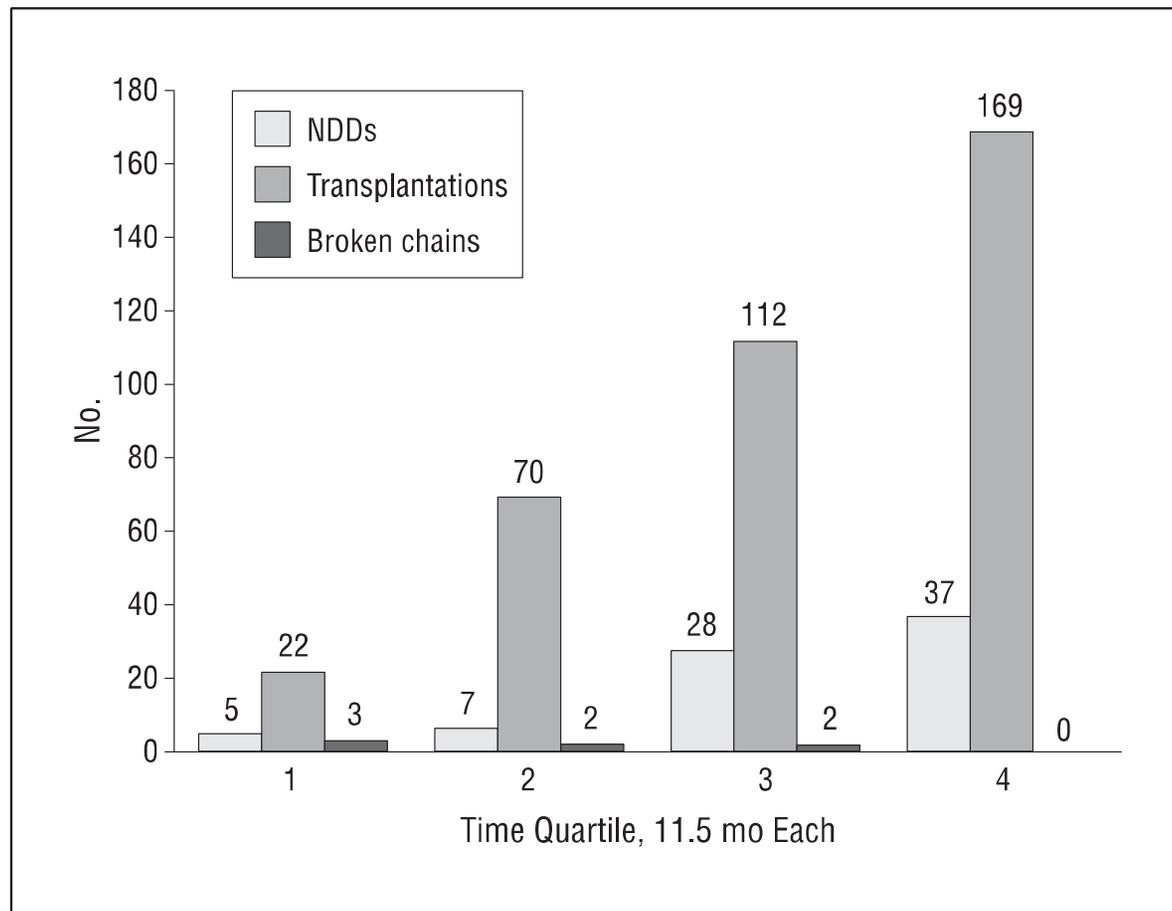
## Potential impact of incentivized donor?



A waiting list of 100,000 persons does not require an equal number of donors immediately; rather a much smaller number will break the logjam and change the trajectory

Kaserman DL and Barnett AH  
The US Organ Procurement System: A Prescription for Reform, 2002

# Potential impact of incentivized donor?

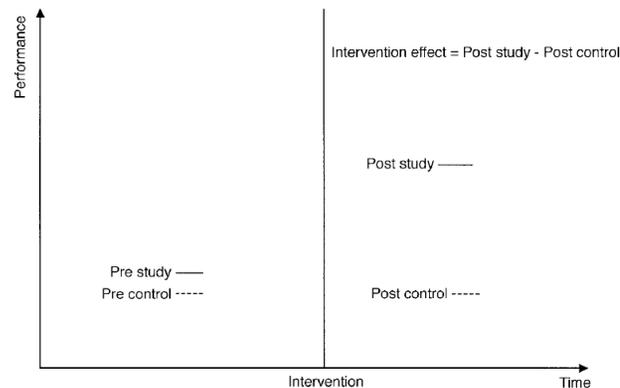


Melcher ML et al, *JAMA Surg* 148: 165, 2013

## Scope of pilot project?

- Geographically limited: State or DSA
- Participation limited to US citizens residing within defined area

# Quasi-Experimental Designs: Controlled Before and After Study



Courtesy of J. Gill

- Identify a study population where intervention is to be applied (e.g. BC)
- Identify control population that is similar to study population (e.g. Alberta) – key point for this design
- Apply intervention and measure effects in both populations
- “Between Group” comparison made between two populations after the intervention – change in outcome (e.g. organ donation) assumed to be due to intervention
- Avoids use of historical control groups
- Controls for other changes naturally occurring over time unrelated to the intervention

## How?

- Ethical framework/underpinning
- Legal issues
- Scope
- Financial issues

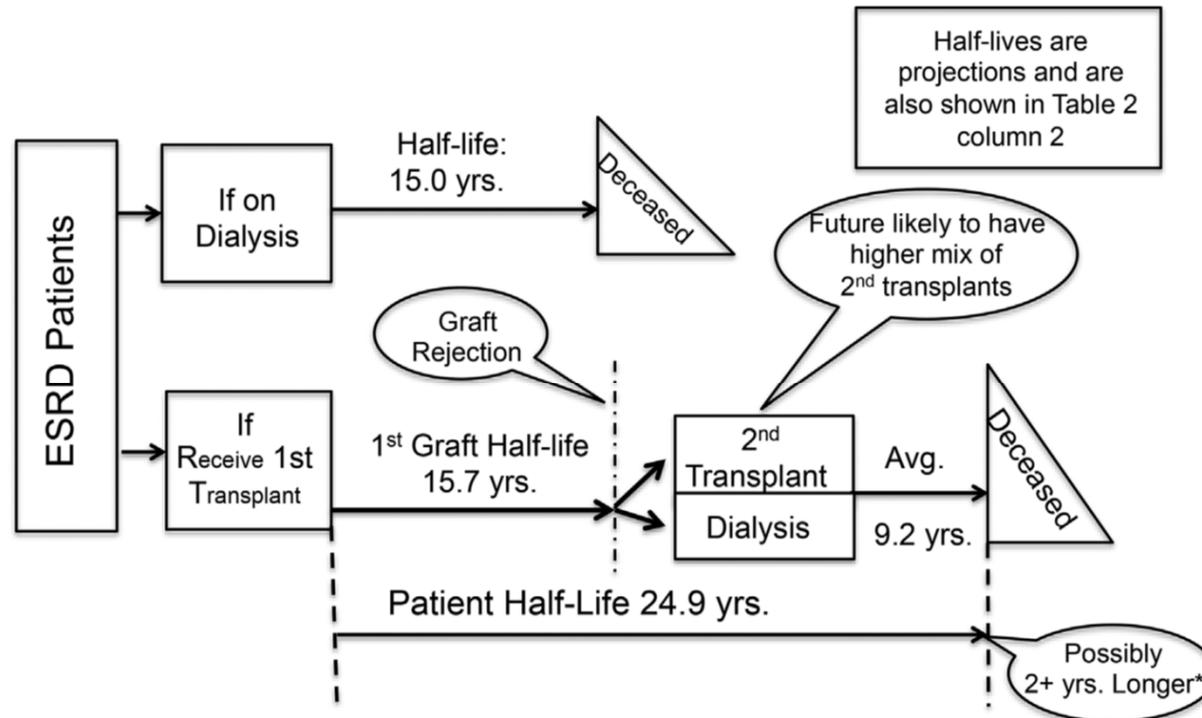
## Financial issues?

- Incentive should be provided by the state or state-recognized independent third party (charity)
- No direct payment from recipient to donor
- Incentive should be
  - Large enough to make a difference in a donor's life regardless of socioeconomic status
  - Small enough so as not to unduly enrich or influence
- Funding sources
  - Government (HRSA or NIH)
  - Private payers
  - Charitable donation

# Financial issues?

Monetary Value of a Year of Perfect Health		\$200,000	Item 1 in S1; Sensitivity test in Item 2 of S8
Real Interest Rate (i.e., nominal interest rate minus inflation) Used to Discount Future Costs and Benefits		3%	Item 8 in S1
Quality of Life Compared to Perfect Health	While On Dialysis	0.52	Item 2 in S1; Sensitivity test in Item 3 of S8
	After Transplant	0.75	
Government Compensation Paid to Living Donors per Kidney		\$45,000	Items 9 and 10 in S1; Sensitivity test in Item 1 of S8
Government Compensation Paid to Estate of Deceased Donors		\$10,000	Item 10 in S1
Percent of All Costs Paid by Taxpayers (federal and state)		75%	S5
Patients Obligation (co-pays): Differ by Medicare A, B, D	Percent of Medicare Paid Claims	Dialysis: 21%	Average percent for all ESRD: 20% S5
		Transplant: 16%	
<b>Costs Below Include Patient Obligations (co-pays)</b>			
Cost of All Medical Care While on Dialysis per Year		\$121,000	S5
Cost of a Transplant Procedure (including OAC) per Event		\$145,000	S5
Cost of All Medical Care for a Functioning Graft (including drugs) per Year		\$32,000	S5
Cost of Kidney Graft Failure per Event		\$88,000	S5

# Financial issues?



- Depending on the mix of 2<sup>nd</sup> transplants and dialysis. Currently only 14 % receive 2<sup>nd</sup> transplant.

# Financial issues?

**Table 3:** Present value of benefits and costs over a kidney recipient's lifetime (per kidney recipient)

	No donor compensation (current situation)	If donors are compensated (steady state after first 5 years)
Benefits		
Welfare gain for kidney recipient (over a lifetime)	\$937 000	\$1 335 000
Savings from stopping dialysis (over a lifetime)	\$735 000	\$1 454 000
Costs		
Cost of transplant (everything at time of transplant except compensation to donors)	\$145 000	\$236 000
Compensation to donors	\$0	\$73 000
Medical costs after transplant (including cost of kidney graft failure)	\$395 000	\$607 000
Net welfare gain for society per kidney recipient	\$1 132 000	\$1 873 000
Addendum		
Taxpayer savings per kidney recipient	\$146 000	\$403 000

Sources: USRDS 2013 annual data report (7); SRTR (2012) (8); Laupacis et al (1996) (14); Russell et al (1992) (15); Hirth et al (2000) (11).

## How? Other specifics

- Recruitment: “Be rewarded...save a life!”
- Evaluation of donor candidacy:
  - 3<sup>rd</sup> party center with donor guidelines
- Allocation: per waiting list (KAS)
- Variables:
  - Size of incentive
  - Nature of incentive (cash, tuition voucher, loan forgiveness, tax credit, etc)
- Metrics:
  - Process
  - Volume over 5 years (? Historical controls)

## Why now and how?

- The value of a kidney transplant to a patient and society is enormous
- No evidence that current initiatives likely to have substantial impact on 100,000 candidates who face premature death and disability
- Vocal efforts of many have helped community coalesce around “removing disincentives” – semantics?
- An “arc of change” should allow testing the appropriate definition and approach via pilots

## Why now and how?

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- Vocal efforts of many have helped community coalesce around “removing disincentives” – semantics?
- An “arc of change” should allow testing the appropriate definition and approach via pilots
- How? Gimme a break...