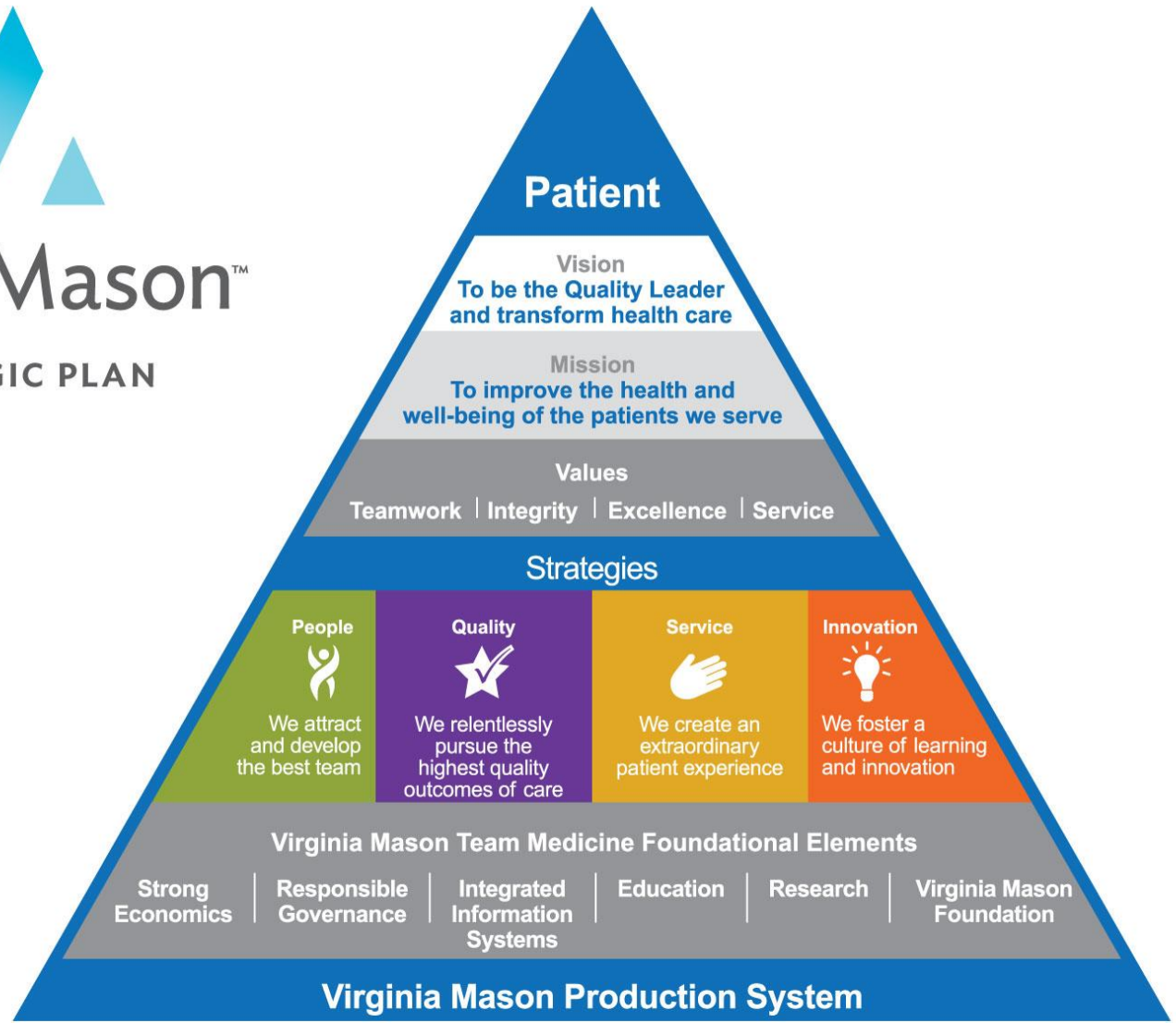




Virginia Mason™

OUR STRATEGIC PLAN





Virginia Mason™

Making the Most at the Margins

Improving Organ Utilization and Recipient Outcomes.

Jared C Brandenberger MD

UNOS Region 6 Educational Forum
March 6, 2015

Objectives

- Review current trends in recipient and donor populations.
- Review donor and transplant trends at Virginia Mason over the past 5 years
- Review the use of unconventional donors in our program

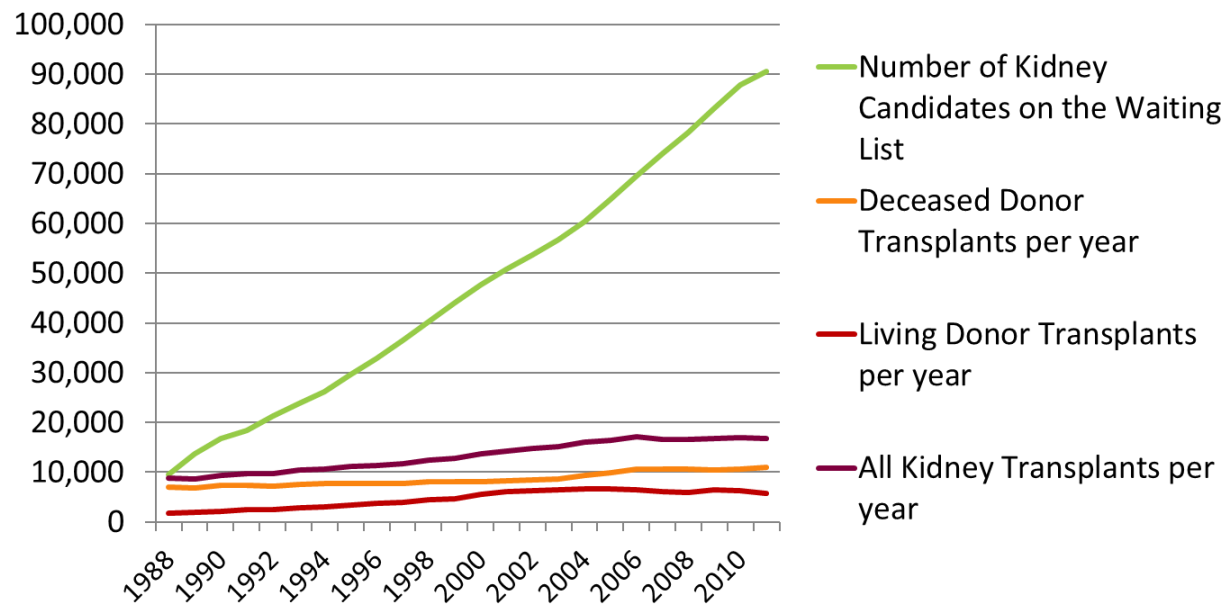
Need

- As of 07:12AM 03/05/15:
 - 101,585 patients on the kidney waitlist
- 16,894 total transplants in 2013
 - 11,161 Deceased donor
 - 5,733 living donor
 - 13,124 Jan-Nov 2014
- 15-20% Dialysis patients die annually

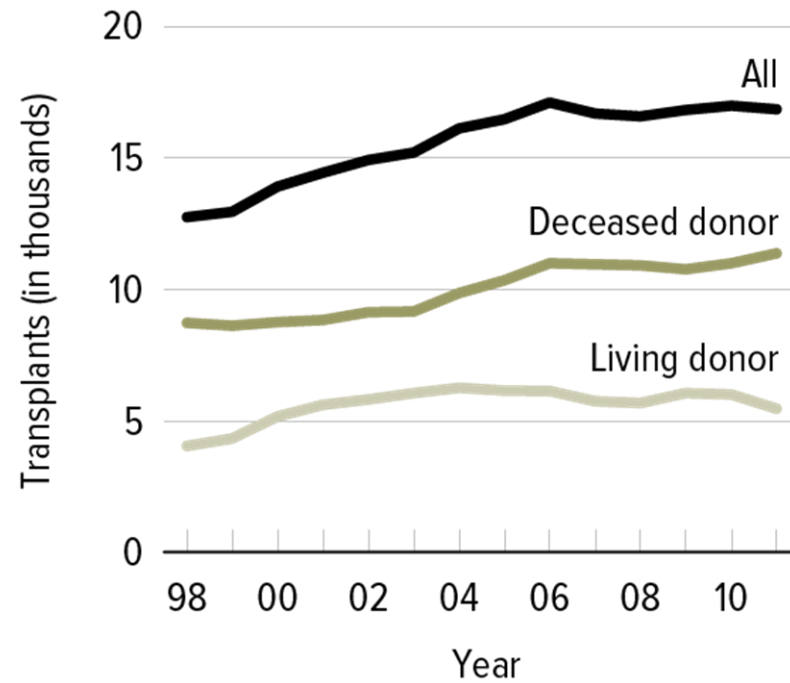
OPTN data

Wolfe et al. NEJM, 1999

Kidney Waiting List and Transplants

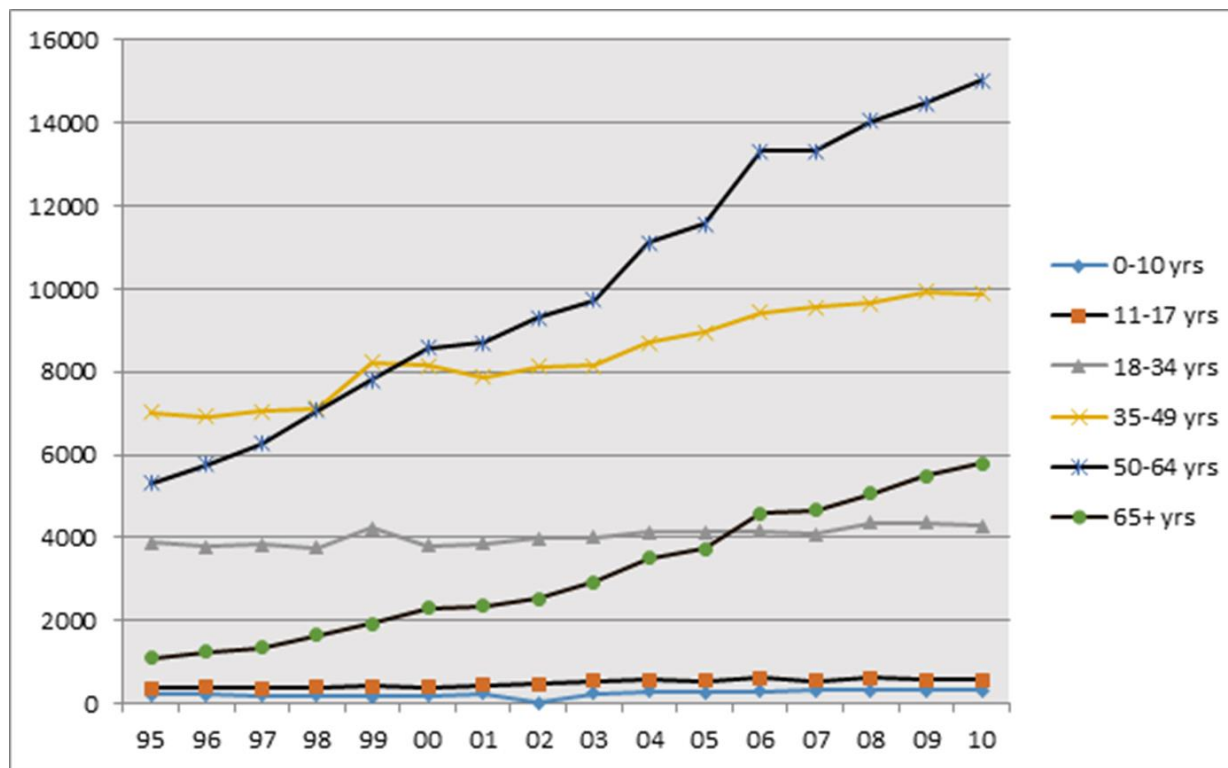


Need



2011 OPTN Annual Report

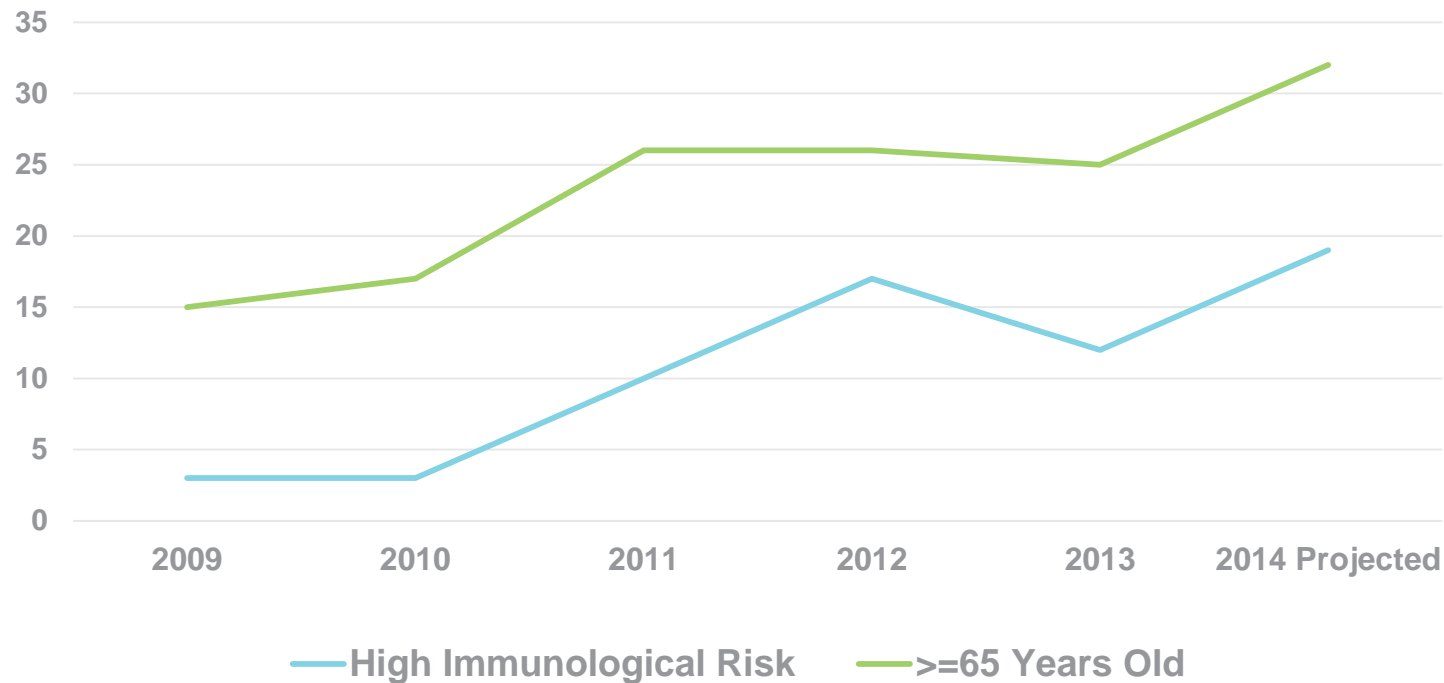
Recipient Age



OPTN Data

Expanded Recipient Population

- Older recipients
- Recipients with higher immunologic risk
- Desensitization
- HIV positive recipients

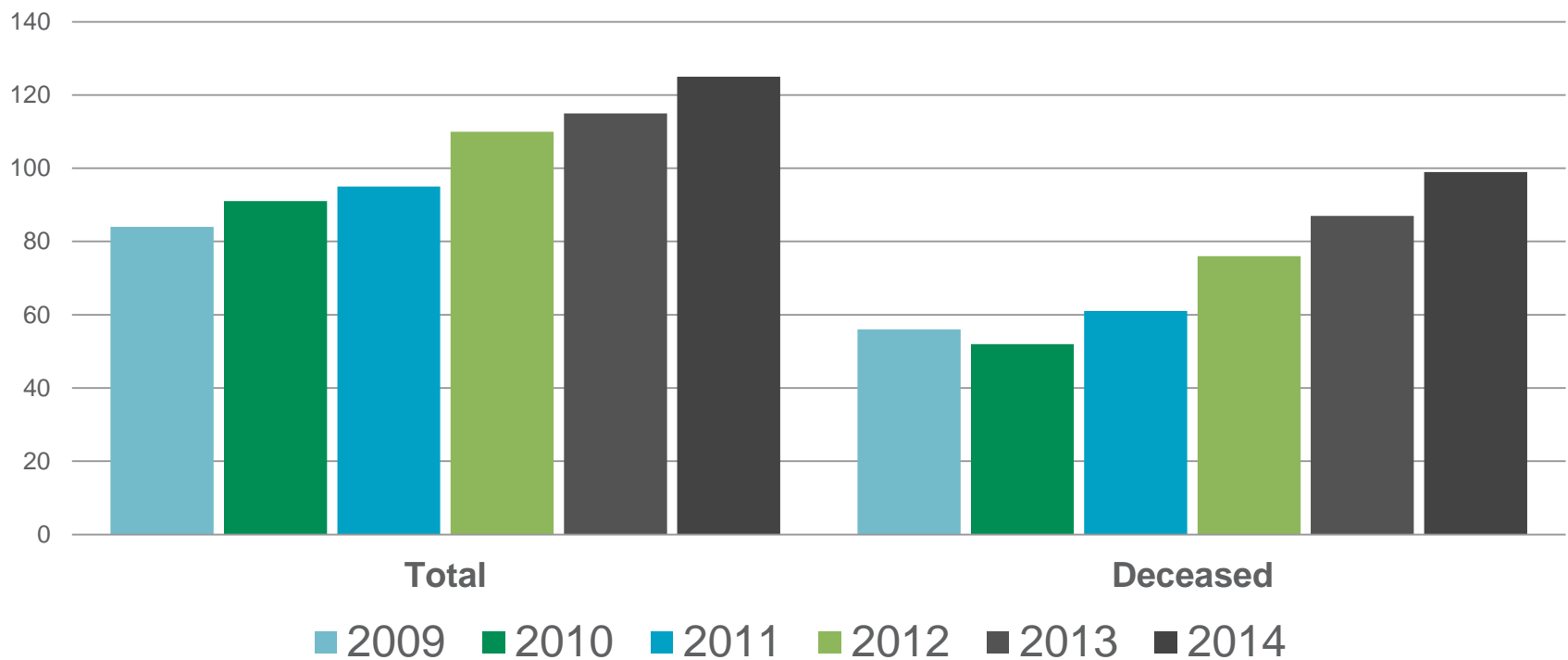


Need

- Renal Transplantation is safe
 - Survival advantage
 - Quality of life
- Recipient age and complexity are increasing
- Organ supply is not

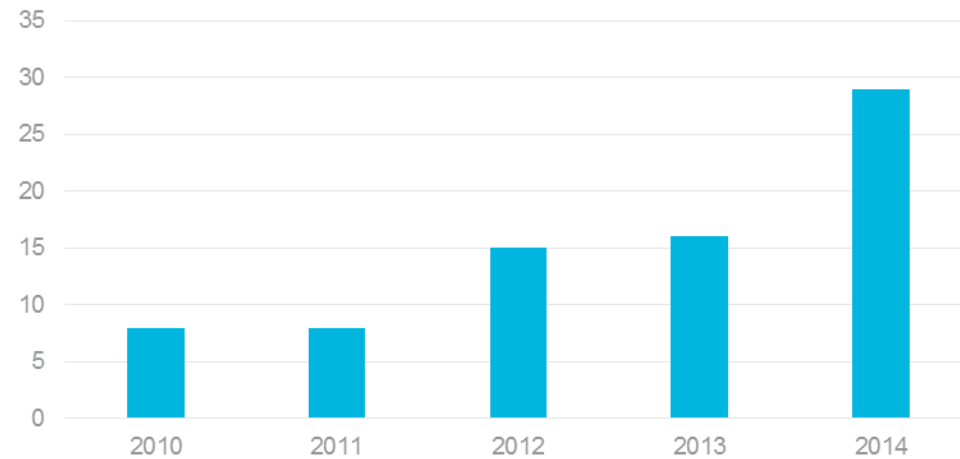
Port et al. JAMA, 1993
Russel et al. Transplantation, 1992

Transplant Volume By Year

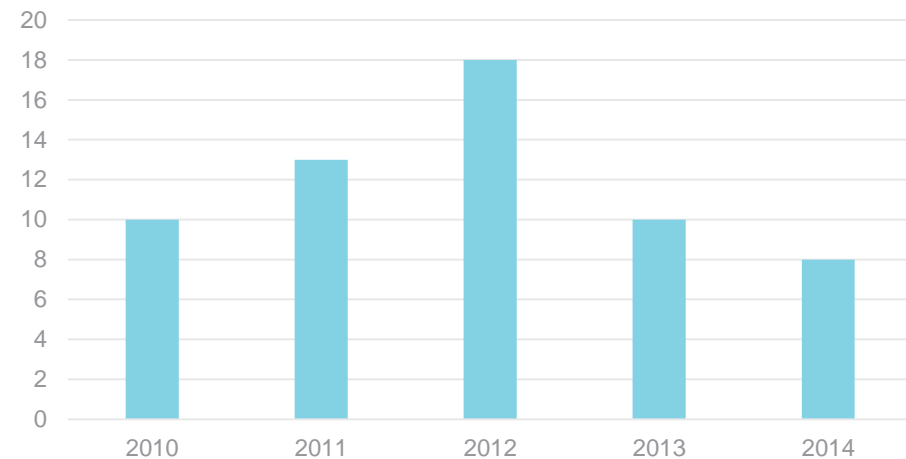


Use of Unconventional Donors

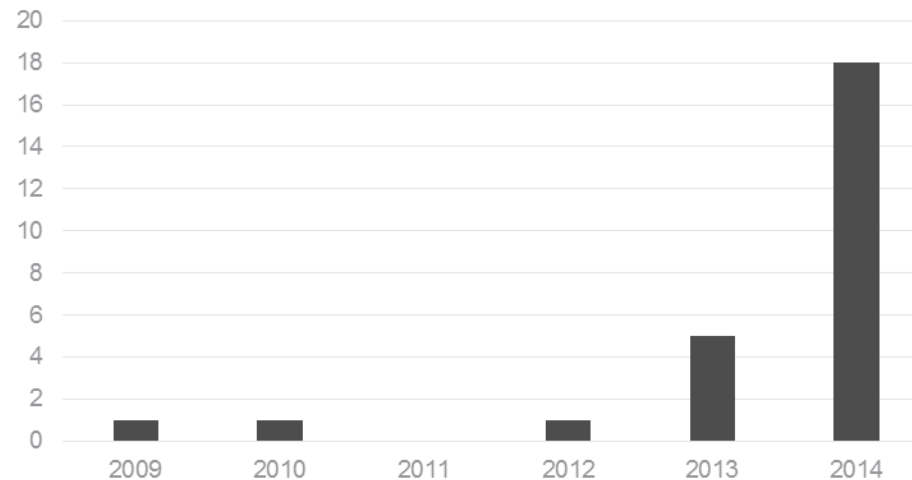
DCD



ECD

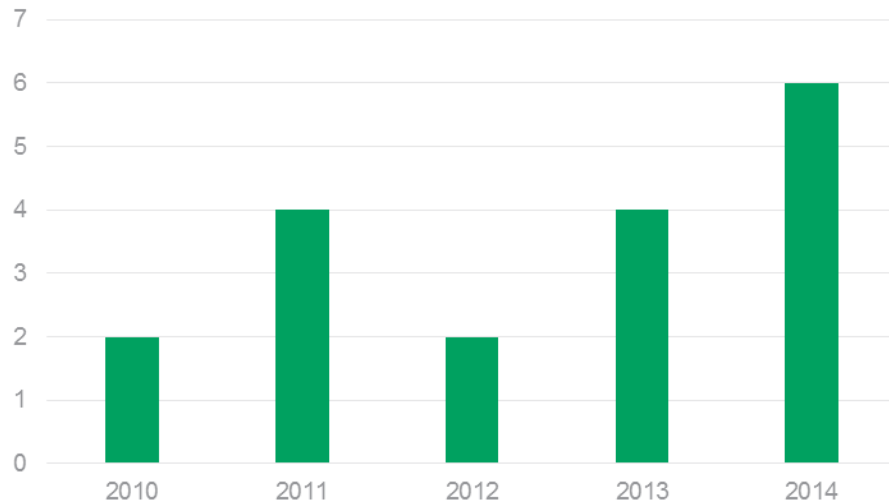


CDC-IR

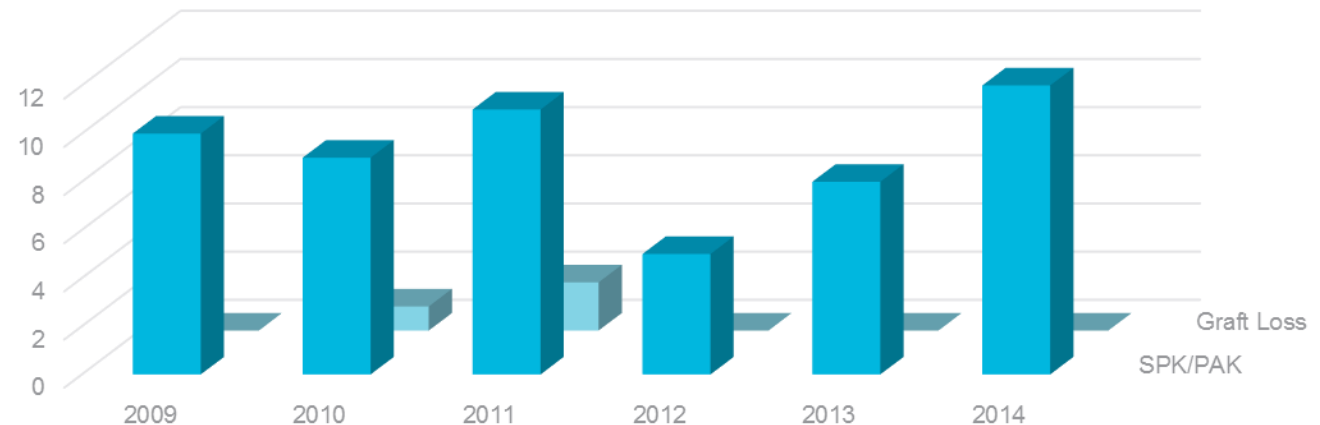


Use of Unconventional Donors

Peds

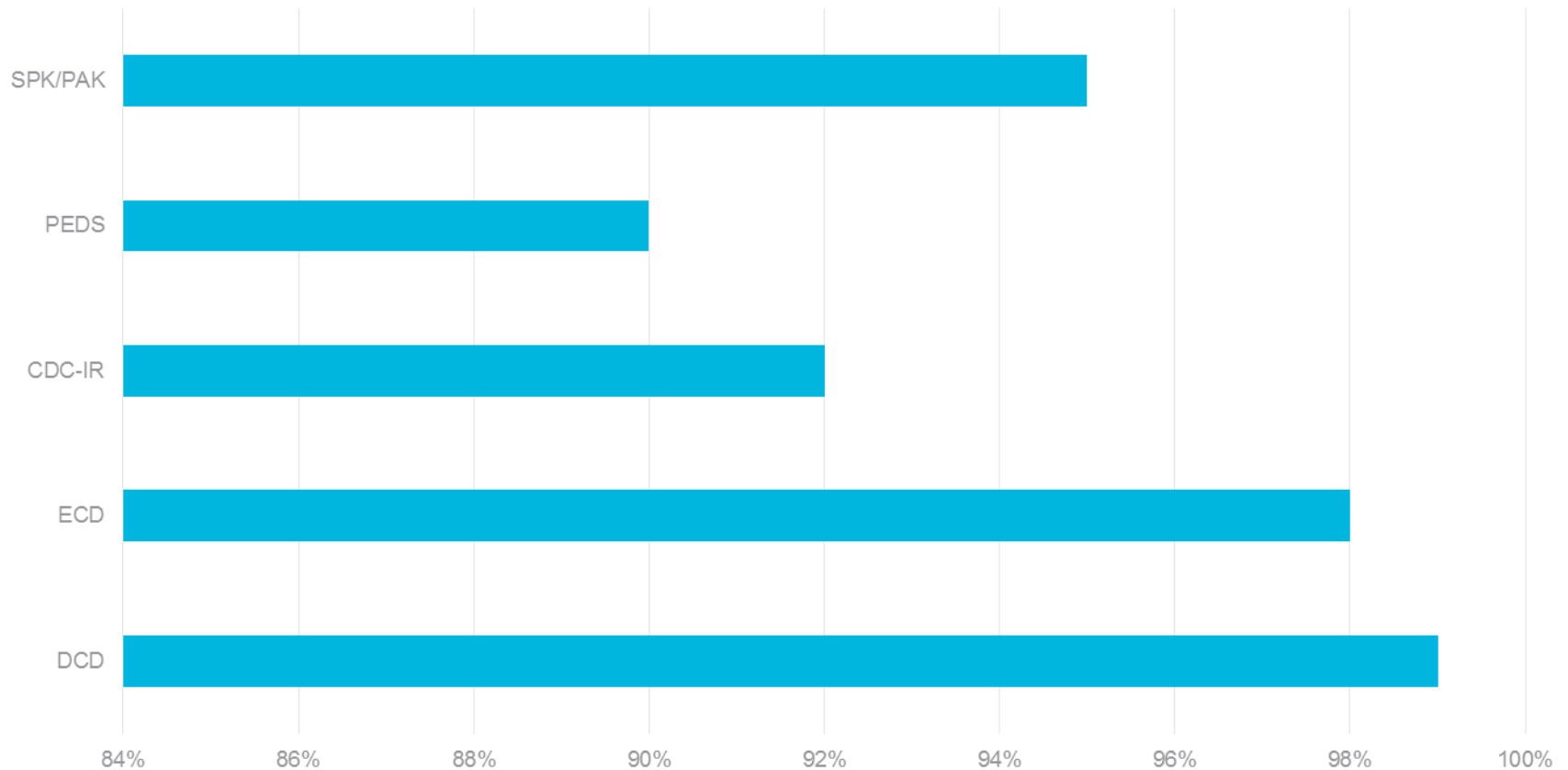


SPK/PAK



Outcomes

Graft Survival



ECD/KDPI >85%

- Donor

- 67 yo female fall from ladder
- KDPI 94%
- CDC increased risk - hemodilution
- Height 5'5" Weight 50kg , BMI 18
- Terminal creat 1.4 (Admit 0.9)
- Biopsy shows 5-15% sclerosis

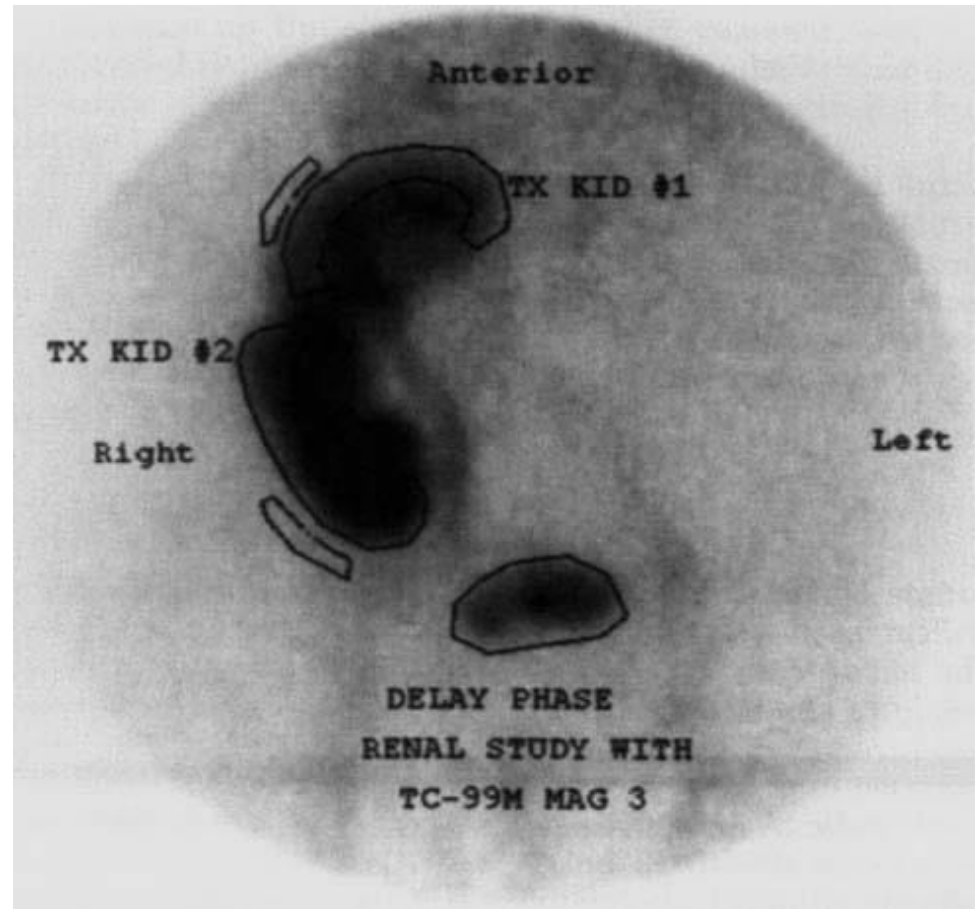
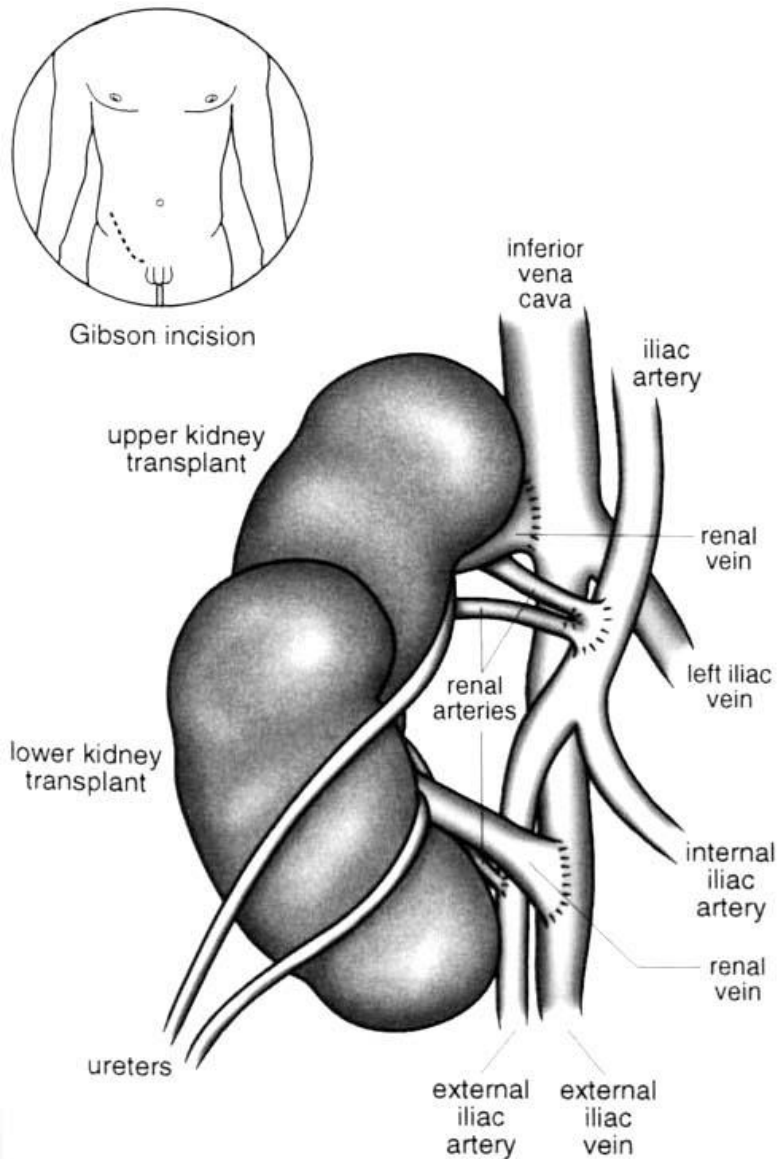
- Recipient

- 70-year-old female
- CPRA 0%
- 53 kg
- CKD V 2/2 DM

ECD/KDPI >85%

- 2 for 1-Dual grafts
- 3mg/kg thymo induction
- Low intensity belatacept protocol (mmf, pred 5)
- Early BK Nephropathy-Resolved
- Creat Nadir 1.2 and stable at 1yr

ECD/KDPI >85%



Hefty et al. Urology, 1998

ECD/KDPI >85%

- 1.5 to 3 year wait time
- 98% overall graft survival last 5y
- 87.0%; 61.7%; 30.5% - 1, 3, and 5 yr survival nationwide
- Creation of local expedited placement list

SRTR Data

Pediatric Donors

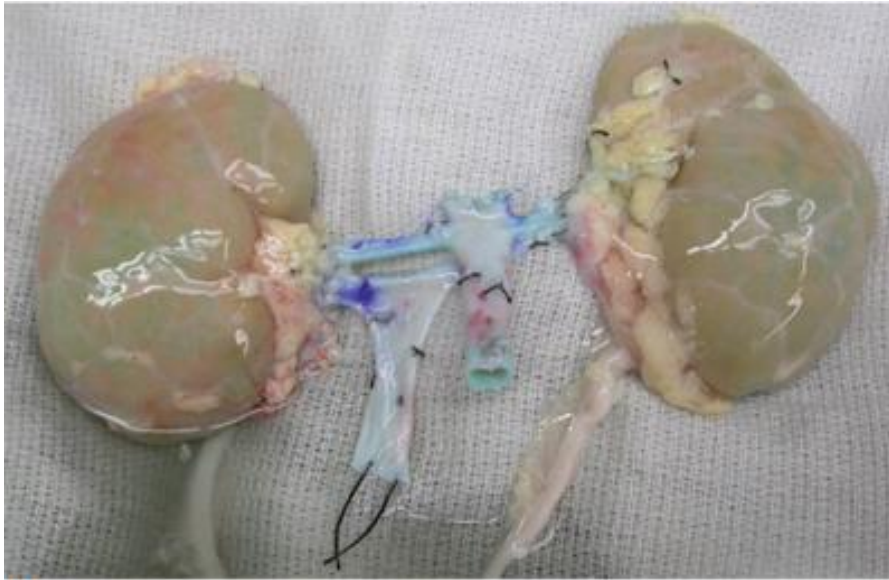
- Donor

- 18 month old male
- Head trauma
- 9.2 kg
- KDPI 65%
- Terminal creatinine 0.2

- Recipient

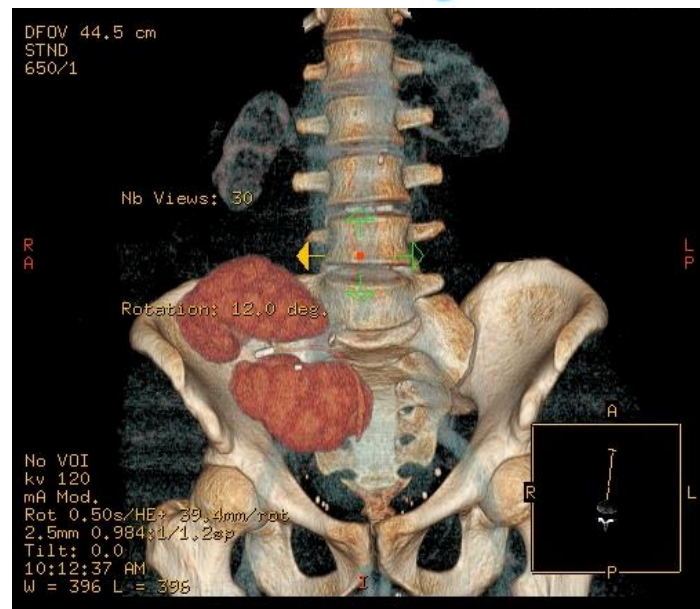
- 54 Y/O female
- 75kg
- ESRD 2/2 DM
- Hypertension
- Retinopathy, no gastroparesis
- PVD (noted in OR)
- 0% PRA

Pediatric Donors



A

B



Brunicardi FC, et al. Schwartz's Principles of Surgery, 10th ed.
McGraw Hill Education, 2015.

Pediatric Donors

- Uneventful OR
- 4.5mg/kg Thymo induction
- Standard immuno (FK, MMF, Pred 5)
- 1 episode urosepsis 5 months post txp
- Nadir creat 0.83 18 months post txp

Pediatric Donors

- Shorter wait time
- Thrombosis risk
- Small, older, low immunologic risk recipient
- 90% overall graft survival
- 79-100% 1yr and 70-92% 5yr reported survival
- **Patient selection**

- Donor

- 17 year old male DCD
- KDPI: 12%
- Closed head injury.
- Terminal creat 0.98
- Asystole at 13 min
- Total WIT (withdrawal to flush) 26 minutes

- Recipient

- 37 year old male
- 66kg
- DM type I
- Mismatch: 1-2-2
- CPRA 0%

DCD/SPK

- Uneventful OR
- 5 dose thymo induction
- DGF x 7d postop
- Excellent glycemic control out of OR to present
- Heparin→Coumadin x 6wks
- Ureteral stent placed
- 1 episode viral PNA
- Nadir creat 1.15 and stable at 6 months post-op

- 100% patient and graft survival since 2011
- 0 Thromboses since institution of anticoagulation protocol
- ~50% rate of significant bleed (requiring increased monitoring, transfusion, or operation)
- DGF with DCD

Anticoag Protocol

- ESRD population is challenging with regards to hypercoagulability/coagulopathy
- Loss of 3 grafts in 2010-11 prompted shift to early anticoagulation.
- Thrombosis is a common and catastrophic complication in both Pancreas (10%) and Pediatric En-Bloc (15%) grafts.
- Intra-op heparin→Coumadin

- Donor

- 44 yo male blunt trauma - bike v bus
- KDPI 37%
- **CDC Increased risk donor:** No historian
- Nucleic Acid testing for hepatitis B, C and HIV negative
- Pos utox for methamphetamine
- Terminal creat 0.7

- Recipient

- 54-year-old female
- 75kg
- CKD VI on dialysis 2/2 DM
- Hypertension
- H/O cervical CA
- H/O recent positive PPD

- Uneventful OR
- Basiliximab induction
- Standard immuno (FK, MMF, Pred 5)
- Early BK-Resolved
- Early Post Tx DM-Oral agent
- Nadir Creat 0.81 and stable at 1yr

- Donor

- 33 yo male died of blunt head trauma following assault/homicide
- KDPI 32%
- **CDC Increased risk donor:** history of IV drug use, sexual partner with pos GC
- Nucleic Acid testing for hepatitis B, C and HIV are negative
- pos utox for opiates, cannabinoids
- Received Rx with Zosyn, Vancomycin, Azithromycin, Ciprofloxacin
- Terminal creat 1.7

- Recipient

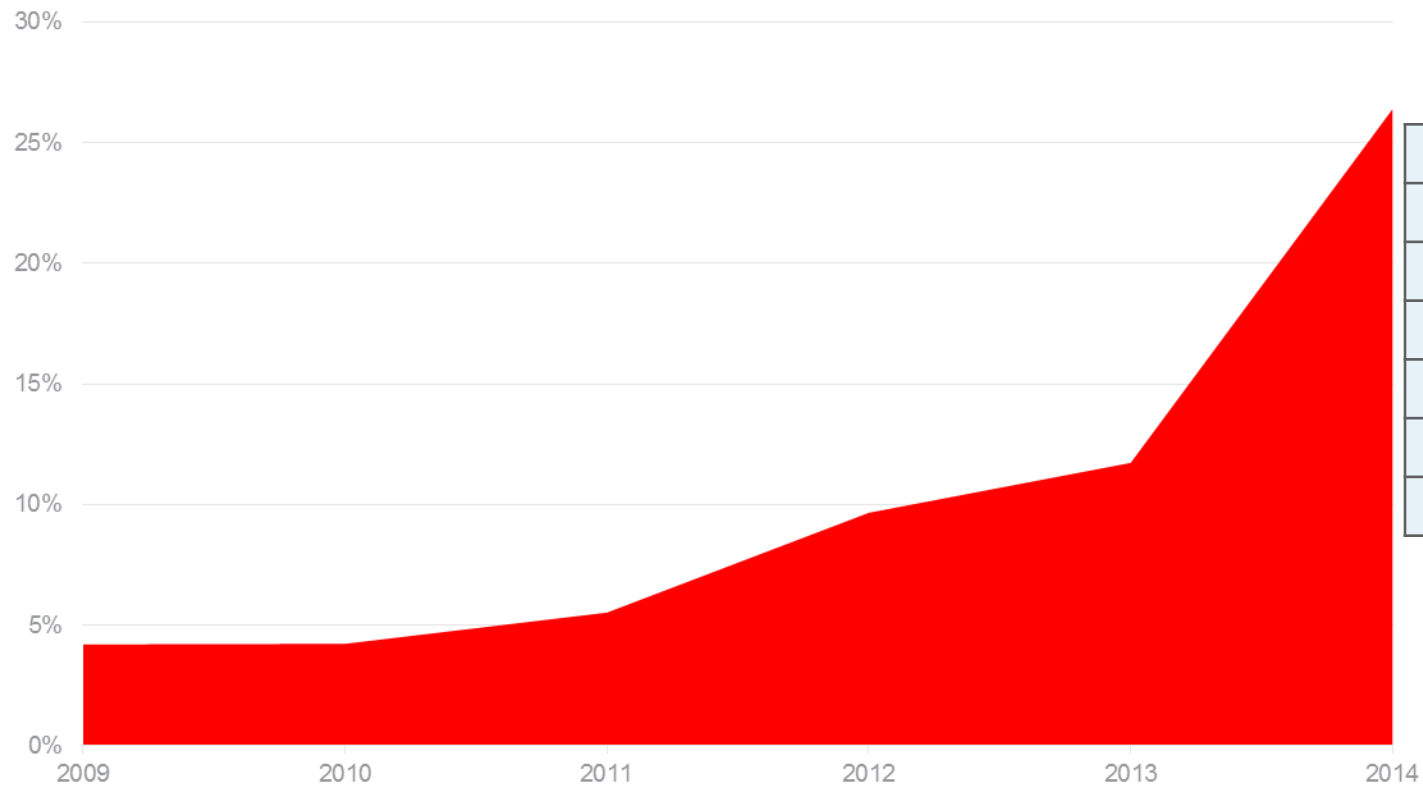
- 71-year-old female
- 65kg
- CKD V of unclear etiology, atrophic left kidney, H/O GN in the past
- Hypertension
- Pre-dialysis
- AV fistula in place

- Uneventful OR
- 5 dose Thymo induction
- Standard immuno (FK, MMF, Pred 5)
- Early BK viremia-resolved
- Mild antibody mediated rejection (IVIg, following DSA)
- Nadir creat 0.6 - 0.8, stable at 11 mo

- Rapidly expanding portion of the donor population
- Tend to be younger donors
- Downtime/ATN
- Risk stratification

- Donor-Recip matching
- Counseling at evaluation and when called in
- Documentation
- Testing at 1 mo, 1yr
- Plan ahead!

DSA CDC-IR Donors



Year	CDC-IR	%
2009	5	4%
2010	6	4%
2011	9	6%
2012	17	10%
2013	19	12%
2014	52	26%

Conclusion

- Still a severe need for organs
- Not all risk is created equal
- Ability to match donors to potential recipients allows a program to be aggressive in a targeted manner

Acknowledgements

- Dr Andrew Weiss
- Dr Chrisian Kuhr



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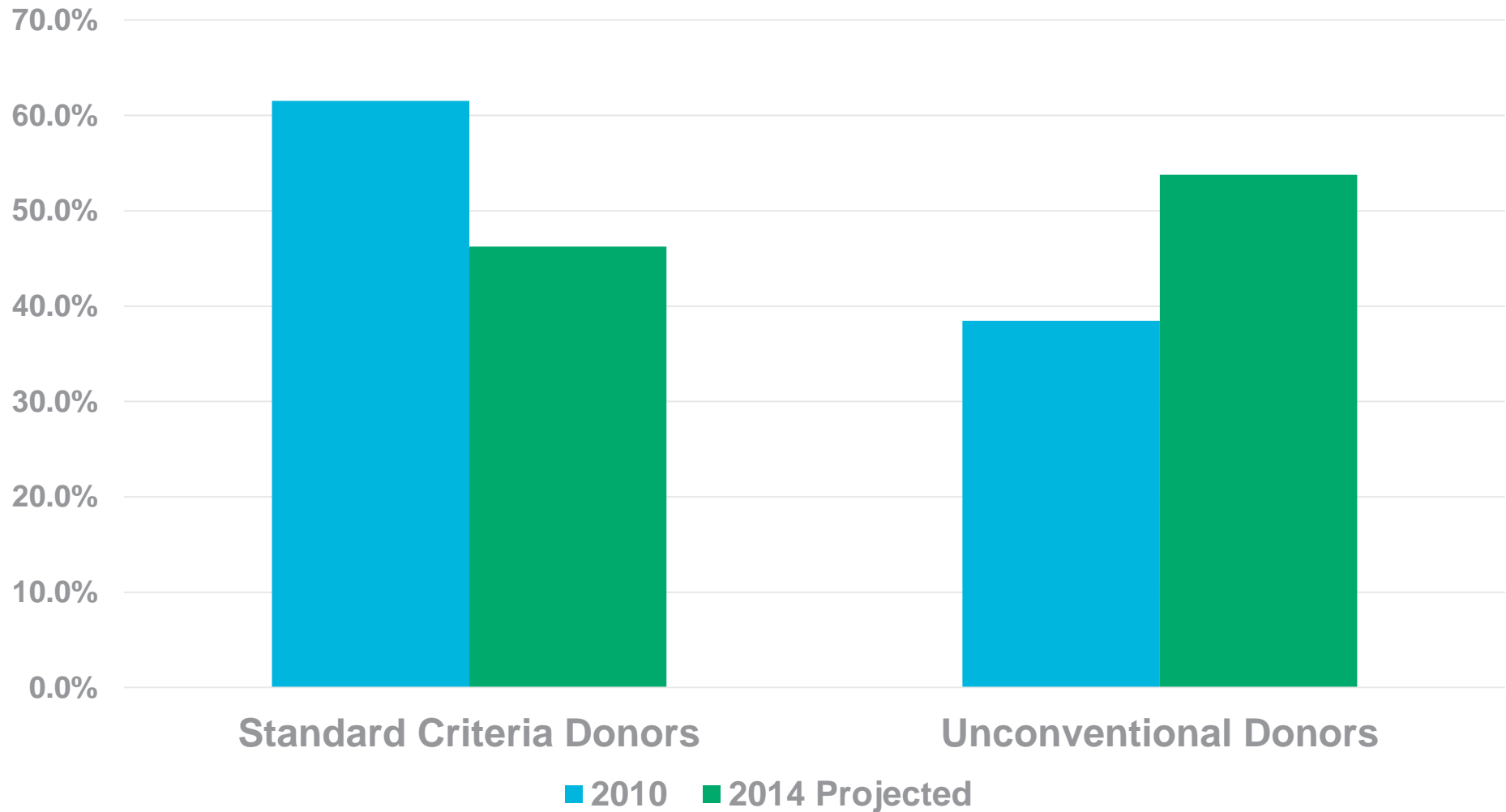
Each Person.
Every Moment.
Better Never Stops.

Anticoag Protocol

- Extensive counseling regarding risks at eval and prior to OR
- Heparin Gtt at 100-700U/hr non-titrated
- ASA 81mg at POD #3
- Transition to Coumadin starting POD #3
- Oral anticoagulation for 4-6 weeks

Deceased Donor Organ transplantation

Deceased Donor Transplants



Transplant Growth

