NATIONAL KIDNEY REGISTRY®
FACILITATING LIVING DONOR TRANSPLANTS

The Economics of Paired Exchange

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Version 2.7

Opportunity

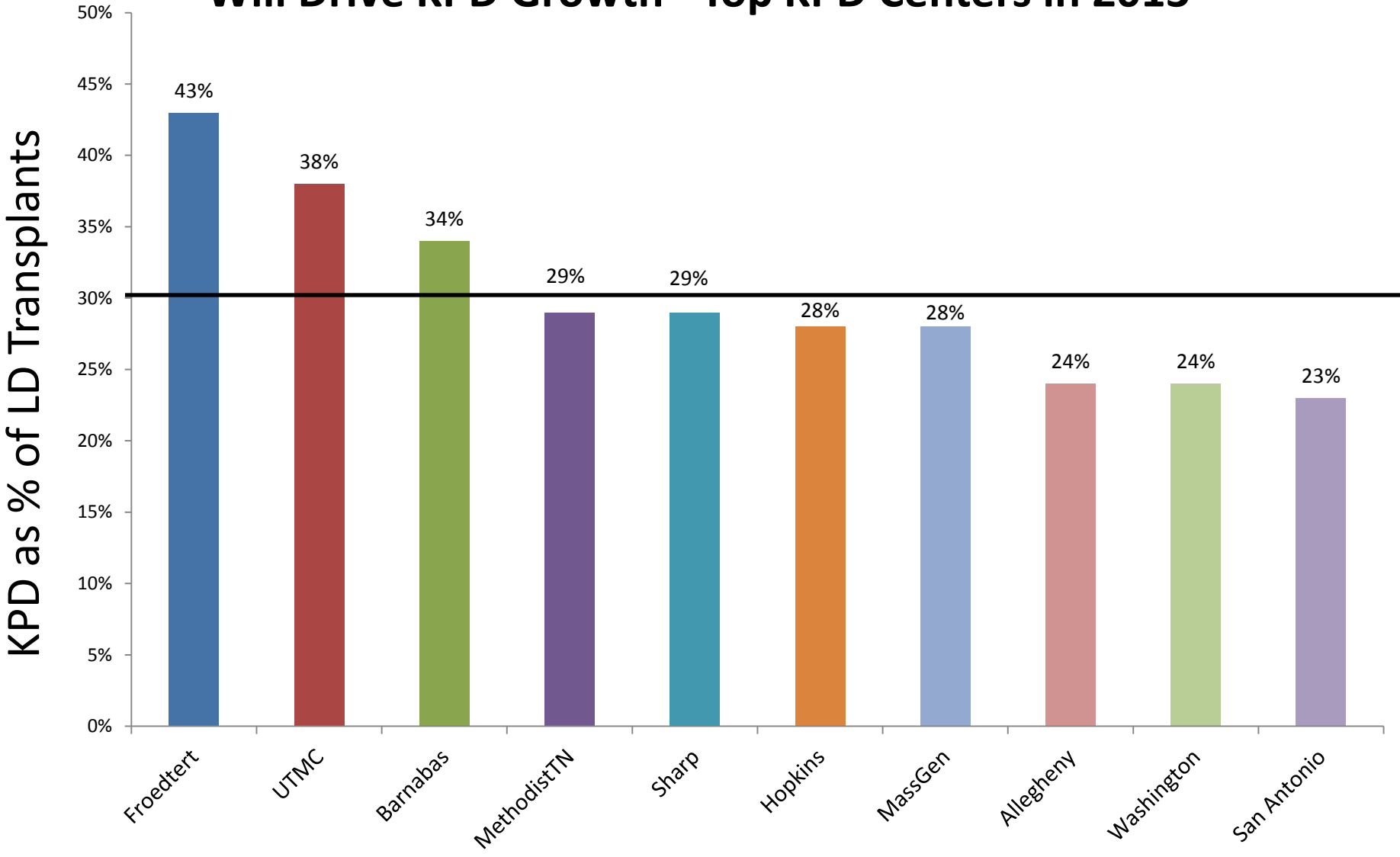
Increase kidney transplantation by 1,000 living donor transplants annually.

The Math

2013 U.S. LD Transplants	5,732
KPD Transplant Potential (30% of LD)	1,720
2013 Actual KPD Transplants	589
Potential Additional KPD Transplants	**1,131**

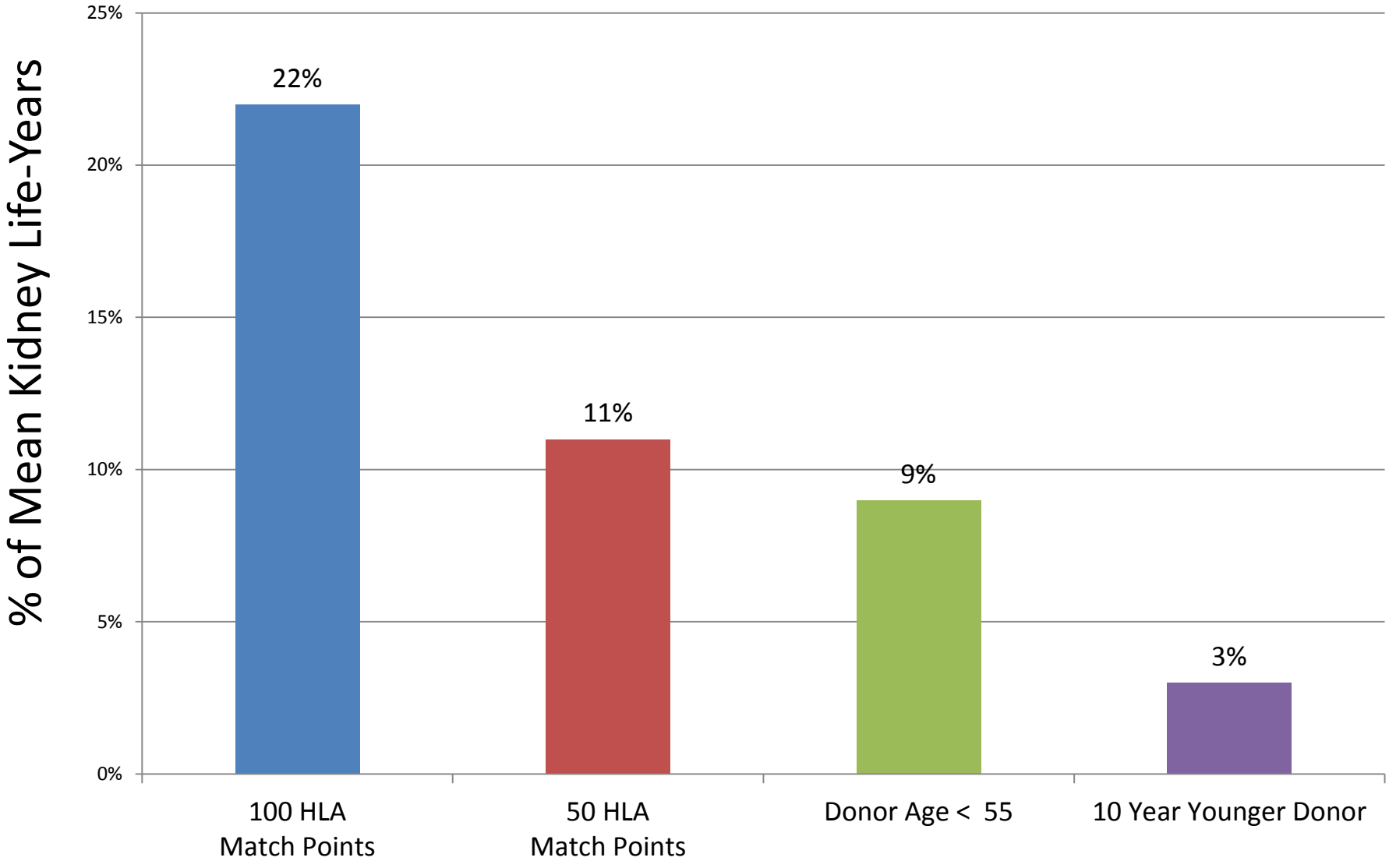
Adoption of KPD Best Practices

Will Drive KPD Growth - Top KPD Centers in 2013



Better Matches for Compatible Pairs

Will Also Drive KPD Growth



The Challenge

Conventional wisdom says that the primary barrier to achieving a significant increase in KPD transplants is funding…

Proposition

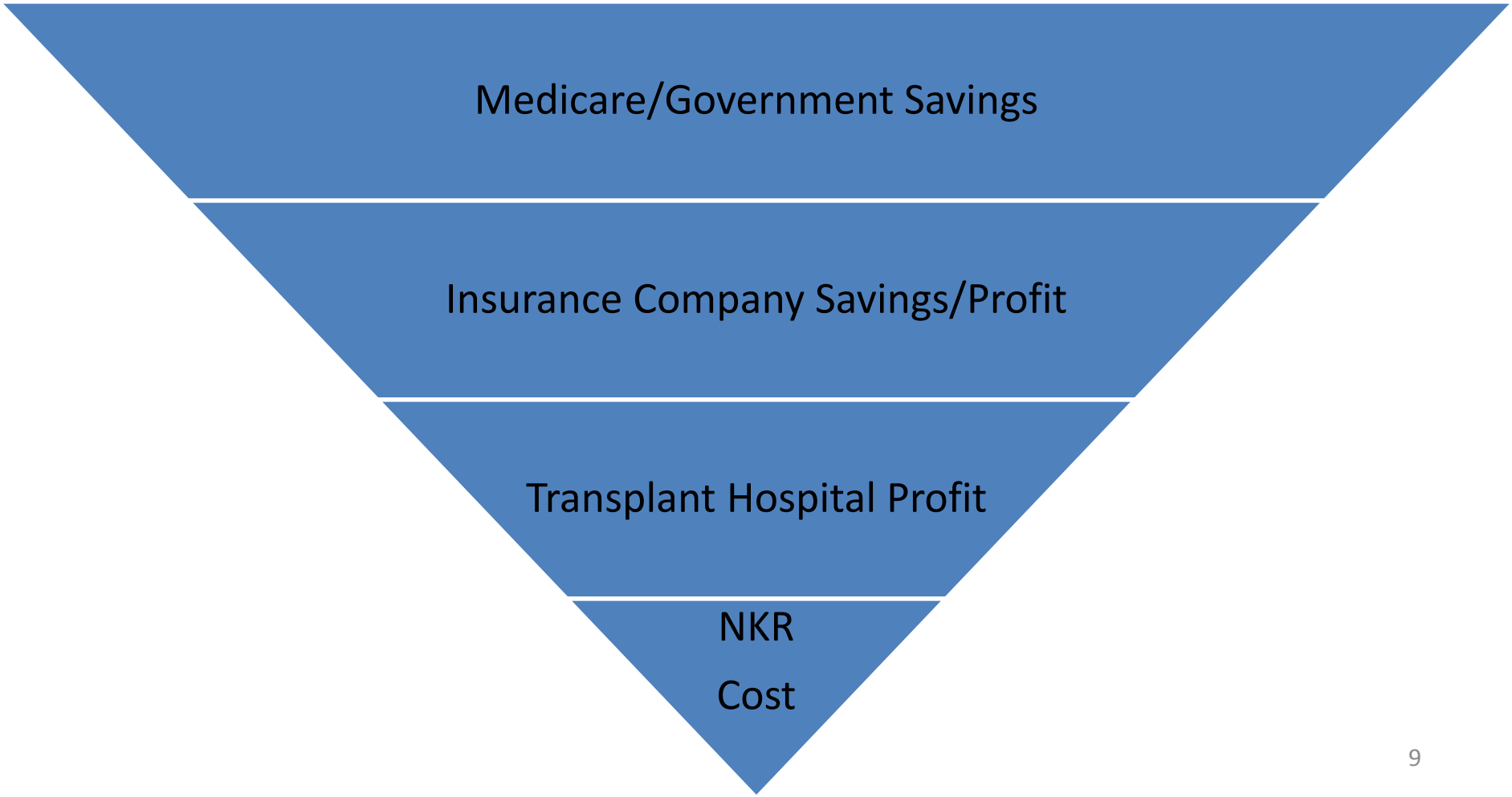
If only 2% of the savings and profits from the first 1,000 NKR transplants were strategically reinvested in KPD resources, transplants would increase by 1,000 annually, generating $14 billion in savings/profits from additional transplants completed over the next decade.

Sanity Check

- If you could invest $1,000 today and get back $50,000 every year (i.e. 5,000% annual return)… would you make that investment?

- If you could invest $1,000 today and get back $1,000 every year (i.e. 100% annual return)… … would you make that investment?

KPD Savings/Profit Pyramid



Medicare/Government Savings

Cost of Dialysis *	$80,000 / Year
Less Immuno Meds	$15,000 / Year
Savings per Transplant	$65,000 / Year
LD Transplant Longevity	x 20 Years
	$1,300,000
Less Transplant (WSJ 1/17/14)	-$150,000
	$1,150,000 / transplant

Insurance Company Savings/Profit

Annual Dialysis-Related Costs	$225,000
Years on Dialysis	X 2.5
Dialysis Savings	$562,500
Cost of Transplant	-$150,000
Post-Transplant Costs	-$50,000
Net Savings	**$362,500 / transplant**

Transplant Hospital Incremental Profit

	Private Insurance Patients	Medicare Patients
Average Revenue	$150,000	
Marginal Cost at 20%	-$30,000	
KPD Incremental Costs	-$6,000	
Incremental Profit	$114,000	$40,000

Average Incremental Profit @ 50/50 Mix	**$77,000**

Medicare Patient Incremental Profit

	Current	With +1 Transplant	Increase
Expenses on CMS Cost Report	$2,000,000	$2,000,000	----
Medicare covered transplants	50	51	+1
Medicare covered percentage	50%	52%	+2%
Reimbursement from cost report ~Represents incremental profit	$1,000,000	$1,040,000	**$40,000**

Assumptions:

- Baseline is 100 transplants per year with Medicare representing 50%
- Hospital costs that are subject to CMS reimbursement = $2M
- No profit in CMS reimbursement for surgery

NKR Costs

First 1,000 Transplants

Year	System Investments	Operating Costs*	Total	XPlants	Cost per Xplant
2007	$457,413	$100,000	$557,413	0	N/A
2008	$1,071,587	$202,665	$1,274,252	21	$60,679
2009	$1,261,981	$179,917	$1,441,898	62	$23,256
2010	$1,759,161	$299,787	$2,058,948	131	$15,717
2011	$1,934,134	$1,295,424	$3,229,558	175	$18,455
2012	$0	$1,605,236	$1,605,236	226	$7,103
2013	$0	$2,287,760	$2,287,760	308	$7,428
2014 Q1	$0	$527,107	$527,107	77	$6,846
TOTAL	**$6,484,276**	**$6,497,896**	**$12,982,172**	**1,000**	**$12,982**

* NKR Audited Financial Statements 2007-2013

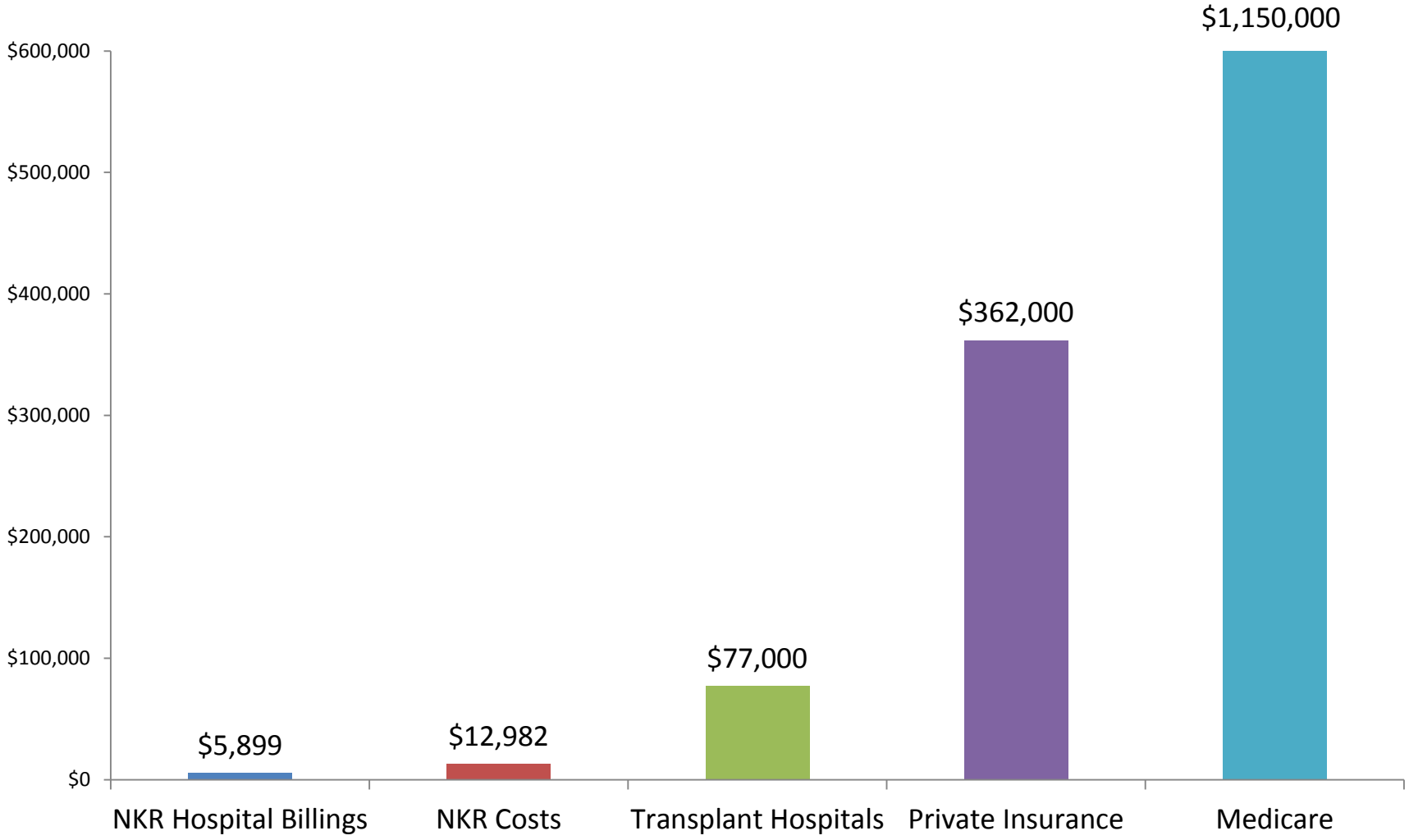
NKR Hospital Billings

First 1,000 transplants

Year	Hospital Billings	Xplants	Cost per Xplant
2007	$0		
2008	$0		
2009	$0		
2010	$216,051		
2011	$1,118,925		
2012	$1,494,375		
2013	$2,469,908		
2014 Q1	$600,000		
TOTAL	**$5,899,259**	**1,000**	**$5,899**

* NKR Audited Financial Statements 2010-2013

KPD Economics per Transplant

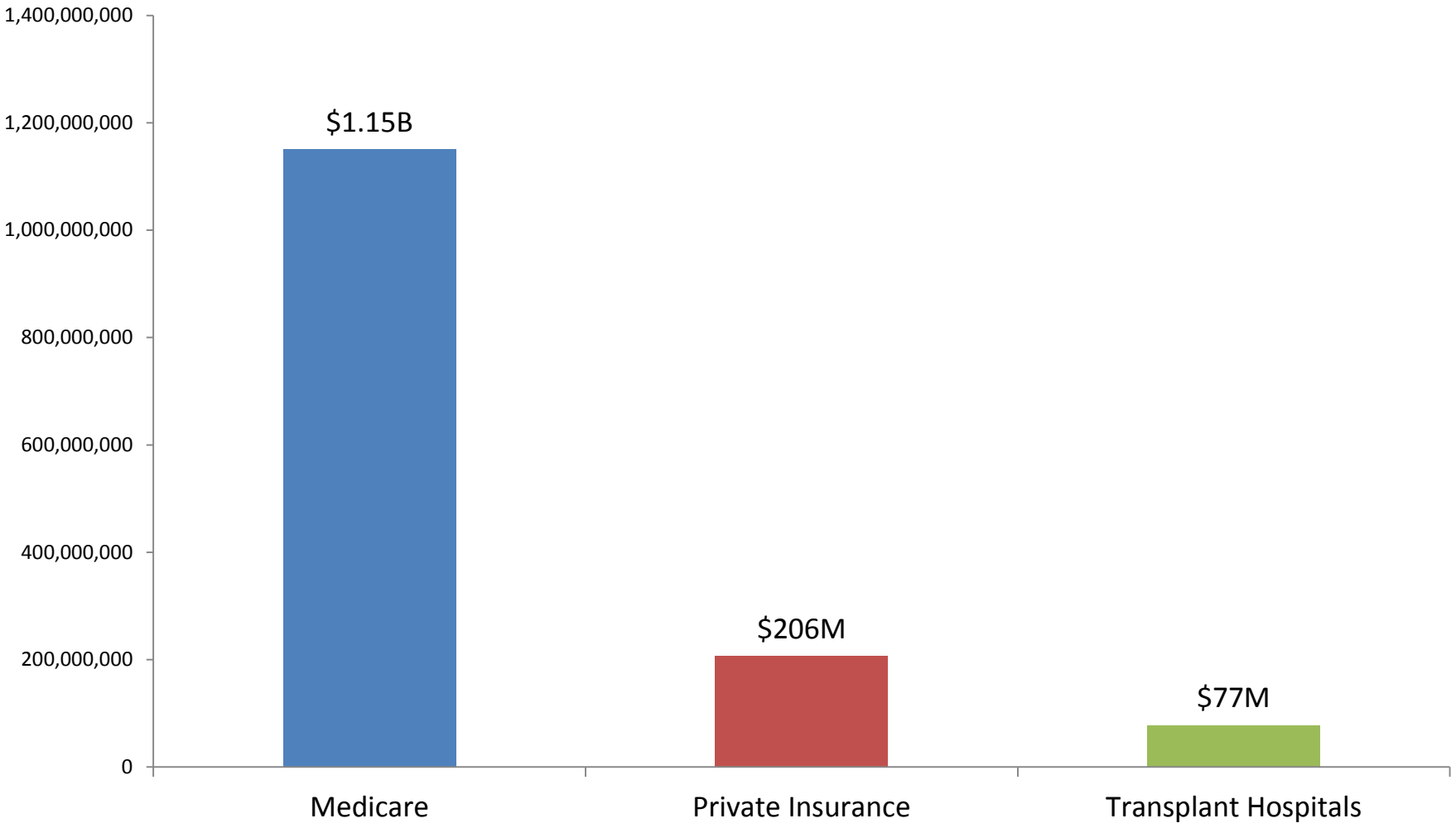


KPD Savings/Profit

First 1,000 transplants

	Savings/Profit Per Xplant	Xplants	Total
Medicare	$1,150,000	1,000	$1.15B
Private Insurance	$362,500	570	$206M
Transplant Hospitals	$77,000	1,000	$77M
Total			**$1.43B**

KPD Savings/Profit Comparison



Industry Reinvestment Opportunity

- 2% of the $1.43B in Savings/Profit = $29M
- Use the $29M Savings/Profit for KPD funding
- KPD is currently constrained by:
  - Shortage of KPD coordinators (includes outreach)
  - Lack of surgical capacity

Industry Reinvestment Opportunity

- Invest $9M to eliminate surgical coverage gaps from Tuesday-Thursday
  - Add surgical and OR capacity if needed
  - Cross train donor & recipient surgeons
- Invest $20M to hire 50 KPD coordinators
  - 50 at $200K/ year over 2 years = $20M
  - See next slide for suggested staffing plan

KPD Coordinator Staffing Plan

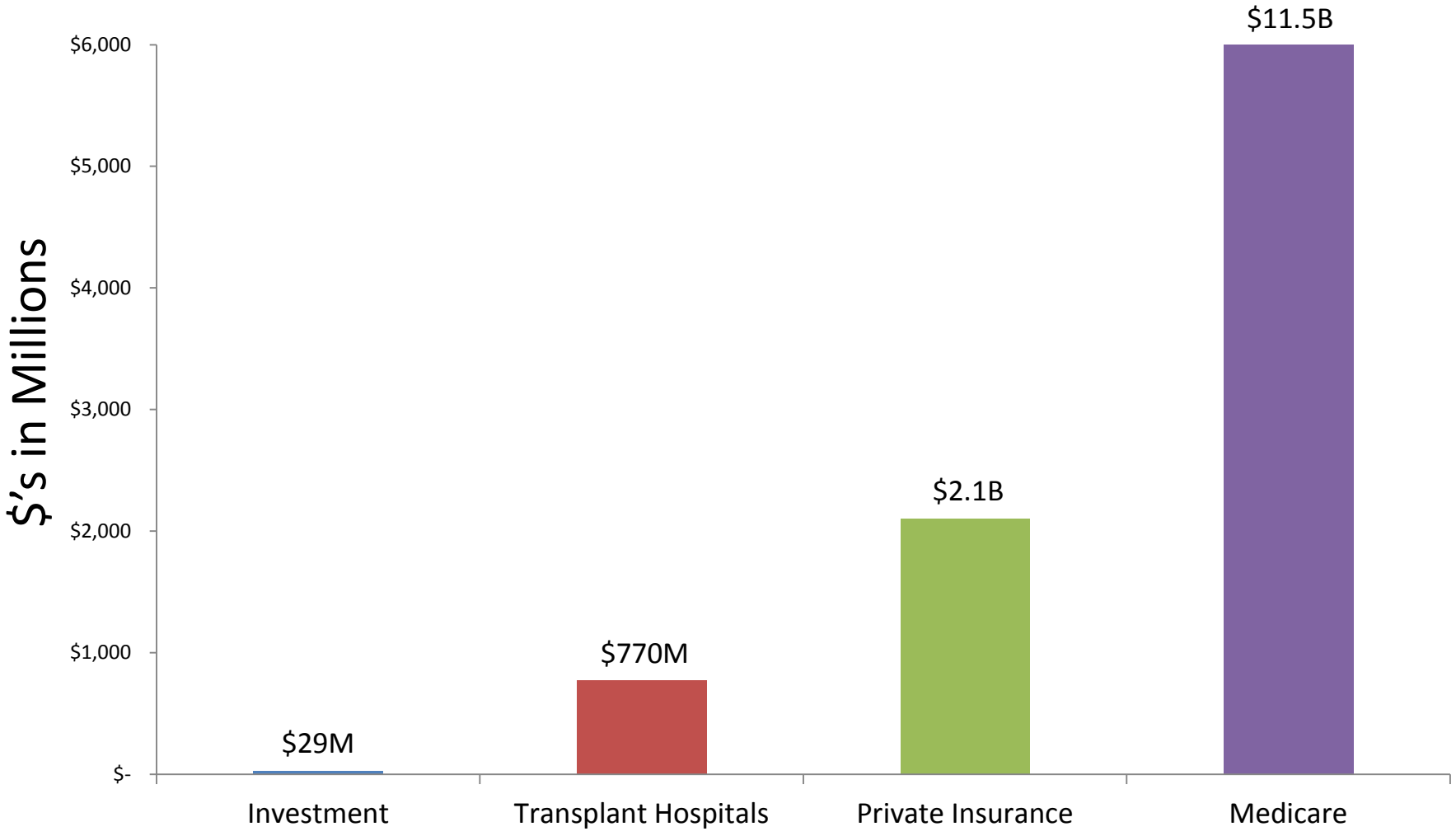
	Simple Cases	Complex Cases (ABOi & Desensitization)
Small Center (<30 LD Cases / Year)	1 FTEs	2 FTEs
Medium Center (30 - 80 LD Cases / Year)	2 FTEs	3 FTEs
Large Center (80+ LD Cases / Year	3 FTEs	4 FTEs

Industry Return on Investment

- Gain from 1,000 additional transplants/year
  - $1.4 billion annual savings/profit
- The return on the $29M investment is approximately 5,000% every year(1.4B/29M)
- *If you could invest a thousand dollars today and get back $50,000 every year (i.e. 5,000% annual return)… would you make that investment?*

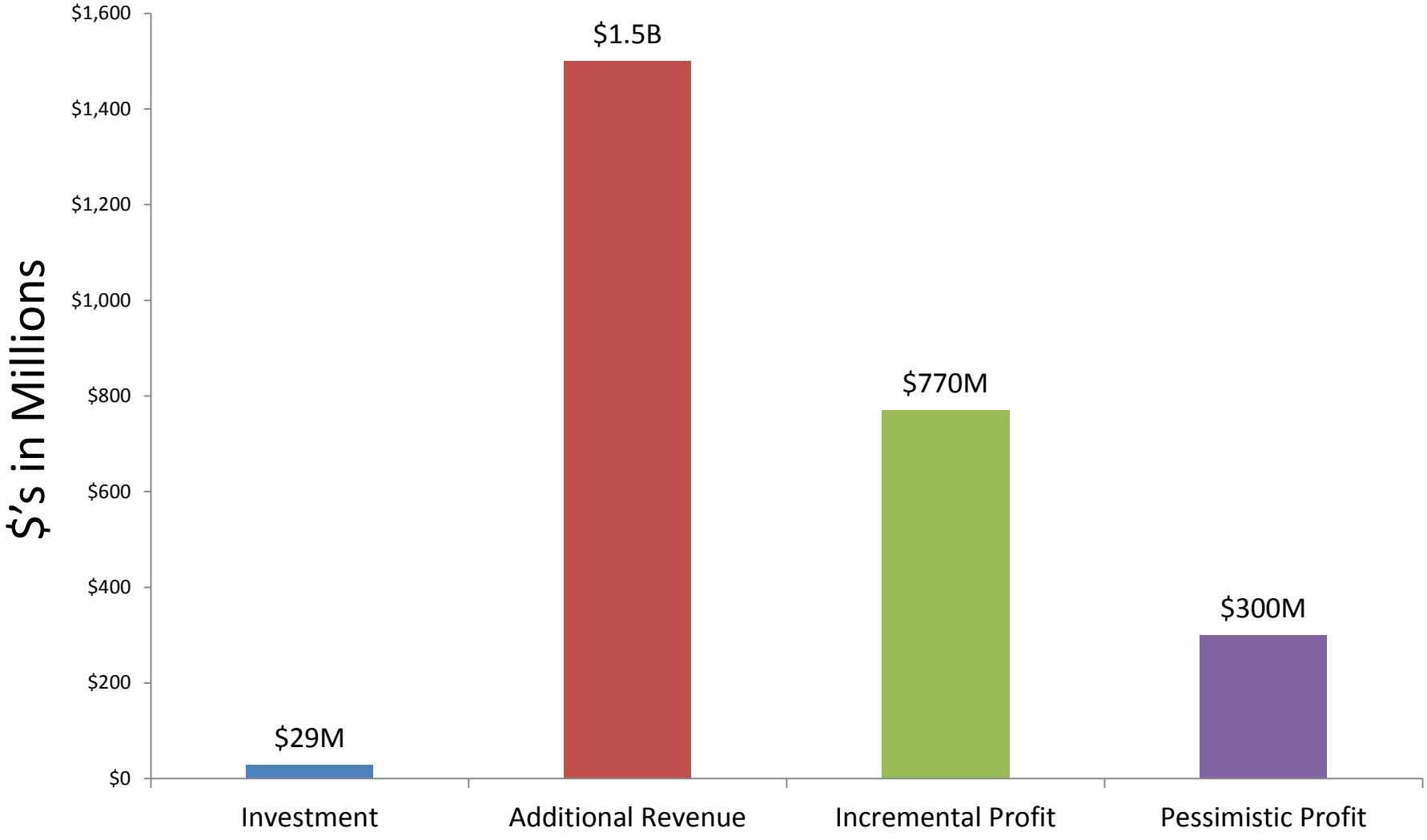
Return on Investment by Industry Player

(Over 10 Year Period)



Transplant Hospital Return on Investment

(Over 10 Year Period)



Transplant Hospitals Return on Investment

Profit Scenario	Investment	Incremental Profit Over 10 Years	Annual Return on Investment
$77K per transplant	$29M	$770M	265%
$30K per transplant	$29M	$300M	103%

- *If you could invest $1,000 today and get back $1,000 every year (i.e. 100% annual return)…*
  … would you make that investment?

Summary

The financial return on paired exchange is so attractive that every transplant program in the United States should be making investments to aggressively grow paired exchange.