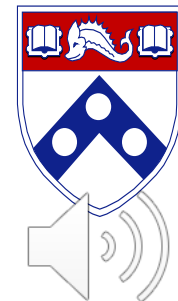


# Overview of Kidney Transplantation

Roy Bloom, MD  
Department of Medicine  
University of Pennsylvania



# The Four Questions

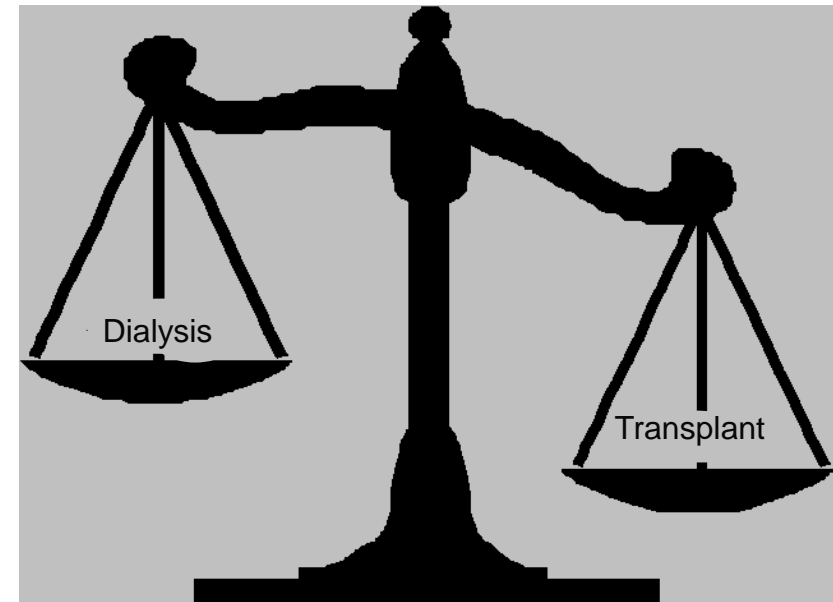
---

- Why
  - Background
- Who
  - Candidate selection
- What
  - Kidney transplant options
- Where to from here
  - Improving organ utilization

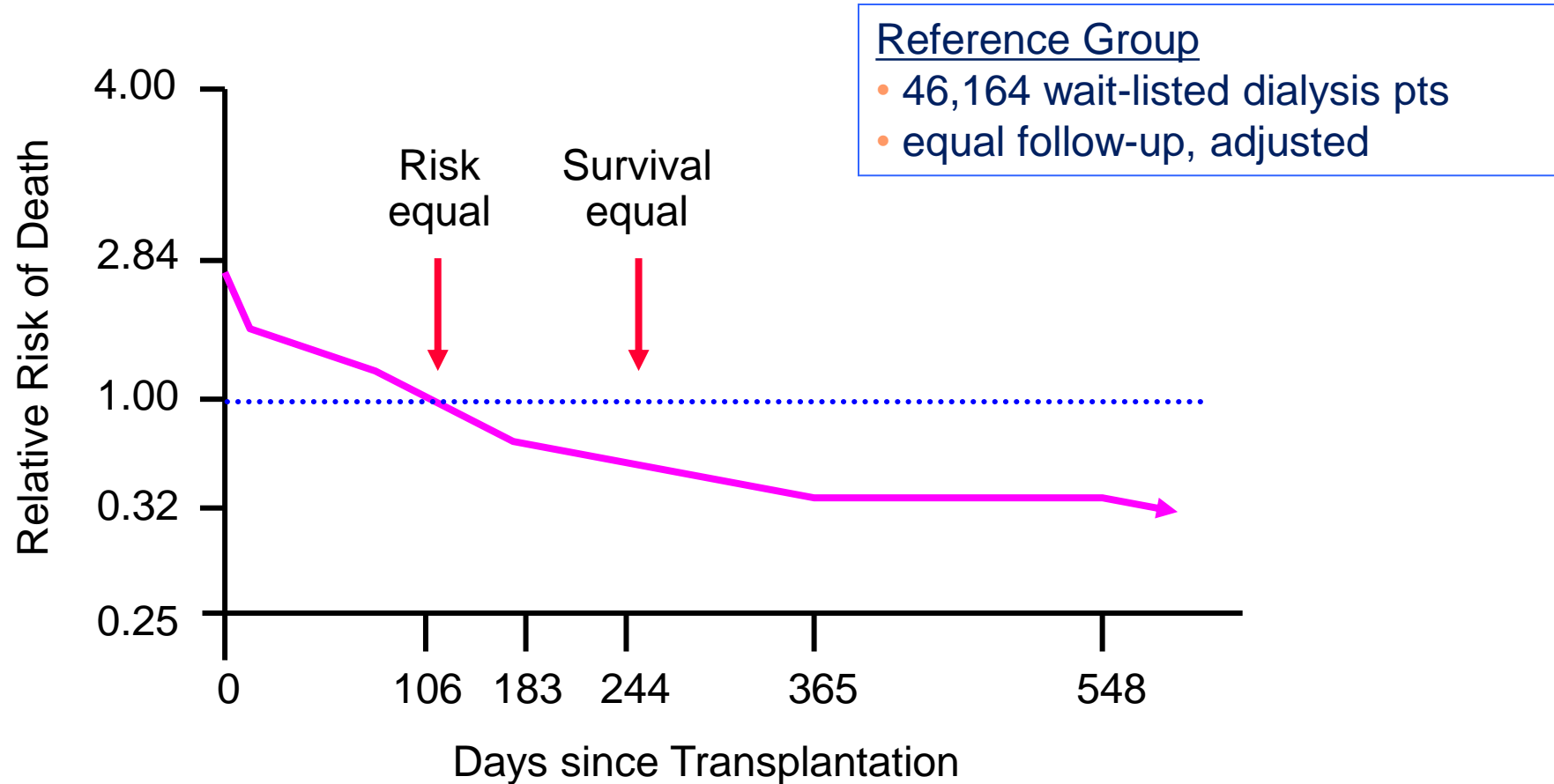
# Why Get a Transplant?

---

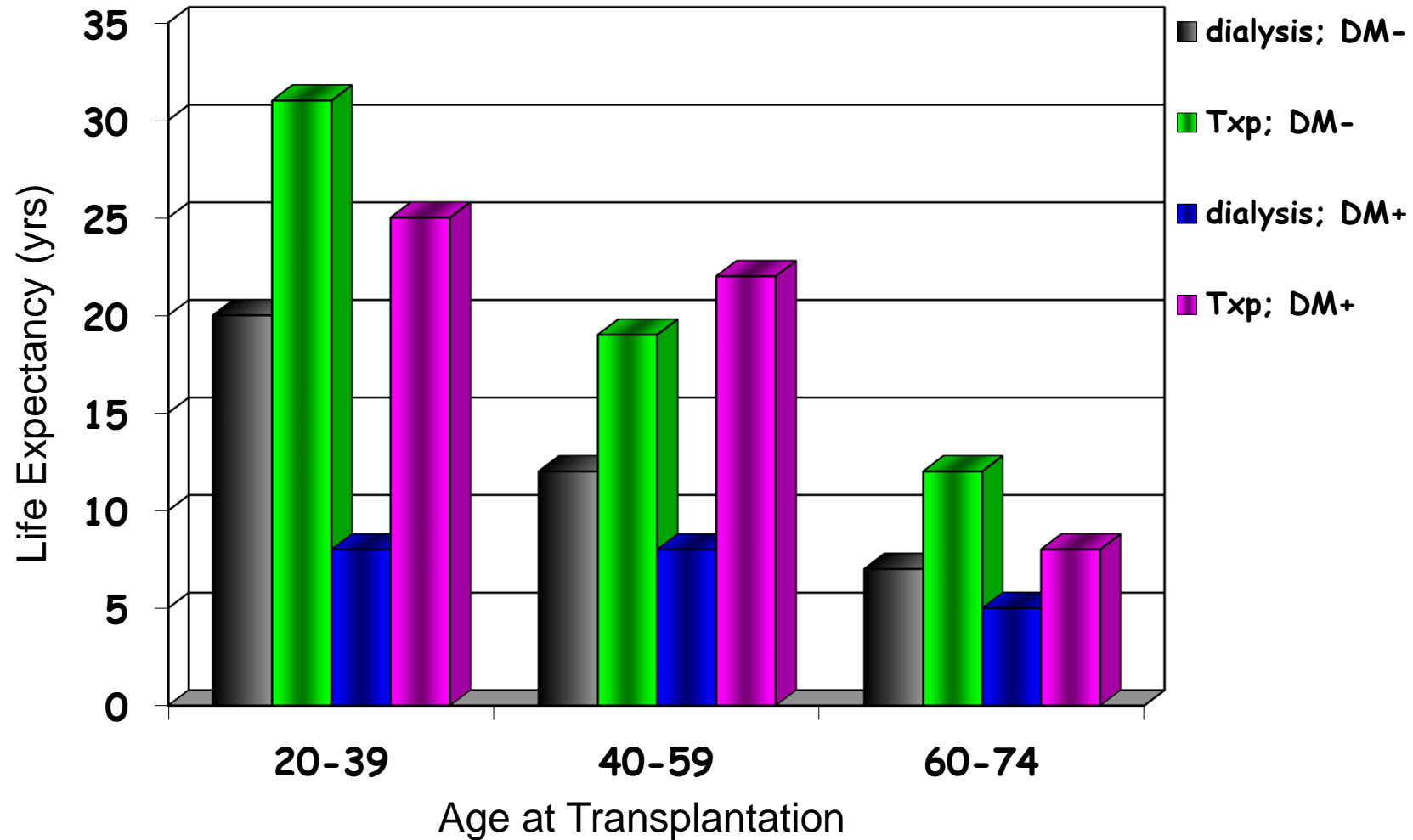
- Longer Life
  - Up to 3 times longer compared to dialysis
- More freedom
  - No dialysis
  - More time
  - More energy
  - Can travel
  - Less restrictive diet
  - Can return to work



# Transplantation versus Dialysis: Comparison of Mortality Rates

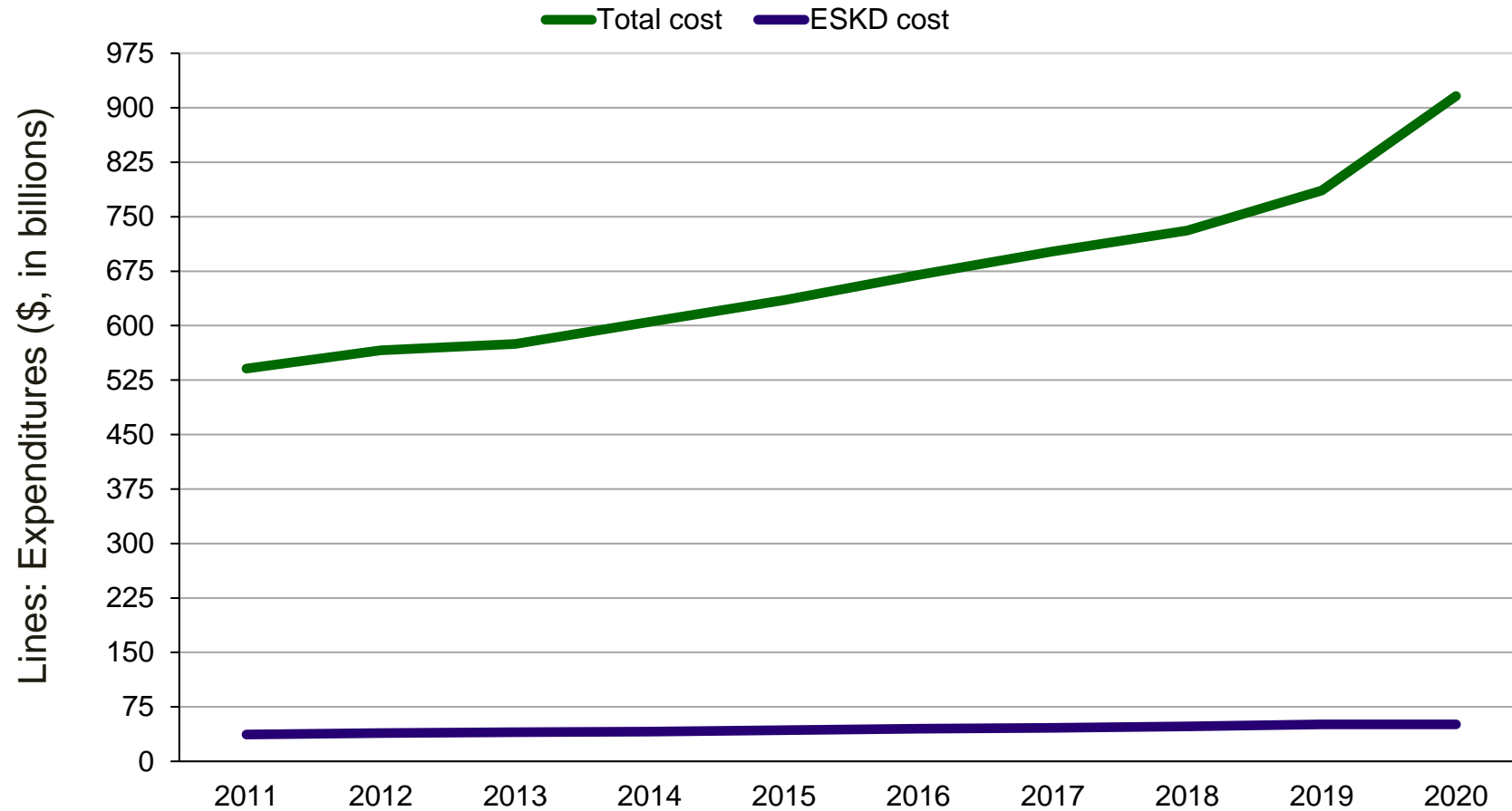


# Life Expectancy: Transplant vs Dialysis

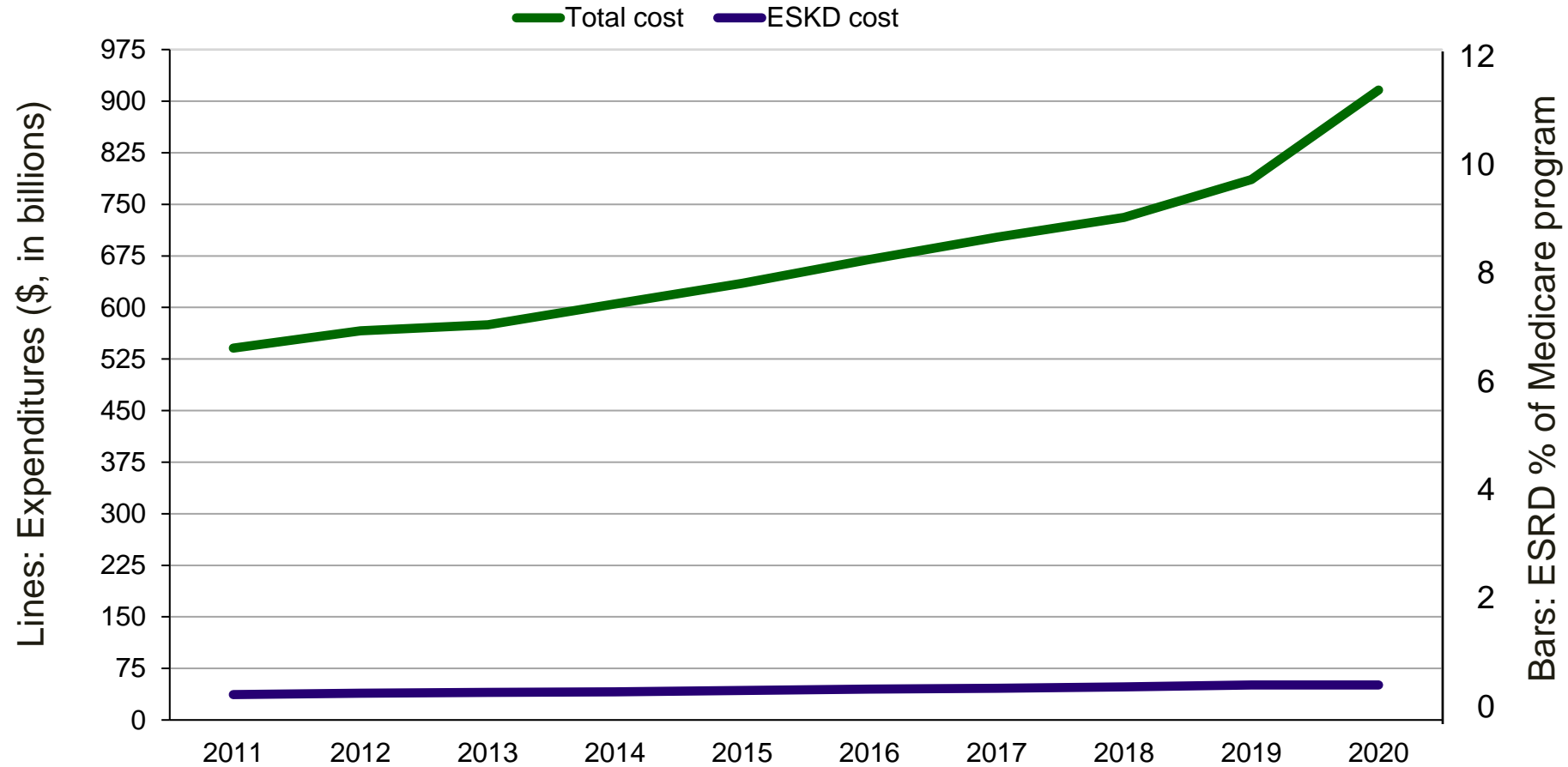


# Costs of the ESKD & Medicare Programs [Excludes Medications]

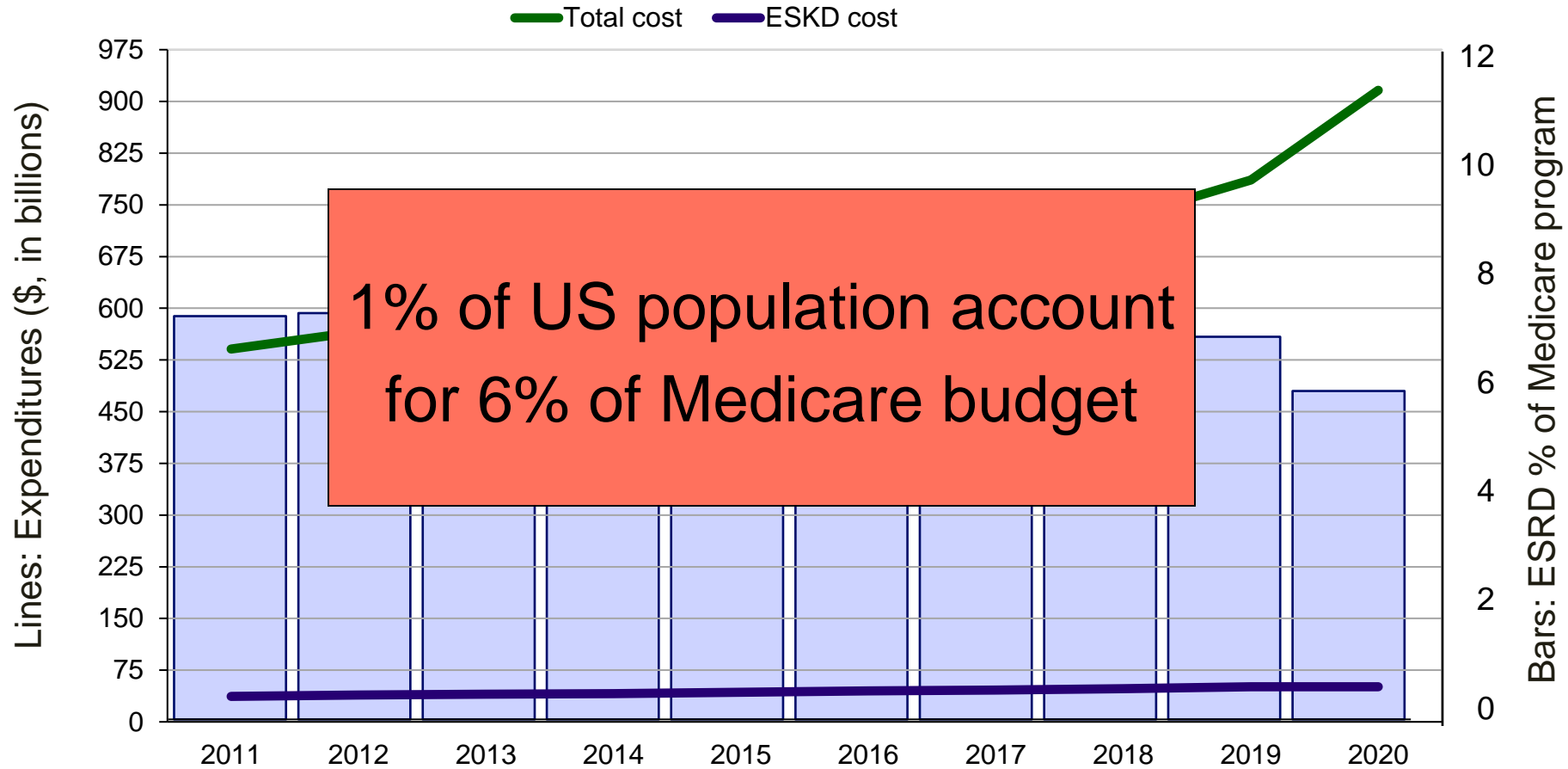
---



# Costs of the ESKD & Medicare Programs [Excludes Medications]

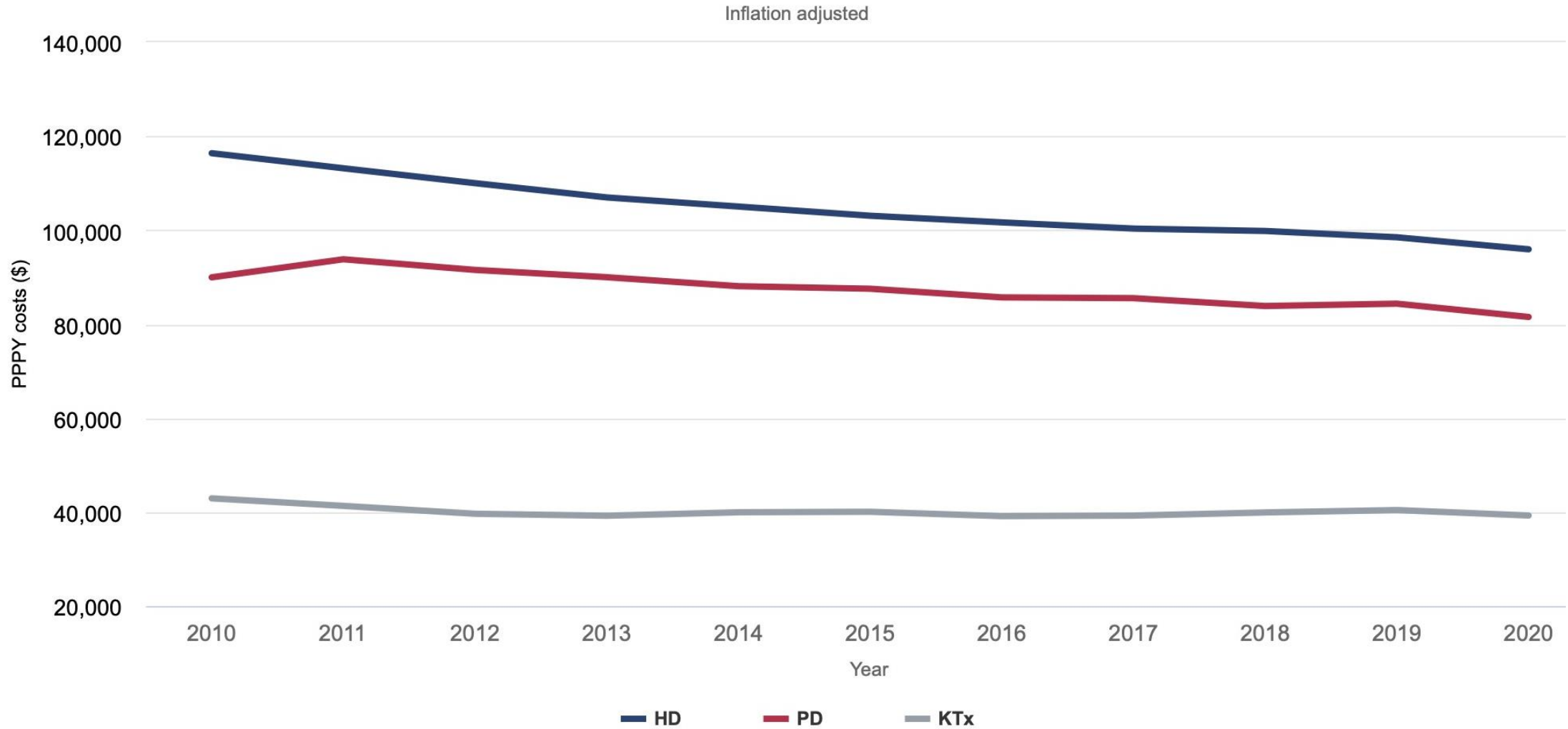


# Costs of the ESKD & Medicare Programs [Excludes Medications]





# Costs of the ESRD & Medicare Programs



# Economic Advantage to Transplantation Over Dialysis

---

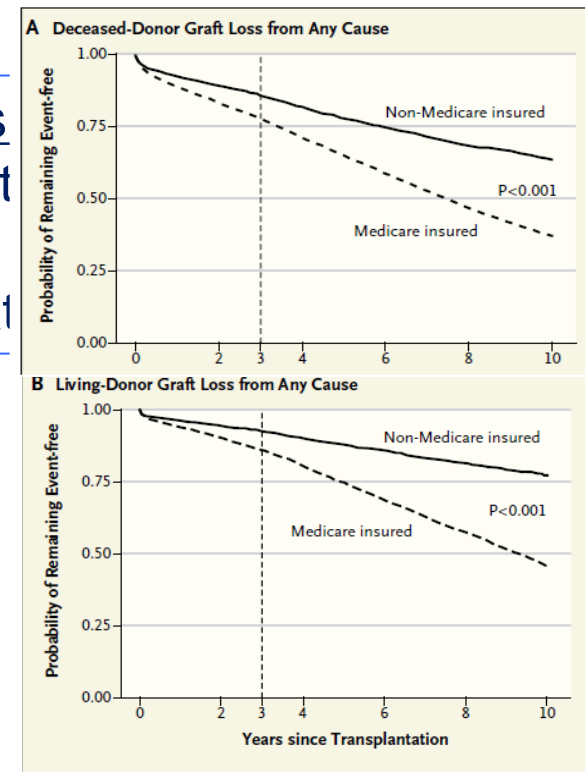
- Transplant more costly initially
- Break-even: 34 mos posttxp
- Thereafter cost savings \$2400-3800/ mo.
- \$80,000+/life yr [HD] vs \$10, 000/life yr [Txp]
- Medicare covers immunosuppression for 1<sup>st</sup> 3 yrs

# What Happens After 3 Years

- Patients are expected to get prescription coverage
  - >65: Medicare-eligible
  - <65: if disabled, Medicare-eligible
  - <65: if not-disabled, other forms of insurance (e.g. return to work)

## Reasons for late loss

- reach 3 years post-t
- premiums not paid
- loss of disability stat



# Immunosuppression Coverage for Kidney Recipients – What's New?

---



## Medicare Part B-ID

**EFFECTIVE: Jan 2023**

Fact sheet

Implementing Certain Provisions of the Consolidated Appropriations Act, 2021 and other Revisions to Medicare Enrollment and Eligibility Rules (CMS-4199-P)

Apr 22, 2022

### Medicare Part B-ID

- On Medicare at transplant
- No longer Medicare eligible > 36 mos post-transplant
- No other insurance options
- **ONLY covers immunosuppression**
- **Has co-pays**

# What Makes a Patient a Kidney Transplant Candidate?

---

- 1) Is there a reasonable life expectancy?
- 2) Can perioperative risk be reasonably managed?
- 3) Does the patient have any condition(s) that will be worsened by, or complicate:
  - Surgery
  - Immunosuppression
- 4) Is the surgery technically feasible?

# Medical Conditions That May Rule Patients Out

---

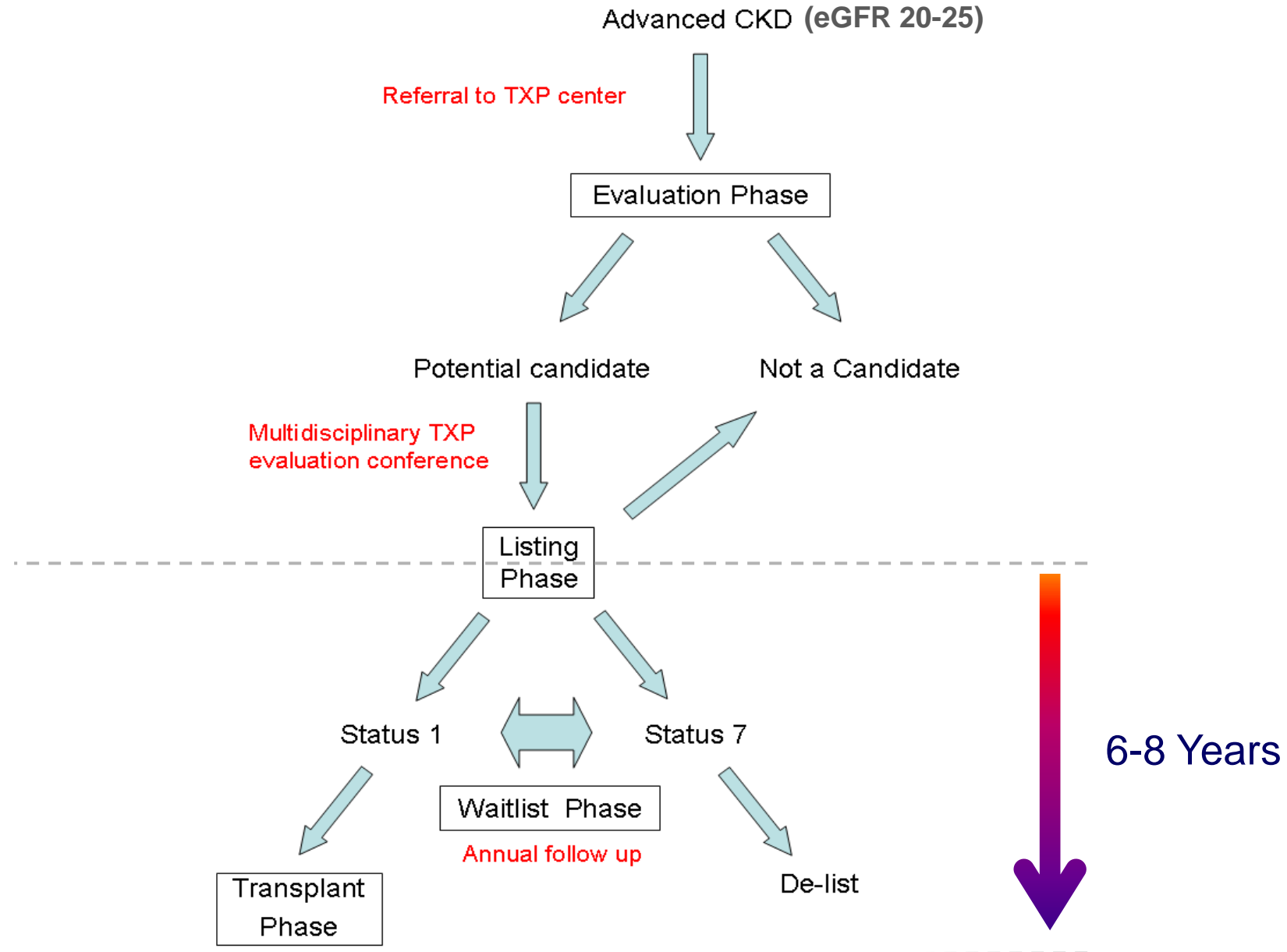
- Advanced disease of other organs
- Incurable malignancy
- Extreme obesity
- Intractable infection
- Unstable psychiatric disorders
- Active substance abuse
- Non-adherence
- **HELP, DO NO HARM**

# Purpose of the Transplant Evaluation

---

- Identify suitable candidates
- Prepare patients and their families
  - Education
    - Risks and benefits
    - Transplant options
  - Optimize candidate health
  - Help CKD planning for primary nephrologist

# The Journey to A Kidney Transplant





# Two Types of Kidney Transplants

---



- Living Donor



- Deceased Donor



Donate an  
Organ...  
save a life



# Getting a Kidney From a Living Donor

## Advantages

---

- Shorter wait for a transplant
- REDUCE OR AVOID DIALYSIS
- Kidney works better
- LONGER LIFE-EXPECTANCY
- Paid for by recipient insurance





# Who Can be a Kidney Donor?

# Requirements for a Live Kidney Donor

---

- Adult
- Must be healthy
  - No diabetes, cancer, transmittable infection
- Evaluation by an independent “donor” team, including independent donor advocate
- No evidence of:
  - Coercion
  - Payment
- Not all donors pass their evaluation

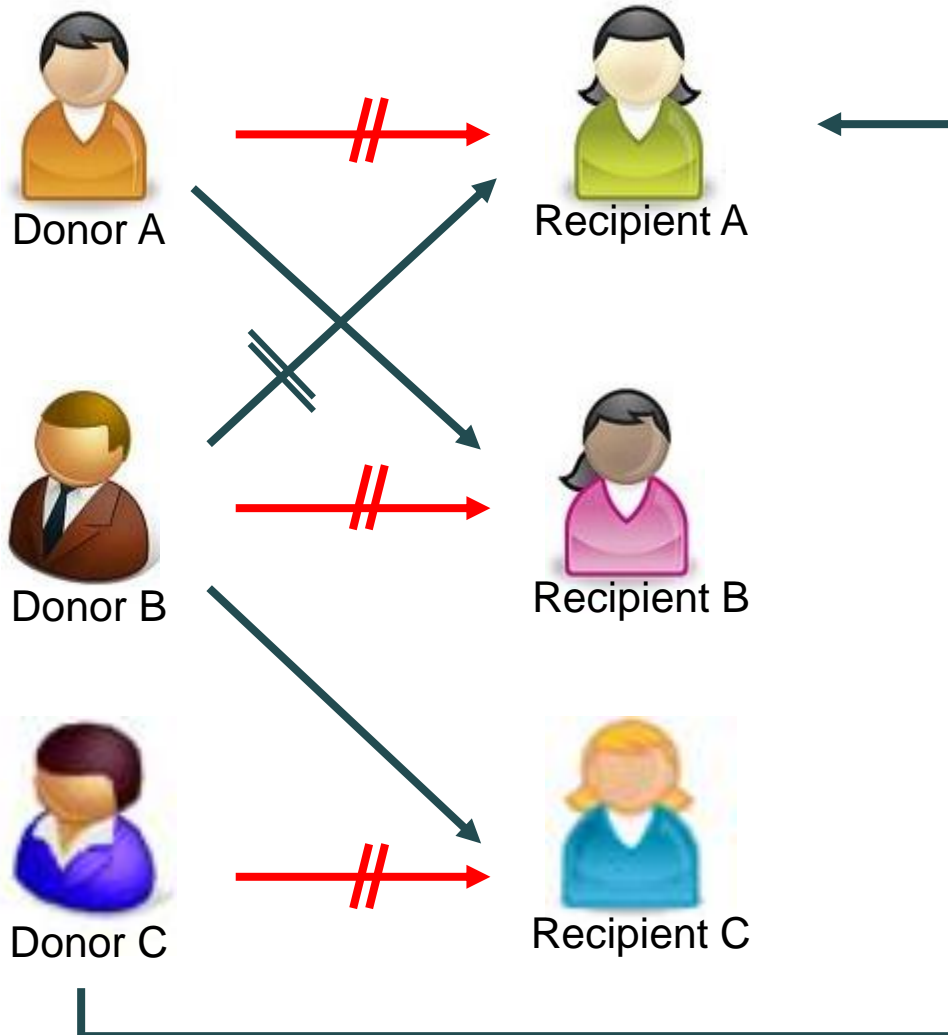
# Can a Donor Live with One Kidney

---

- YES
- There is no change in:
  - Life expectancy
  - Life-style
  - Child-bearing potential
  - Medical care
  - Access to insurance

# What if a Donor is Not a Match

Paired  
Kidney  
Exchange



# What Does This Mean for Recipients and Donors

---

- For recipients
  - Expands opportunity to recruit donors
- For donors
  - No need to travel to recipient's transplant center
    - ❖ For evaluation
    - ❖ For surgery
    - ❖ For post op care
  - Timing of surgery may be less important



# Living Donors in the USA, 2021

---

|                             |        |
|-----------------------------|--------|
| • # pts awaiting kidney txp | 97,447 |
| • Total live donors in 2021 | 6,542  |
| Biologically related        | 2,682  |
| Biologically unrelated      | 3,860  |
| – Spouse                    | 597    |
| – Other                     | 1,663  |
| – Paired donation           | 1,124  |
| – Anonymous                 | 476    |



Special Reports 

# Going online for an organ donor

Thursday, December 15, 2011



Share This

- Email
- Share Code
- Facebook
- Digg
- Delicious

**H** ACTION NEWS HEALTHCheck  
**Kidney Donor Found on Craigslist**

00:33 / 03:54

SHARE

TAGS: special reports, ali gorman, r.n.



# Kidney Waiting List and Transplants

---

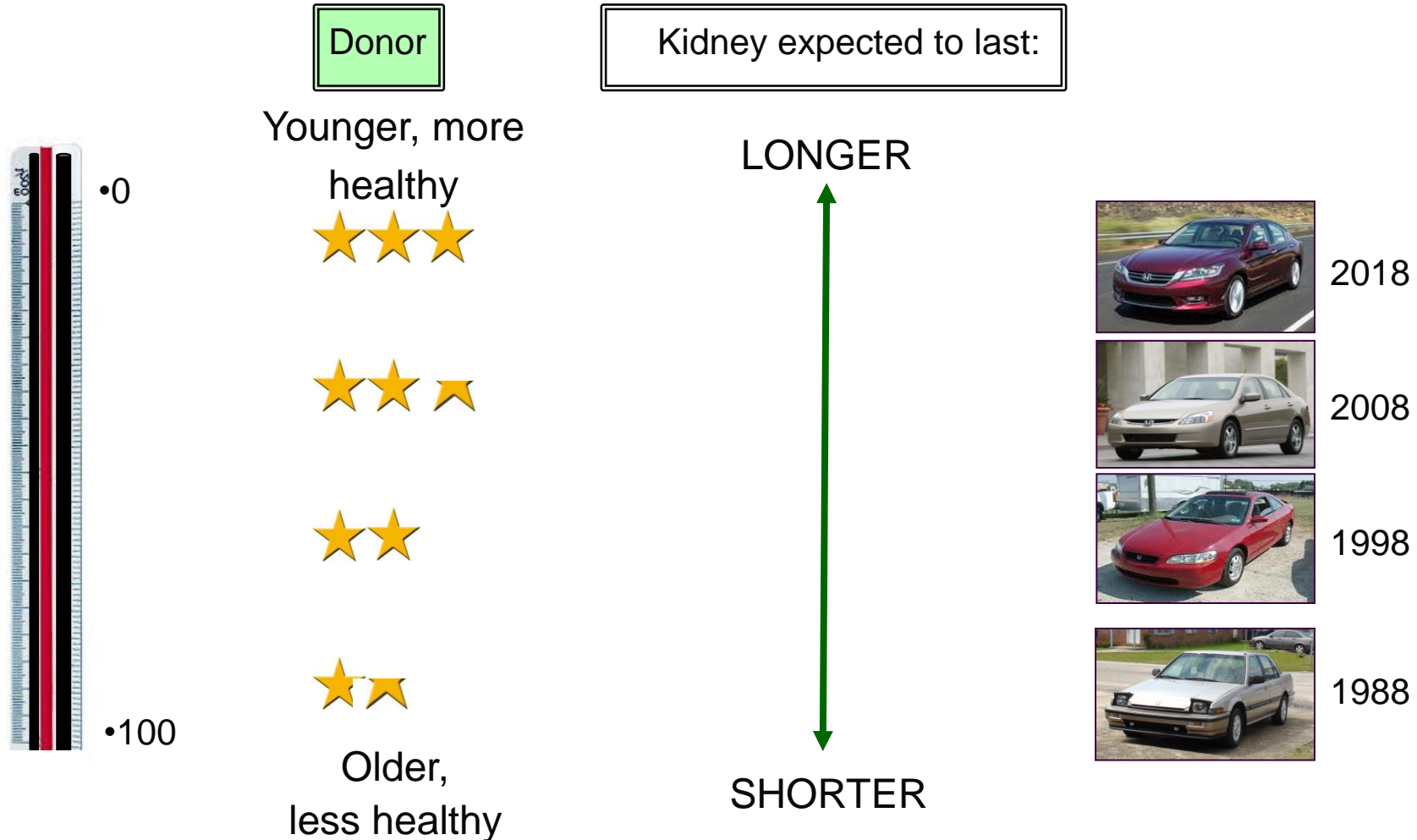


- Waiting time: 6-8 years

# Deceased Donor Kidneys: What Your Patients Need to Know

KDPI score

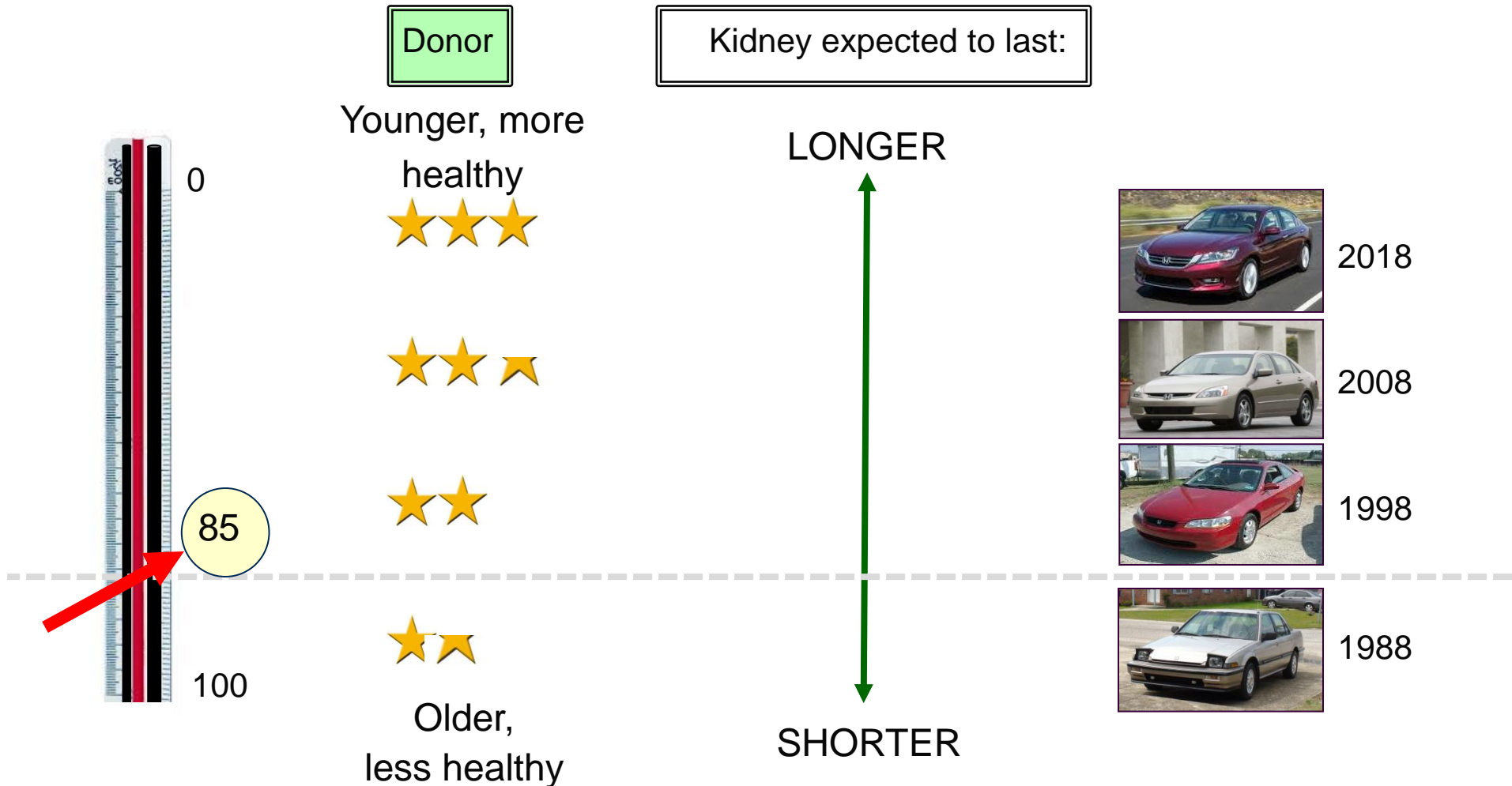
Kidney Donor Profile Index, from 0-100



# Deceased Donor Kidneys: What Your Patients Need to Know

KDPI score

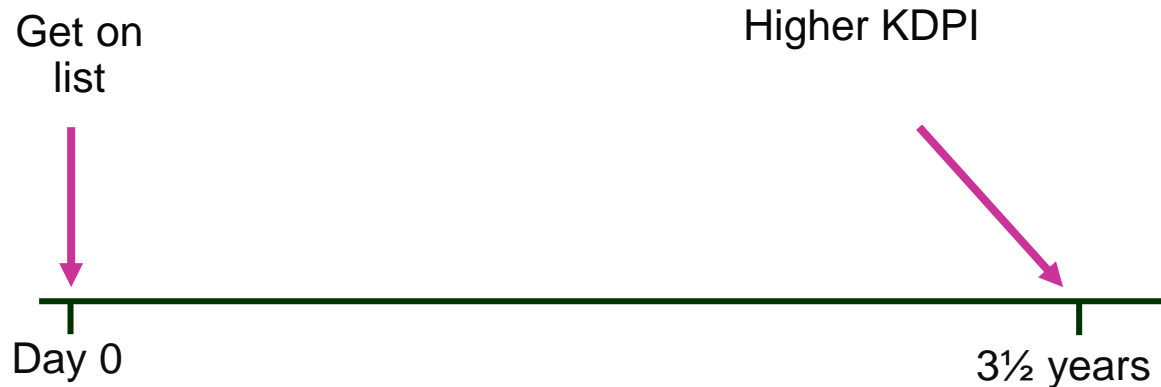
Kidney Donor Profile Index, from 0-100



# Who Should Get Higher KDPI Kidneys?

---

- Older patients
- Diabetics
- Access failure
- Anti-donor Ab (“sensitized”)



# Transmitting Infections Via Transplant

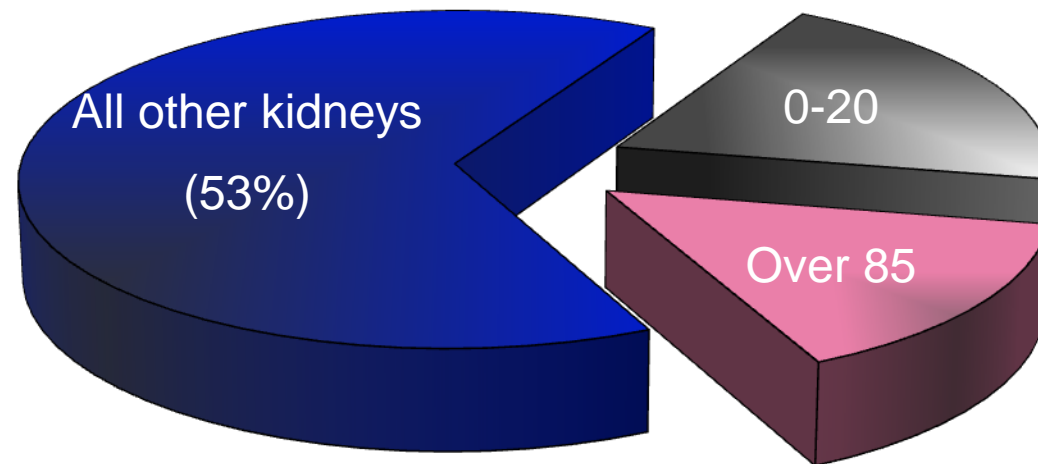
- Donors are tested for HIV, hepatitis & other viruses
  - Only donors that test (-) for HIV and hepatitis B are used
  - Takes a few days before tests turn (+) after exposure
- Pts are told if their donor has risk criteria
  
- Risk of infection from donor: 1 in 500 – 1 in 3000
- Risk similar to dying in auto accident within 2-20 yrs
- Risk of dying on dialysis: 1 in 10 per year



# What Does This Mean for Patients?



- Kidney with KDPI score 91
- Only want a kidney with a KDPI 0-20
- KDPI 14, but with risk criteria





# Summary of Options

- Own healthy kidneys
- Living donor
- Deceased donor
- Dialysis

Low KDPI



High KDPI



Most life yrs



Fewest life yrs

# Pre-Emptive Transplantation

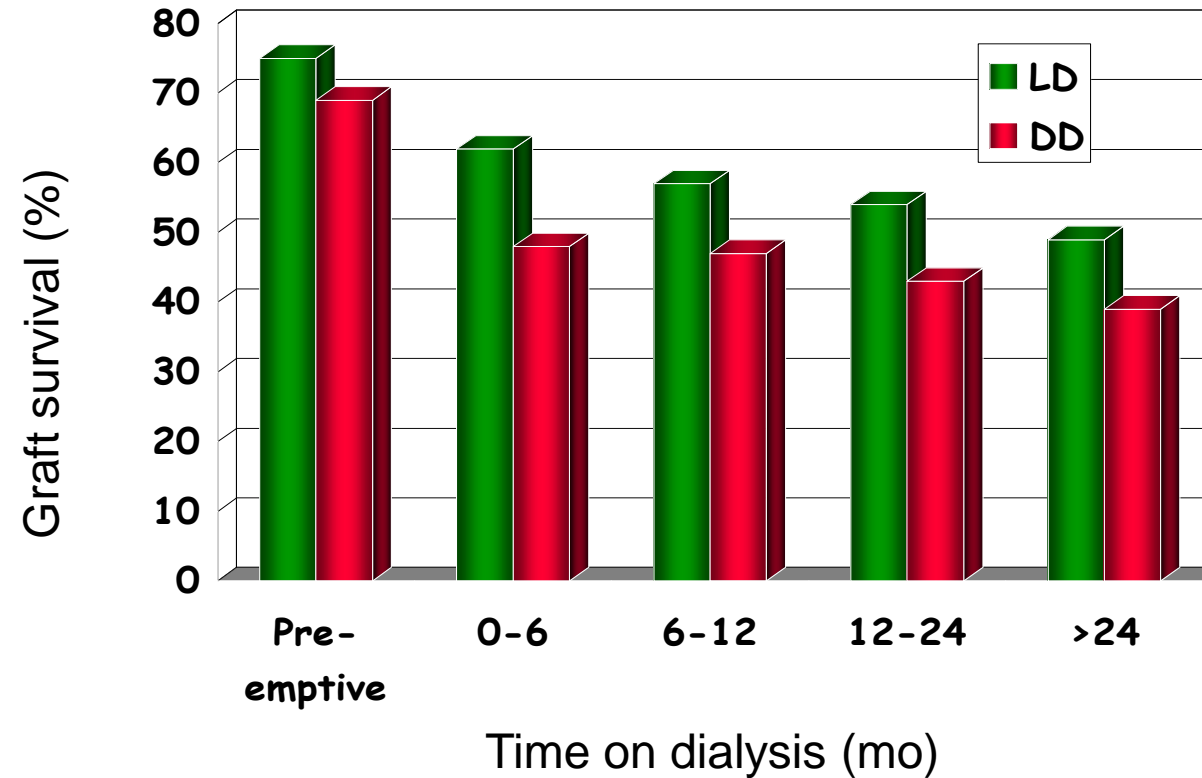
---

- Transplantation prior to starting dialysis
- Depends on:
  - Early referral (GFR 20)
  - Slow progression of CKD
  - Living donor helpful
- Best outcomes

# Impact of ESRD Time on Graft Survival

---

Adjusted 10-year graft survival



# The Case for Pre-emptive Transplantation

---



- Superior pt outcomes
  - Pt survival
  - Graft survival
  - Less rejection
- Better physical health
- Preservation of employment and insurance

# When Should Patients Get Transplanted?

---

- Not yet on dialysis?
  - Transplant just before dialysis needed
- Already on dialysis?
  - As soon as possible
- Less Time on Dialysis
  - Longer life
  - Transplant lasts longer

# How Can CKD Health Professionals Help Their Patients: Summary

---

- Recognize that transplant is ESKD treatment of choice
  - Survival & quality of life
  - Economics
- Early referral
- Encourage pts to seek out living donors
- Help patients remain transplant-ready
  - up-to-date with testing and transplant center visits
- Communicate with transplant center regularly
- Stay current with new information related to ESKD and transplant

# How Can CKD Health Professionals Help Their Patients: Summary

---

## Social Determinants of Health

