

HHS Entrepreneur Innovation Project

Organ Labeling, Packaging and Tracking

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Topics for Today

- My Background
- Organ Donation & Transplant Overview
- HHS Innovation Program
- The Problem & Solution
- Organ Allocation – You be the judge
- Allocation & Viability
- Trivia & Questions

My Background

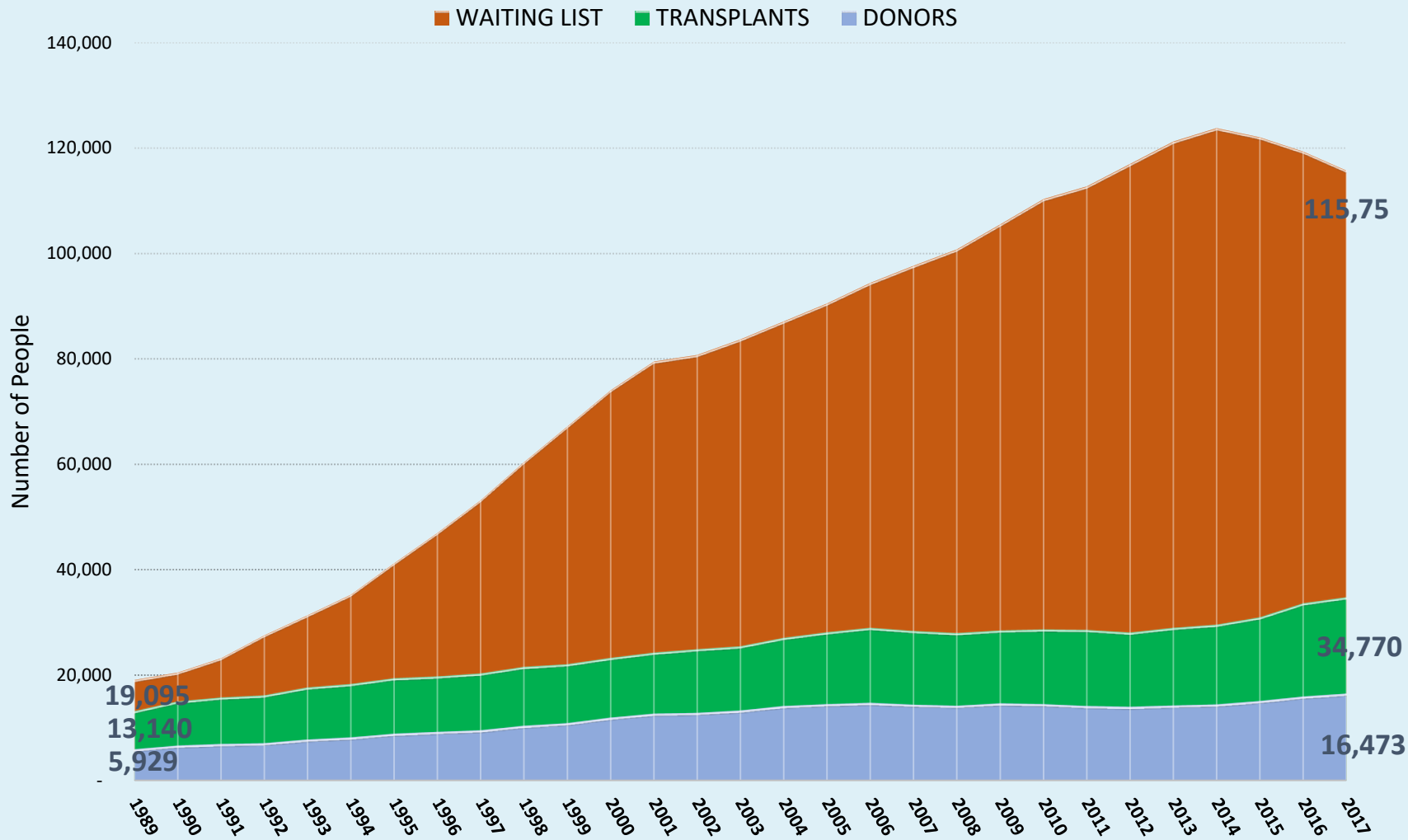
- UPS
 - Operations
 - Industrial Engineering (workflow and process redesign)
 - IT (Technology)
 - New Ventures (Entrepreneurship)
- Current: cHealthWorks
 - Founder
 - Strategy, Innovation, Process Redesign, Technology
 - Healthcare Systems Focus
- HHS Entrepreneur HHS Div of Transplantation
 - 70 Organ Recoveries
 - 9 Transplants
 - 10 Autopsies
- Personal Connection (Passion for Mission)

Disclaimer!



How many people died in the
US 2,744,248 6?

Organ Donation & Transplant Statistics



Despite advances in medicine and technology, and increased awareness of organ donation and transplantation, the gap between supply and demand continues to widen.

We All Need to Register. Here's Why:

95%

of U.S. adults support
organ donation

but only

54%

are actually signed up as
donors.

**every 10
minutes**

another person is added
to the waiting list.

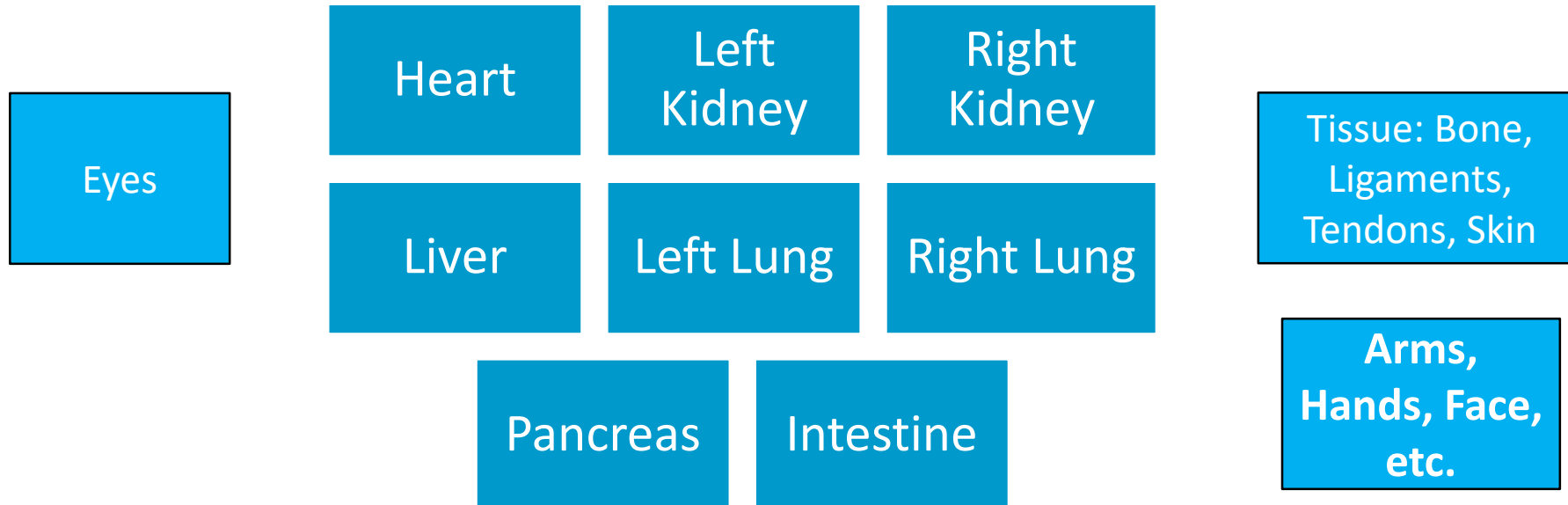


**only 3 in
1,000**

people die in a way that
allows for organ
donation.

How many lives can one donor save?

8



Secretary's HHS Entrepreneurs Program



The Health and Human Services Department (HHS) is looking for **external experts and entrepreneurs** to work on innovative projects through the HHS Innovation Fellows Program (HHS Entrepreneurs).

The Innovation Fellows Program aims to **bring external ideas and expertise to HHS's** own innovation process and **rapidly create, develop, engage and accelerate innovation.**

A Collaborative Effort

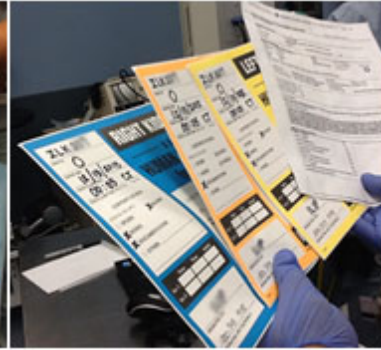
- HHS – Entrepreneur Program, Idea Lab Team
- HRSA – Sponsor - Support & Funding
- UNOS – HRSA Contract to Manage Organ Donation & Transplant
- OPTN Ad Hoc Organ Tracking Committee
- OPTN Operations and Safety Committee
- OPO and Transplant Center Staff
- Patient Safety Program and Simulation Center
 - Northwestern University
 - Virginia Commonwealth University Simulation Center

HHS Entrepreneur Project

Revamp the Organ Labeling, Packaging & Tracking System

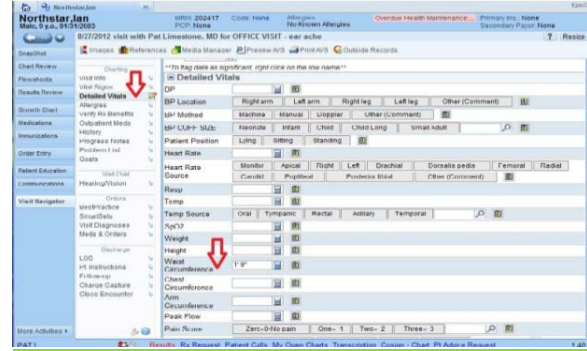


Label and Legibility Errors

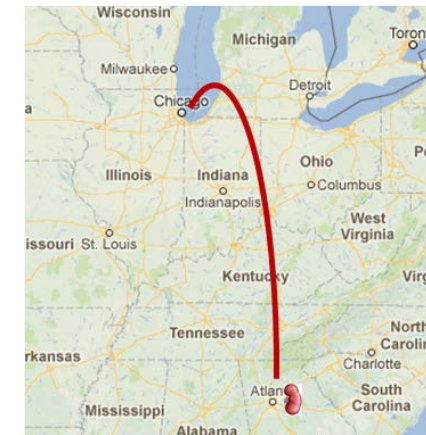
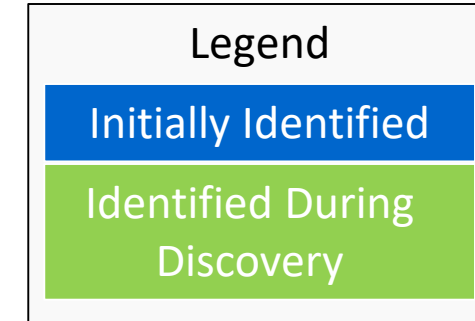


Box Contents Errors

Laterality Errors



Lack of EHR Access

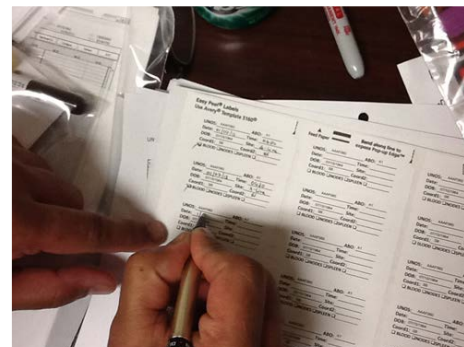


Transportation Data & Visibility

Transportation Options



Job Setup



Redundant & Non-Value Added Work



The Old Process

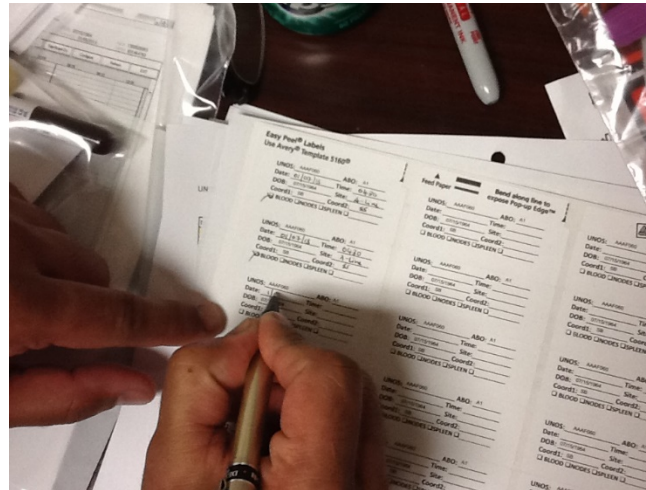
Case Preparation & ICU



30 – 70
Manual
Validations

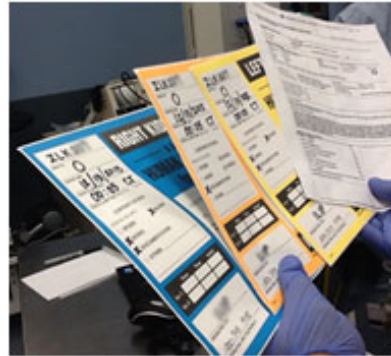
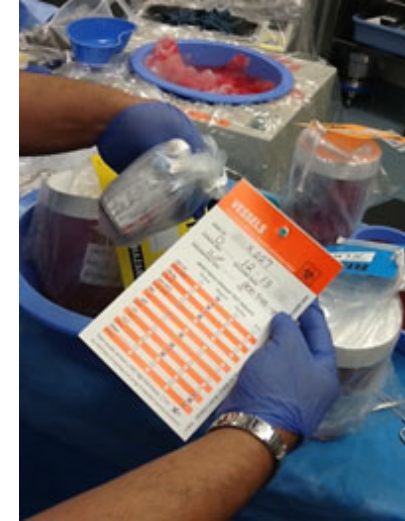
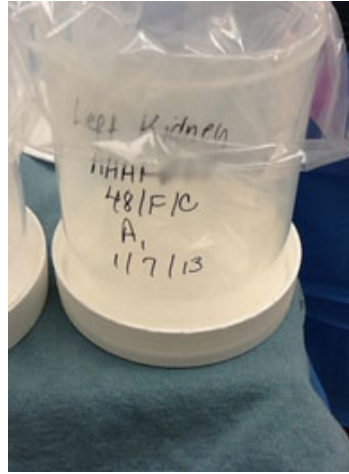


30 – 70 Labels
by Hand



The Old Process

Labeling & Packaging



The Solution

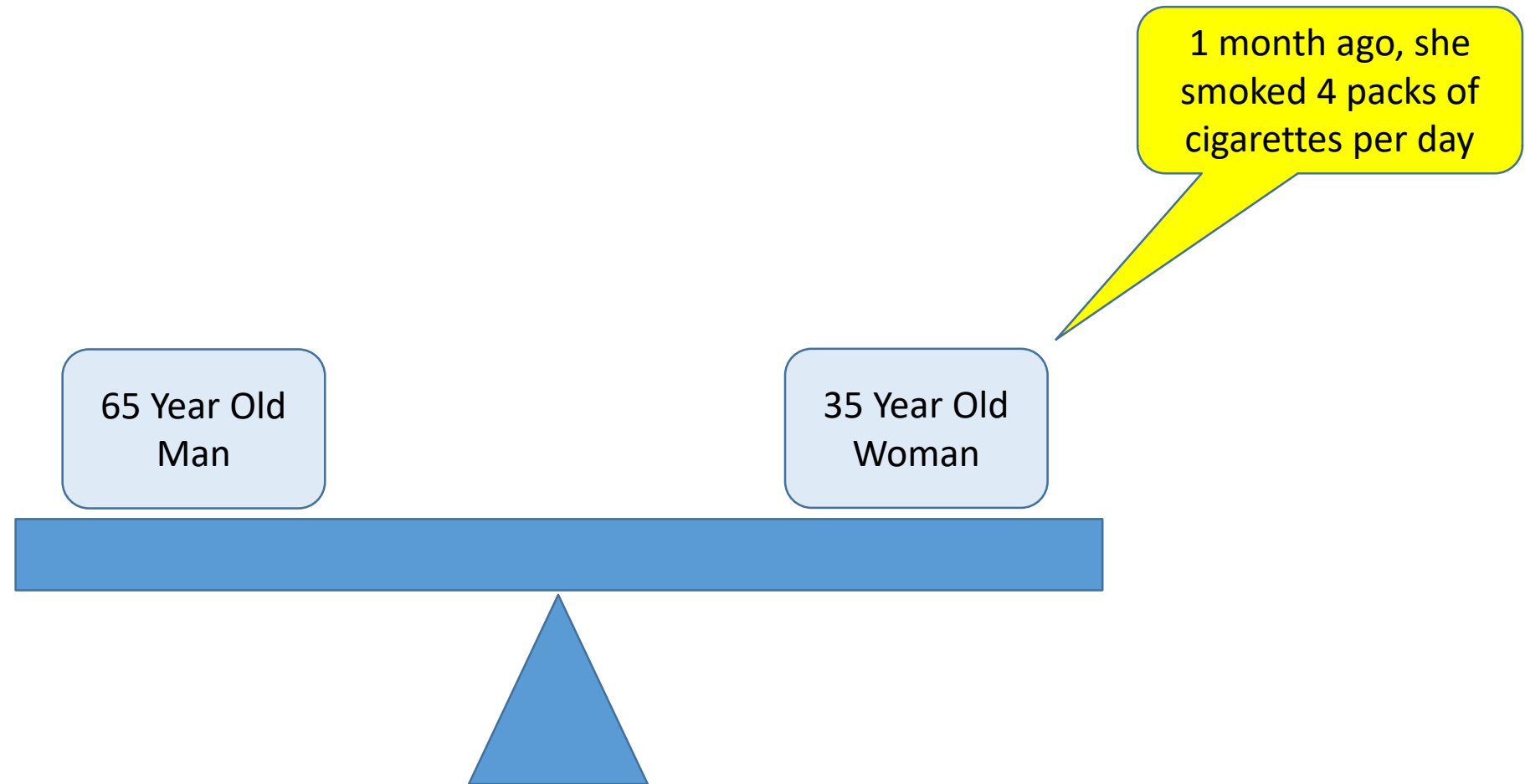
- Stakeholder Buy-in & Collaboration (Transparency)
- Innovation (Fresh Set of Eyes, Supply Chain)
- Process Redesign (Lean, Deployment Mindset)
- Change Management
- Standardization
- Technology

The TransNet System (People, Process, Technology)

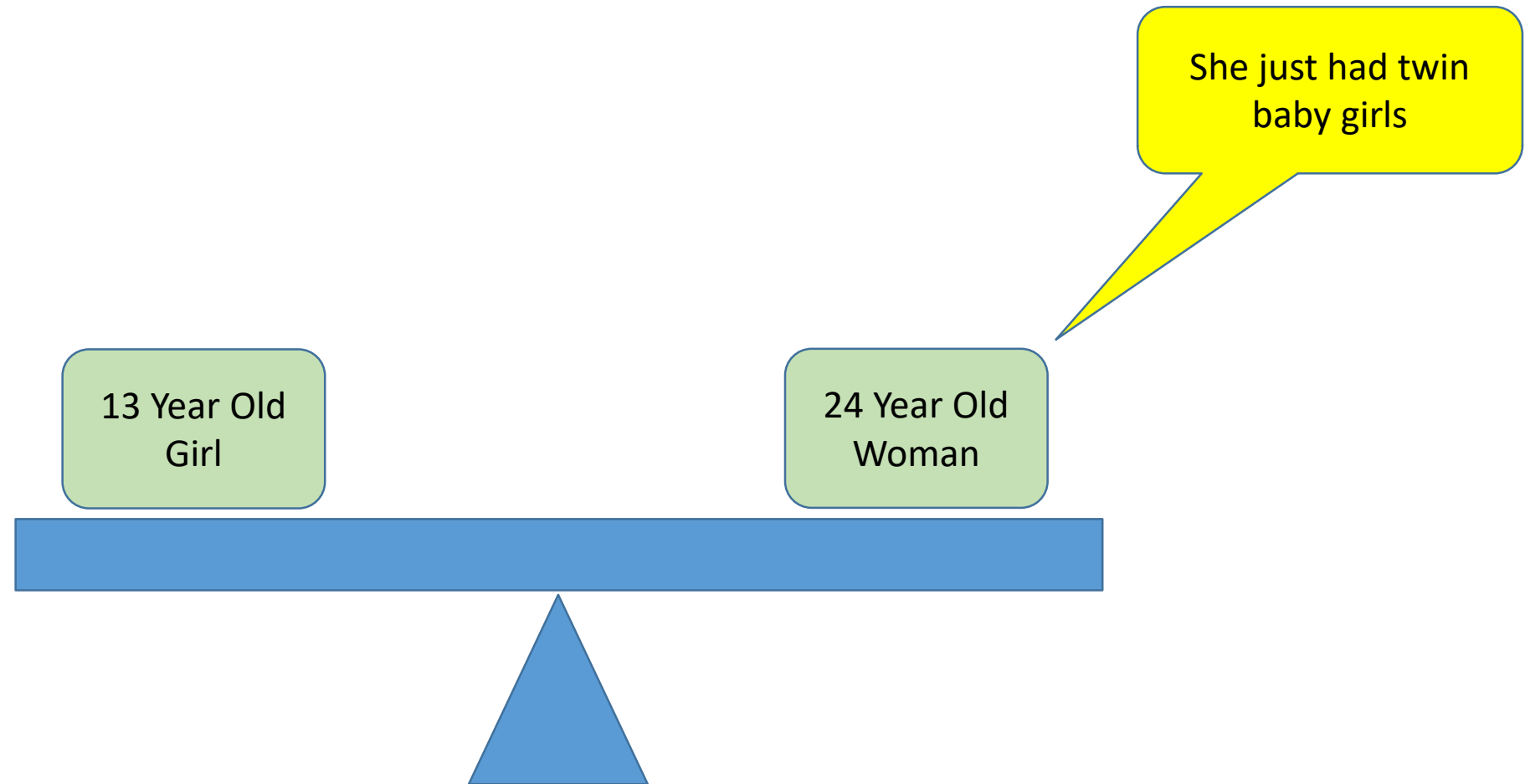


An Ethical Dilemma?

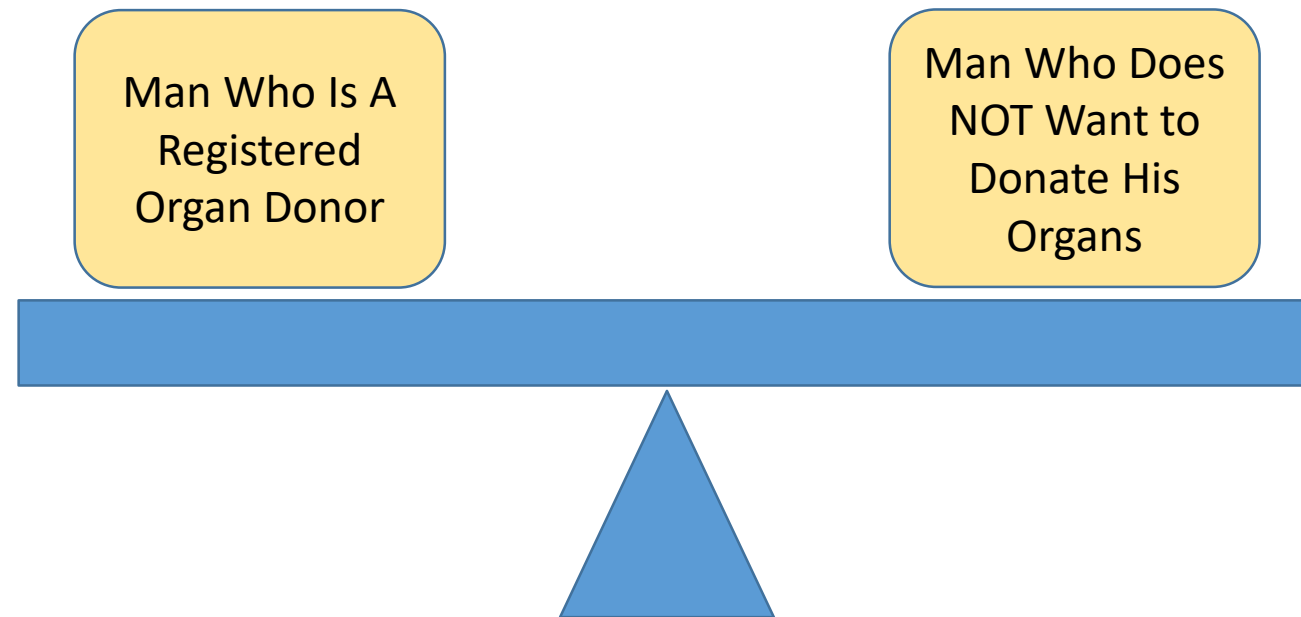
Who Should Get the Lung?



Who Should Get the Heart?



Who Should Get the Liver?



Ethical Challenges – Organ Donation Policy

Who should get priority...

- Someone who will live 5 years or one who will live 10 years?
- Should a child get an organ before an adult?
- Should organs go to areas of the country with lower Registration rates?
- Someone who a US citizen or someone from another country?
- Someone who has been on the list the longest or the sickest?
- Should Someone from an unhealthy area share with a healthy area?
- Should prisoners be on the organ donor list?

Question

True or False? The government decides who get what organ.

False: A computer system allocates organs based on several criteria. That criteria, or business rules are determined by transplant and organ donation experts.

Questions

True or False? If I agree to donate my organs, the hospital staff won't work as hard to save my life.

False: When you go to the hospital for treatment, doctors focus on saving your life — not somebody else's. You'll be seen by a doctor whose specialty most closely matches your particular emergency.

True or False? Rich and famous people go to the top of the list when they need a donor organ.

False: The rich and famous aren't given priority when it comes to allocating organs. It may seem that way because of the amount of publicity generated when celebrities receive a transplant, but they are treated no differently from anyone else. The reality is that celebrity and financial status are not considered in organ allocation.

Question

True or False? Once a person is officially declared deceased (brain dead), an organ can typically be recovered in 1 to 3 days.

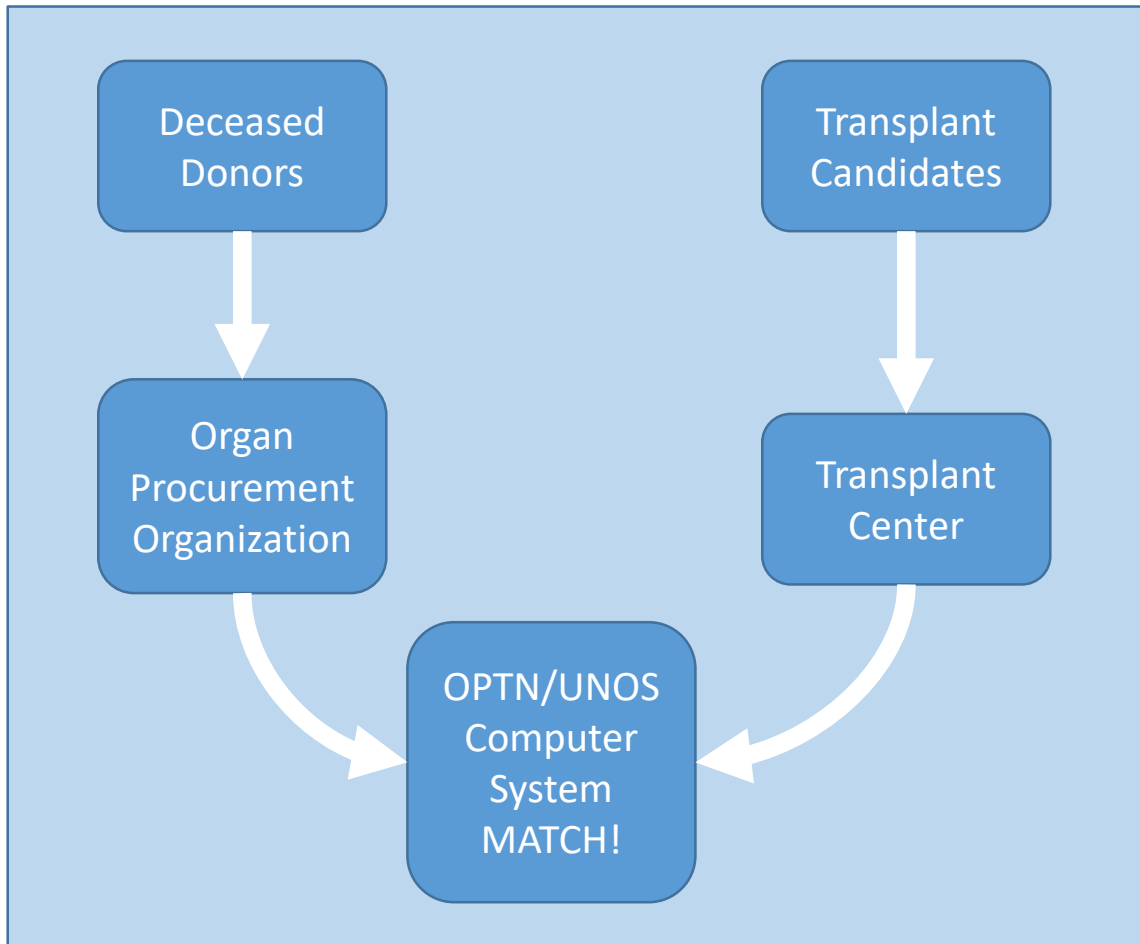
True: The first 24 – 48 hours are typically spent “managing” the patient in the ICU. This allows time to run infectious disease tests, find organ matches for transplant recipients, schedule the operating room (OR) and coordinate transportation for the surgical teams and organs.

Time becomes critical in the OR when the surgeons “Cross Clamp” or stop the blood flow.

Who Can be an Organ Donor?

- Any adult (18 yrs old) can register to be a donor
- Anyone can choose to donate - Talk about it with your family

How Organ Allocation Works



The system uses this information to match the medical characteristics of the candidates waiting against those of the donor. The system then generates a ranked list of patients who are suitable to receive each organ. Factors affecting ranking may include:

- tissue match
- blood type
- length of time on the waiting list
- immune status
- distance between the potential recipient and the donor
- degree of medical urgency (for heart, liver, lung and intestines)
- Donor/Patient Size

How Long is an Organ Viable?

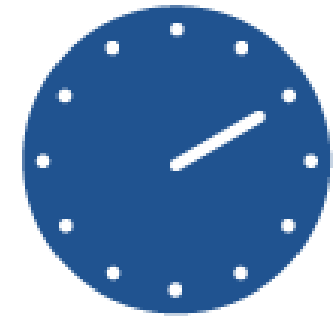
(Cold Eschemic Time)

Heart, lung:
4-6-8 hours

Liver: 8-12 hours

Pancreas: 12-18 hours

Kidney: 24-36 hours



Can this change everything?

Lung:
6-8 hours

Lung-in-a-Box: 8-12+ hours



Lessons Learned

What surprised me with the donation process & in the OR.

- Right Atrium pumping looks like a defect when it beats...
- The smell of the bovi... burning flesh is gross
- Lungs and livers are big
- Your heart still beats when you are brain dead, your lungs don't...You stop breathing...then have a heart attack
- I was amazed how well my non-clinical experience transferred to medicine
- I was worried I would be disappointed by the organ donation system or doctors. I wasn't!

More Trivia...

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