The Future State of Organ Allocation

Continuous Distribution Overview

Agenda

1. Continuous distribution overview

2. Lung policy development update

3. Kidney and pancreas policy development update

About

In 2018, the Board of Directors approved a "continuous distribution" model as a framework for future policy development of organ allocation

- **Current system**: places candidates into rank-ordered classifications reviewed in sequence

- **New framework**: ranks all candidates using a composite allocation score, without categorizing into classifications

  - The composite score is determined by multiple factors, called "attributes," that are weighted against each other during the calculation

Overall score

Known as the Composite Allocation Score

Overall score includes attributes related to: medical urgency, placement efficiency, outcomes, and patient access
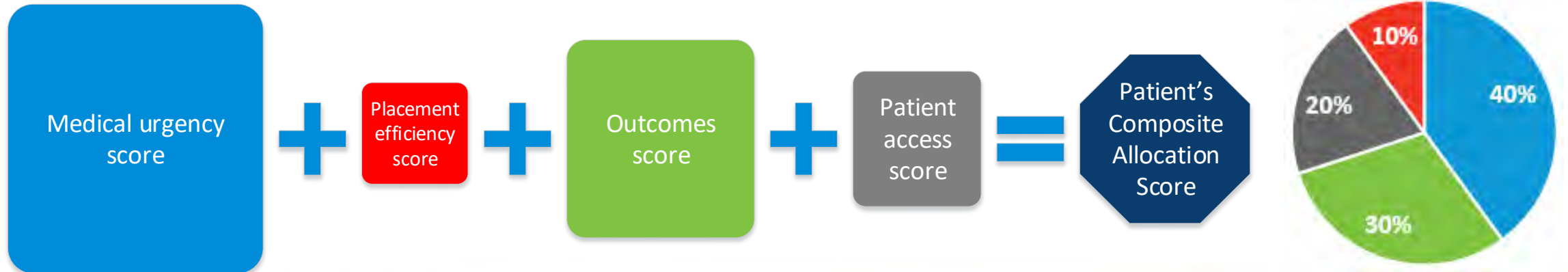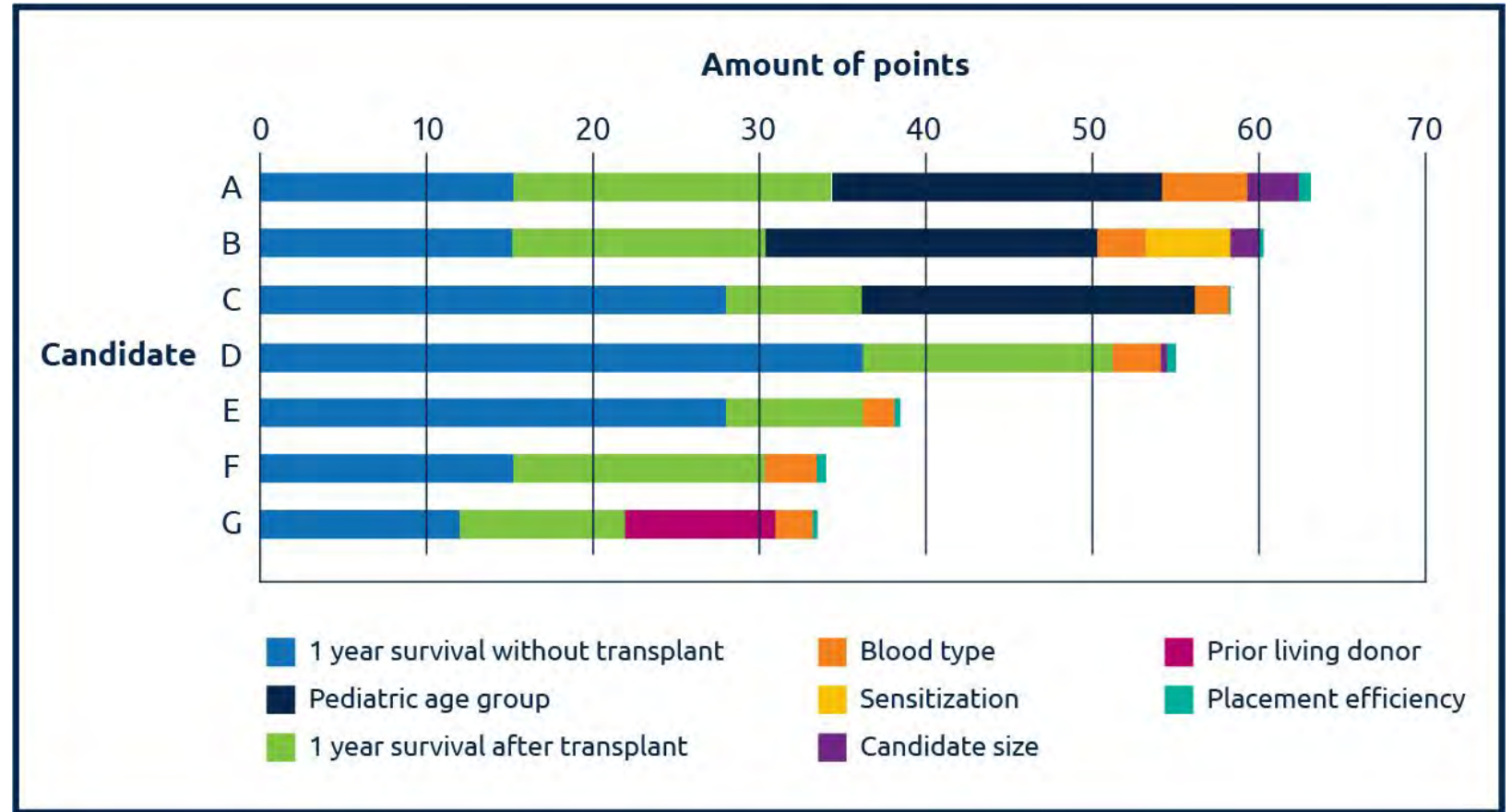
Example match run

Current state

Order	Classification	Distance
1	High urgency, high compatibility	250 nm
2	High urgency, medium compatibility	250 nm
3	Pediatric, high urgency, high compatibility	250 nm
4	Pediatric, high urgency, medium compatibility	250 nm
5	Medium urgency, high compatibility	500 nm

Continuous distribution – future state

Key characteristics of Continuous Distribution

Flexible

The framework will apply to all organ types

More equitable

No one factor will determine a candidate's placement on the waiting list
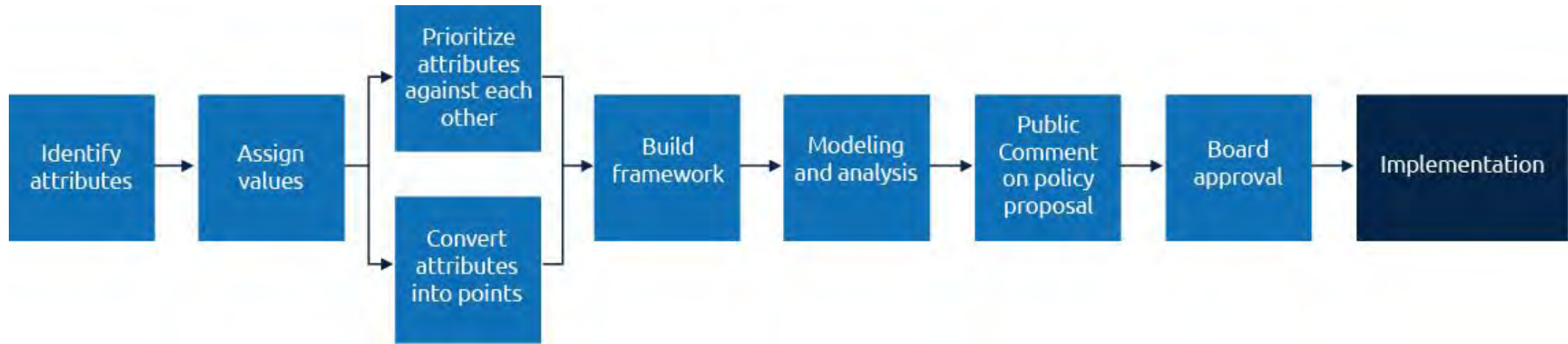
Agile

The framework will be more responsive and adaptable to future changes

Innovation, transparency, improvement

- Applies *advanced analytic techniques* to create an algorithm that makes every factor in the match run comparable

- *Community input* is being used in new ways to develop the framework

- As outcomes of the new system become visible, we can *adjust the system quicker*

- System programming will be *more efficient* because of the ability to repurpose design from organ to organ

Developing the framework

Identify attributes → Assign values → [Prioritize attributes against each other / Convert attributes into points] → Build framework → Modeling and analysis → Public Comment on policy proposal → Board approval → Implementation

Identified attributes

	Medical Urgency	Post-Transplant Survival	Candidate Biology	Patient Access	Placement Efficiency	Non-Utilization
Lung	Waitlist Survival (part of LAS)	Post-Transplant Survival (part of LAS)	• **Blood type** • **CPRA** • Height	• **Prior Living Donors** • **Pediatrics**	• **Travel (cost) efficiency** • **Placement efficiency**	
Kidney	Medical Urgency Definition	• HLA Matching • EPTS • Ischemic time	• **Blood type** • **CPRA** • Single v Dual Kidney	• **Prior Living Donors** • **Pediatrics** • SLK Safety Net • Waiting Time	• **Travel (cost) efficiency** • **Placement efficiency** • Dual & En Bloc	
Pancreas	• KP v Pancreas v Islets	• HLA Matching • Ischemic time	• **Blood type** • **CPRA**	• **Prior Living Donors** • **Pediatrics** • PAK • Waiting Time	• **Travel (cost) efficiency** • **Placement efficiency**	• Islets • Facilitated Pancreas

Community input
Analytic Hierarchy Process (AHP)

AHP Prioritization Exercise

- Effective method for involving patients to inform clinical decisions

- Participants compare two attributes against each other and select level of importance

- Used to inform the weight of each attribute to the overall score

- Empowers methodical incorporation of value-based preferences
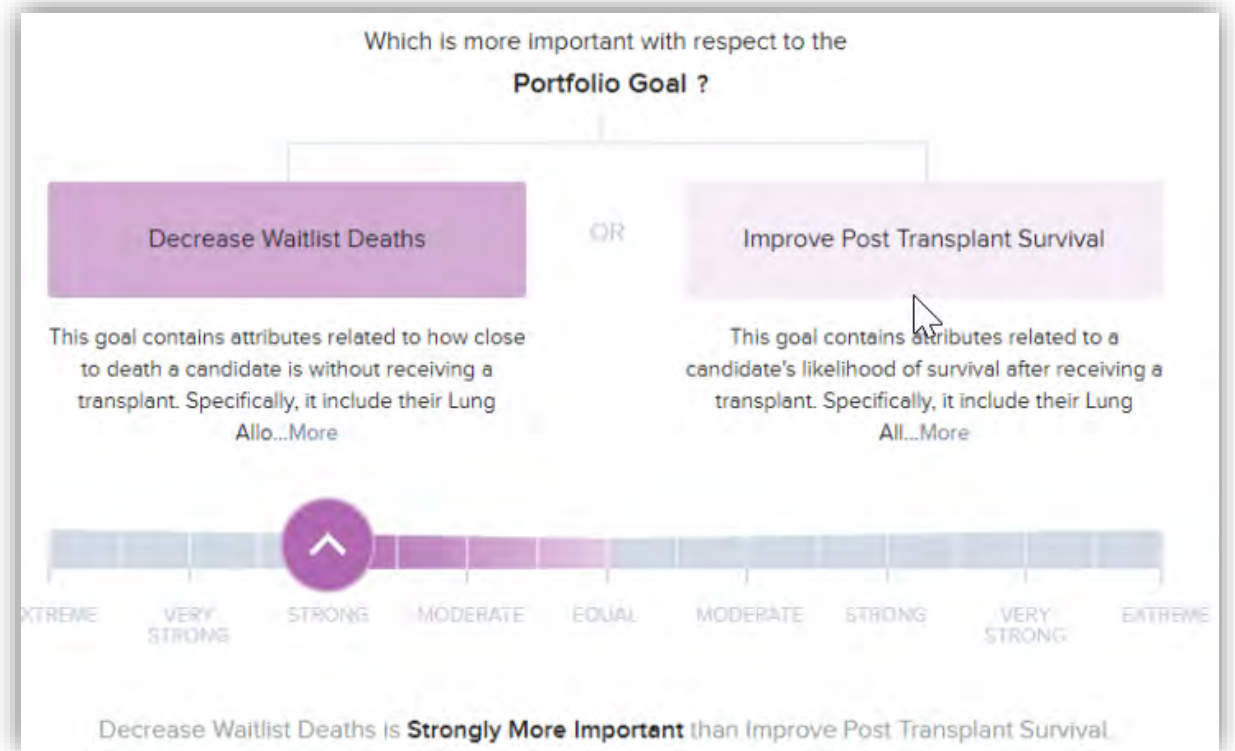
Interactive tool to inform decision-making
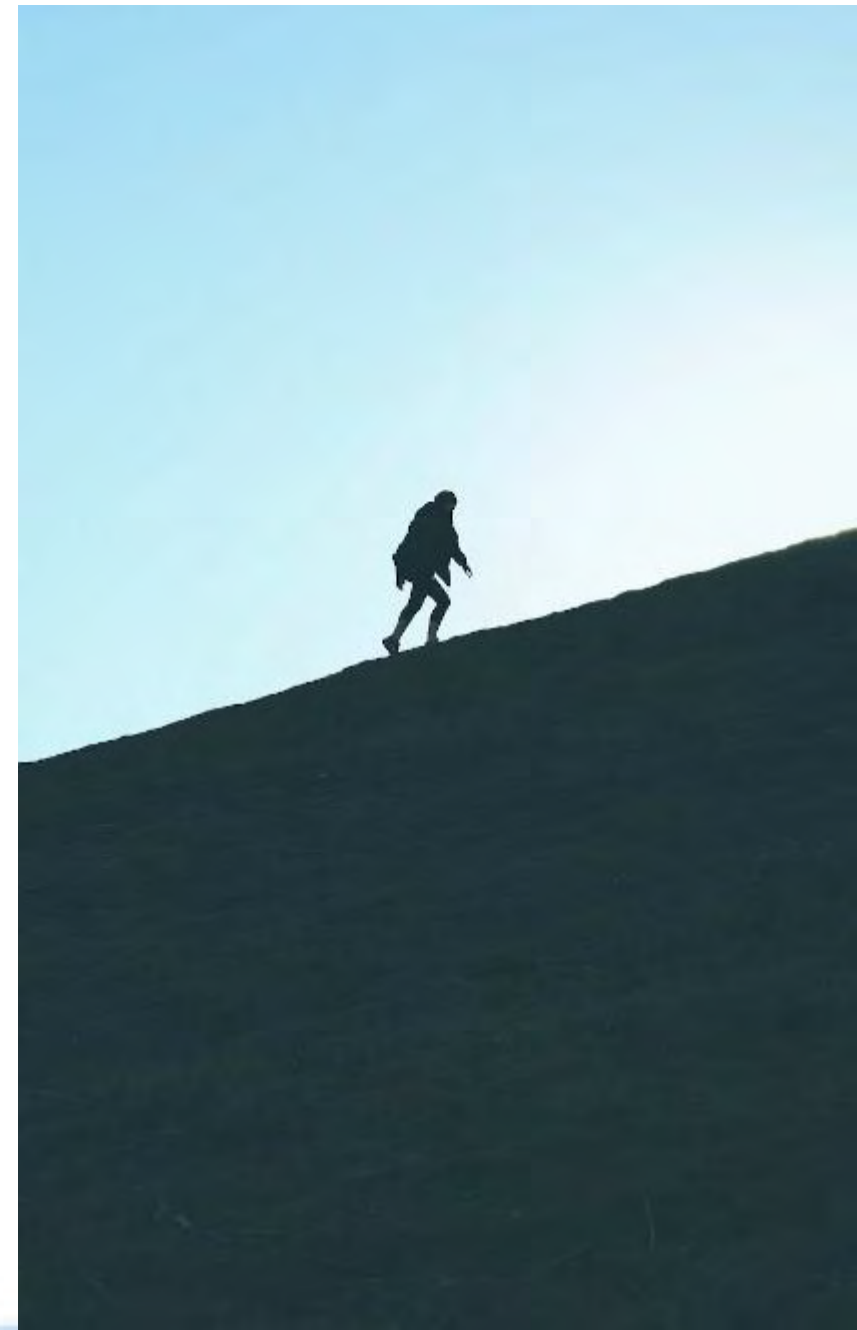
Interactive Tableau dashboard tool available to simulate comparisons and match runs
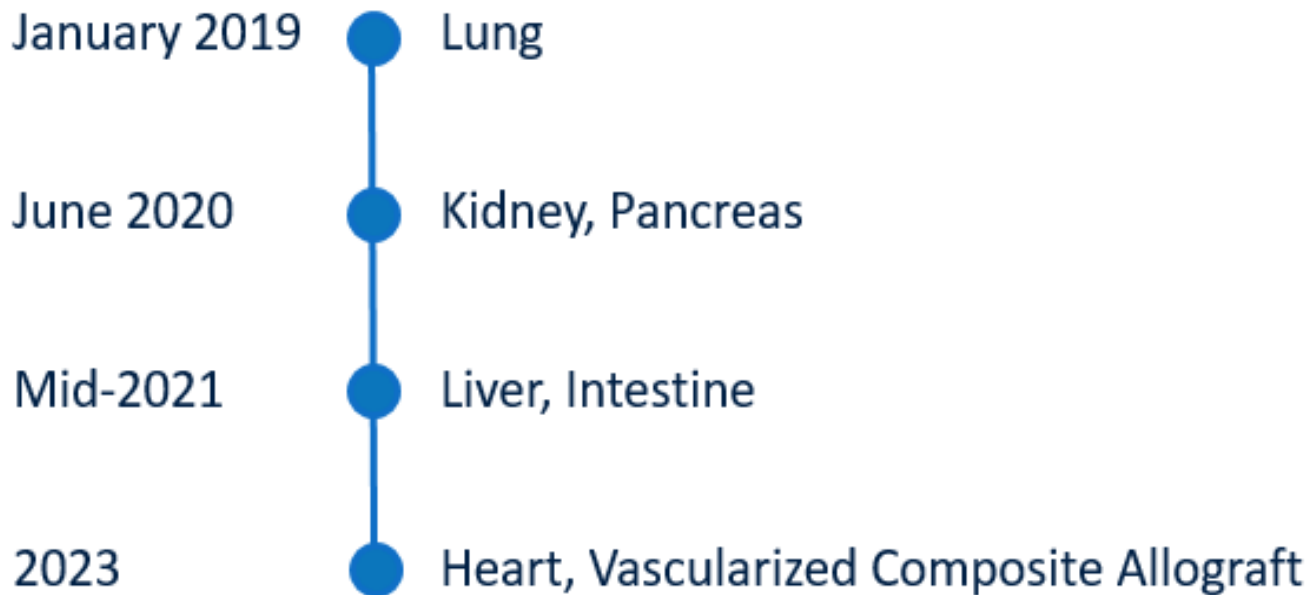
- Change weights to see match run ordering

- Compare current match run with composite allocation score

- Compare two candidates by selecting clinical criteria

- Calculate scores with different rating scales

- Display candidates equity and utility scores with different weights

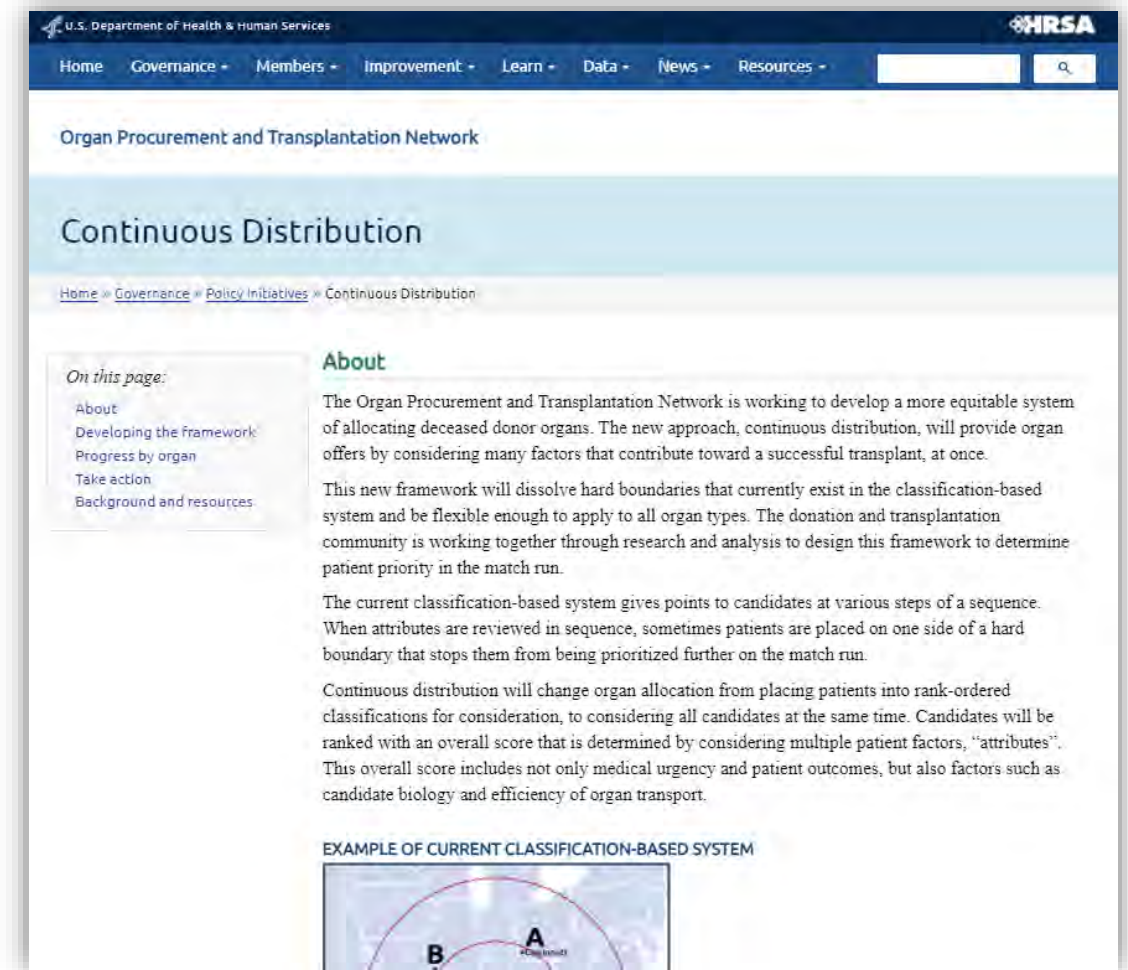# Progress

- All organ systems will transition to this new framework; the lung community is first

Work begins:

January 2019	●	Lung
June 2020	●	Kidney, Pancreas
Mid-2021	●	Liver, Intestine
2023	●	Heart, Vascularized Composite Allograft

Resources

OPTN website

- ***Graphics*** explaining current system and future state

- ***Video*** explaining input exercise – Analytic Hierarchy Process

- ***Key terms***

- ***Schedule*** of when each organ committee is expected to start work

- ***Interactive dashboard tool*** to stage your own match runs – *specific to lung committee work*

- Subpages for organ committees with ***reports and documentation of progress***

Questions?