





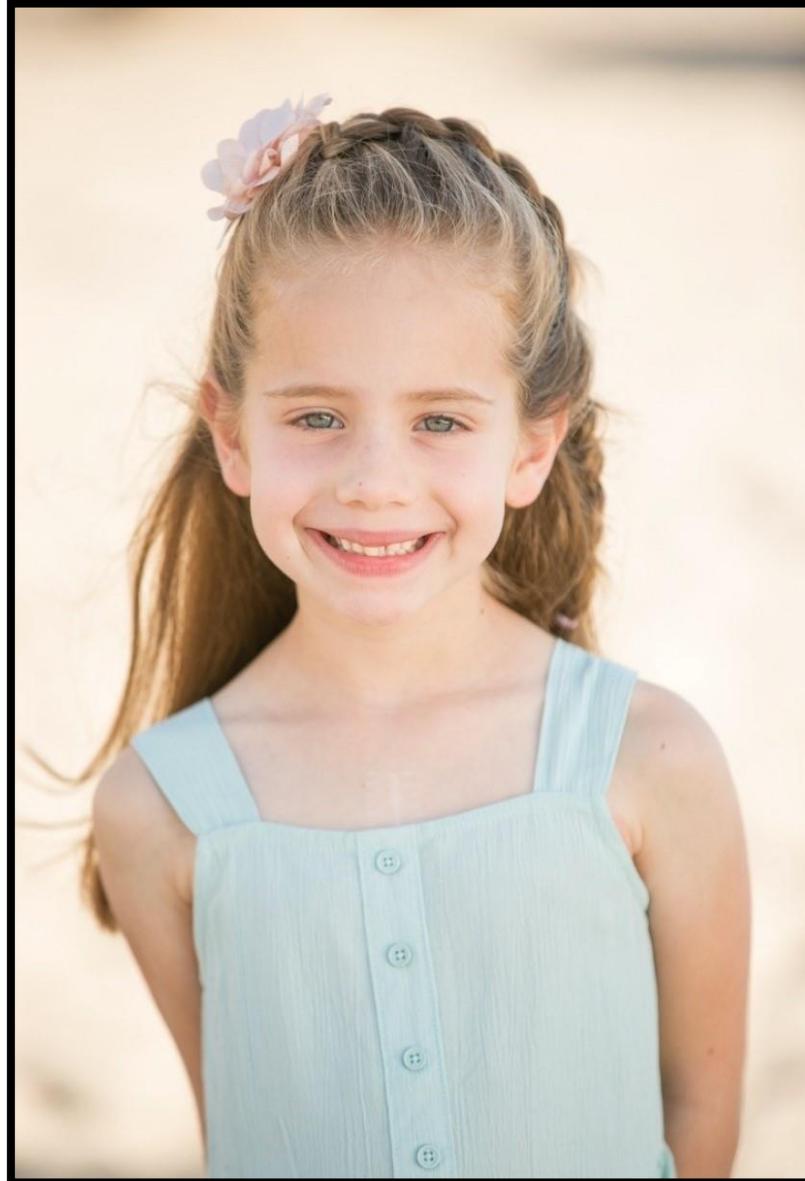
Your Partner in Transplant Care

**Focused on better outcomes
through personalized
transplant surveillance**

Greg Quinn – SVP Testing Services
Cell: 925.209.0963
Email: gquinn@caredx.com



Madelyn the Miracle



Heart Transplant Recipient 3/5/2015







Our Vision

The leading partner for the transplant ecosystem

Our Mission

We are committed to improving long-term outcomes by providing innovative solutions throughout the entire transplant patient journey

CareDx 100% Dedicated to the Transplant Field

Known for Innovation and Clinical Data

>20y Transplant dedicated

First Gene-expression profiling test in transplant (AlloMap Heart)

First Donor-derived cell-free DNA test in transplant (AlloSure Kidney)

First Multi-modality approval in transplant diagnostics (HeartCare)

Leading Partner in the Transplant Center

> 1 in 2 New Heart Tx Pts receive AlloMap

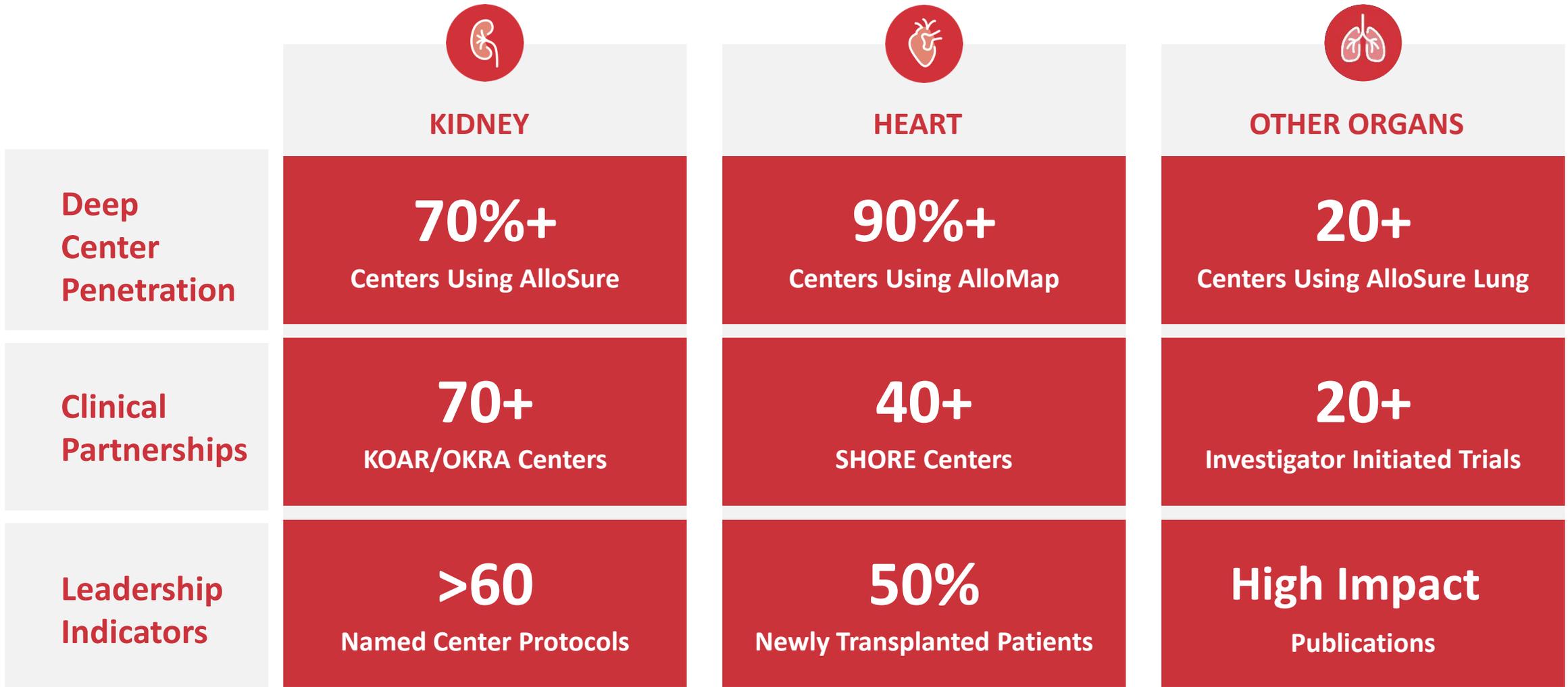
> 1 in 4 New Kidney Tx Pts received AlloSure

> 90% Heart Tx Centers use AlloMap

> 75% Kidney Tx centers use AlloSure

> 60% Multi-modal

CareDx is the Leading Partner Across US Transplant Centers



Note: Center penetration based on UNOS listed transplant centers as of Q1 2020; does not include non-transplant hospitals.

CareDx's Growth Story

Single Product



Heart Transplant

- Gene Expression Profiling
- TAM: \$150M

Multi-Product



Solid Organ Transplant

- Sequencing based
- Multi-modality Testing
- US Transplant Centers
- TAM: \$2.5B

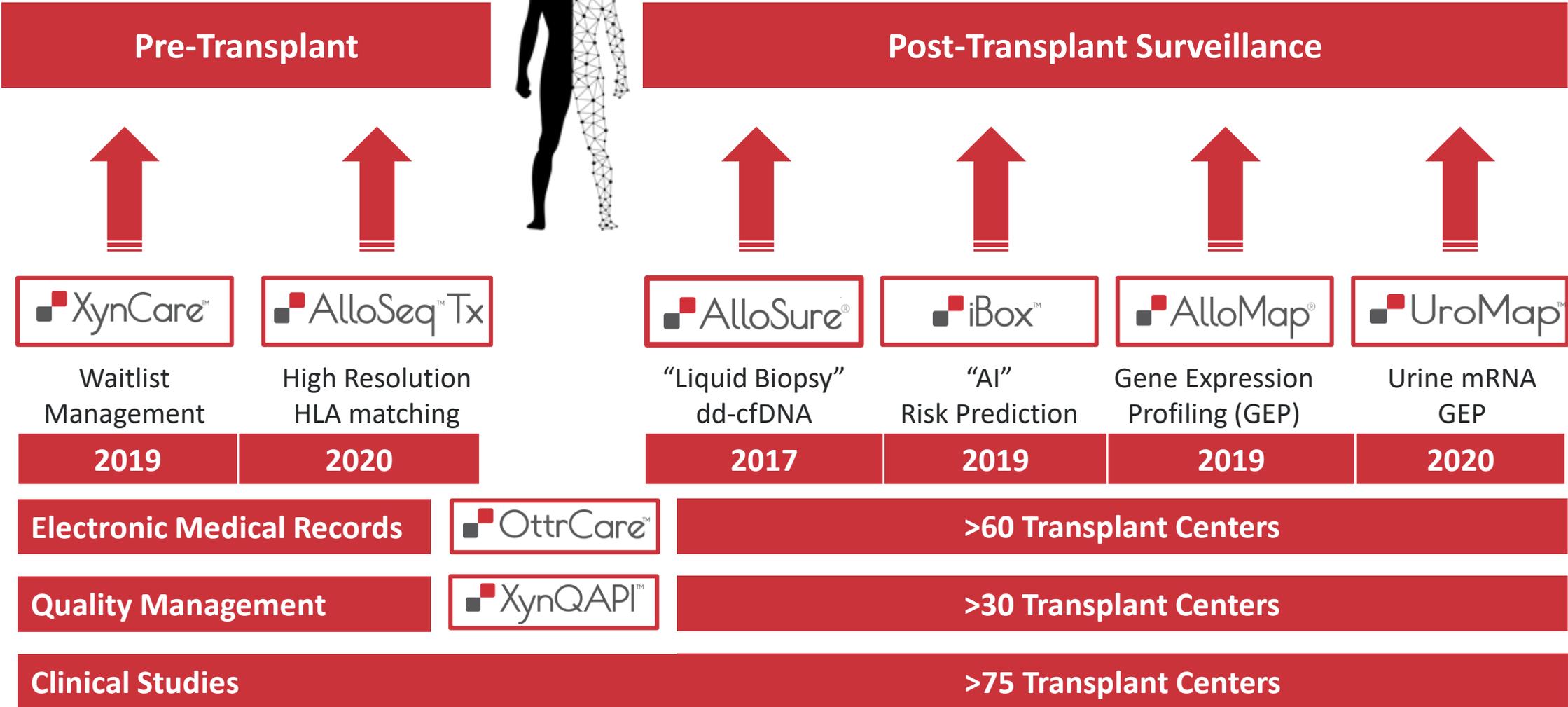
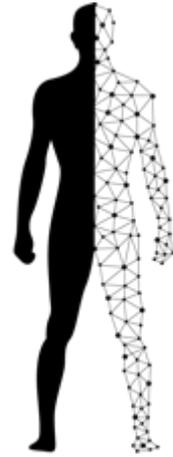
Platform



All Transplant

- Services, Products & Digital
- Global Medical Institutions
- Ecosystem Partnerships
- Patient Engagement
- TAM: \$10B

CareDx: Multiple Touchpoints in Transplant Patient Journey



New



Pre Transplant Services

1. XynCare – Jennifer Rubingh
2. Matching Solutions – Jason Payne



XynCare

Meeting the expectations of referring providers and hospital administration to expand access has never been more challenging. Your program needs assistance without adding staff and increasing cost

- Dedicated Transplant Assistant trained to your center's workflow
- Services designed to meet the needs of the program
 - Record collection
 - Patient navigation
 - Enhanced patient communication (waitlist management)
 - TIEDI form completion
- Benefits
 - Increased patient and referring provider satisfaction
 - Reduced time from referral to listing
 - Improved readiness for transplant
- Pre-Tx expenses reimbursable on the Medicare cost report

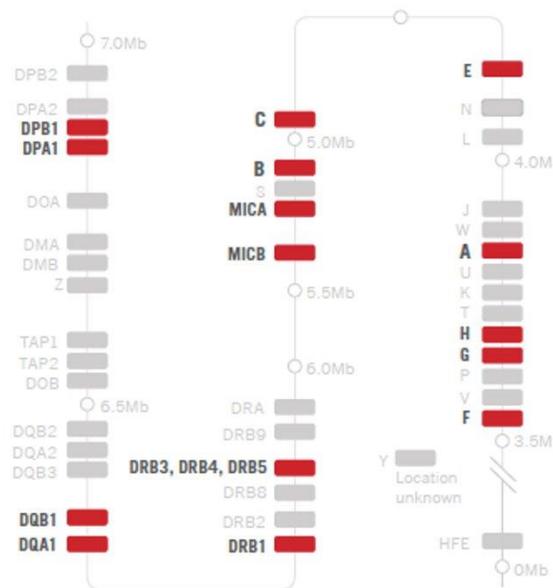
To learn more, please contact
Jennifer Rubingh
jrubingh@caresdx.com
Cell: 303.949.9651

Pre-Transplant Matching Solutions



- Fastest HLA typing available
- Realtime PCR Results in only 1 hour

To learn more, please contact
 Jason Payne
jpayne@caredx.com
 916.747.0540



GENE	RESOLUTION	COVERAGE
HLA-A	4th field	Full Gene
HLA-B	4th field	Full Gene
HLA-C	4th field	Full Gene
HLA-E	4th field	Full Gene
HLA-F	4th field	Full Gene
HLA-G	4th field	Full Gene
HLA-H	4th field	Full Gene
DRB1	3rd field	Full Exon
DRB3/4/5	3rd field	Full Exon
DQA1	3rd field	Full Exon
DQB1	3rd field	Full Exon
DPA1	3rd field	Full Exon
DPB1	3rd field	Full Exon
MICA	2nd field	Full Exon
MICB	2nd field	Full Exon

- Best in class matching at high resolution
- Next Generation Sequencing is the new standard for solid organ transplant matching





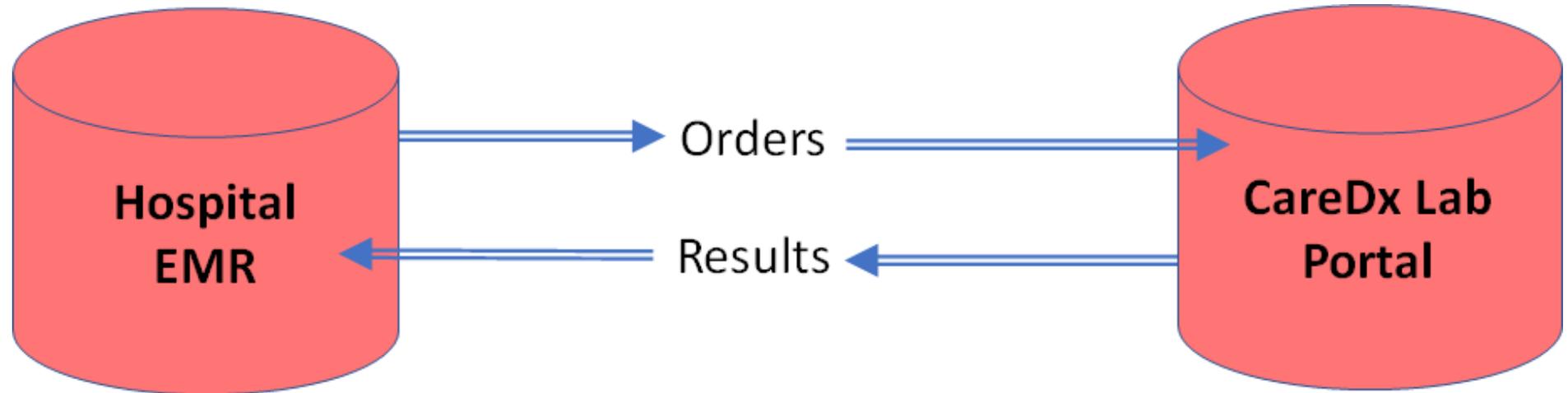
Beyond Molecular Diagnostics

1. OTTR & EMR Solutions – Paul Kenyon
2. XynQAPI – Koren Axelrod
3. AlloCare – Koren Axelrod
4. RemoTraC – Samantha Mesenbrink



EMR Integration

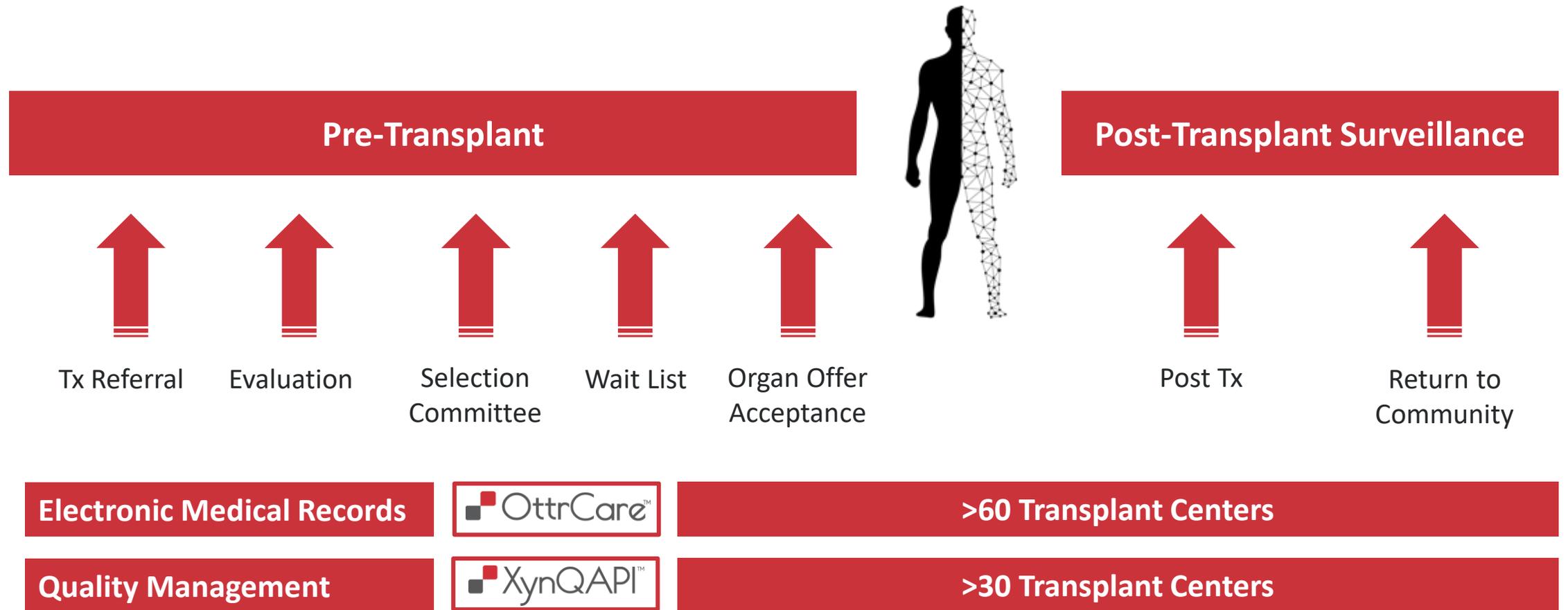
Deliver AlloSure/AlloMap results to hospital electronic medical record



To learn more, please contact
Paul Kenyon, PhD
pkenyon@caredx.com
402.968.5020

CareDx Digital

Serving the entire transplant patient journey



Otrr Software

Guides transplant workflow through all phases of care.

The screenshot displays the Otrr Software interface for a patient named Richardson, Douglas P. The interface is organized into several panels:

- Demographics:** Programs (Kidney Transplant), Blood Type (AB POS), Secondary (970-674-0341), Tertiary (307-967-9956), City/State (Carbondale, CO), Primary Language.
- Program / Treatment Phase:** Kidney Transplant : Post-Transplant.
- Alerts:** Pt non-compliant with dialysis : 24-May-2017 Clinical Alert.
- Transplant:** Kidney: Living Unrelated Transplant : 03-Feb-2018 : 2 years 6 months 11 days. Donor Type: SCD Risk Type: Not High Risk.
- Donor-Recipient Labs:** A table comparing donor and recipient lab results for various markers like Blood Type, CMV IgG Ab, CMV IgM Ab, CMV Status, EBV IgG Ab, EBV IgM Ab, and EBV Status.
- Kidney Transplants:** A table showing transplant details for 03-Feb-2018, including Nephrologist, Induction (anti-thymocyte globulin), Dialysis (Days Per Week, Shift), and Transplant details (CMV, EBV, Donor, Recipient).
- Flowsheets:** A table showing lab results for tacrolimus, prednisone, mycophenolate mofetil, and various blood counts (WBC, Hgb, Hct, Neut, Lymph, Mono, Ptt, Na, K) over time.

- Review Window at-a-glance
- Referral & Eval. Management
- Selection Committee Documentation
- Wait List follow up
- Recip information easily available for organ offer
- Transplant Event & Post Tx followup
- Workflow Management
- UNet TIEDI® form submission
- Flexible EMR Integration
- Multi-Organ, VAD, Chronic Care

To learn more, please contact
Paul Kenyon, PhD
pkenyon@ caredx.com
402.968.5020

AlloCare – Engaged patients = better outcomes

For a transplant patient or a patient with end stage organ failure, managing your health can be an overwhelming task. Now there is an app to help!

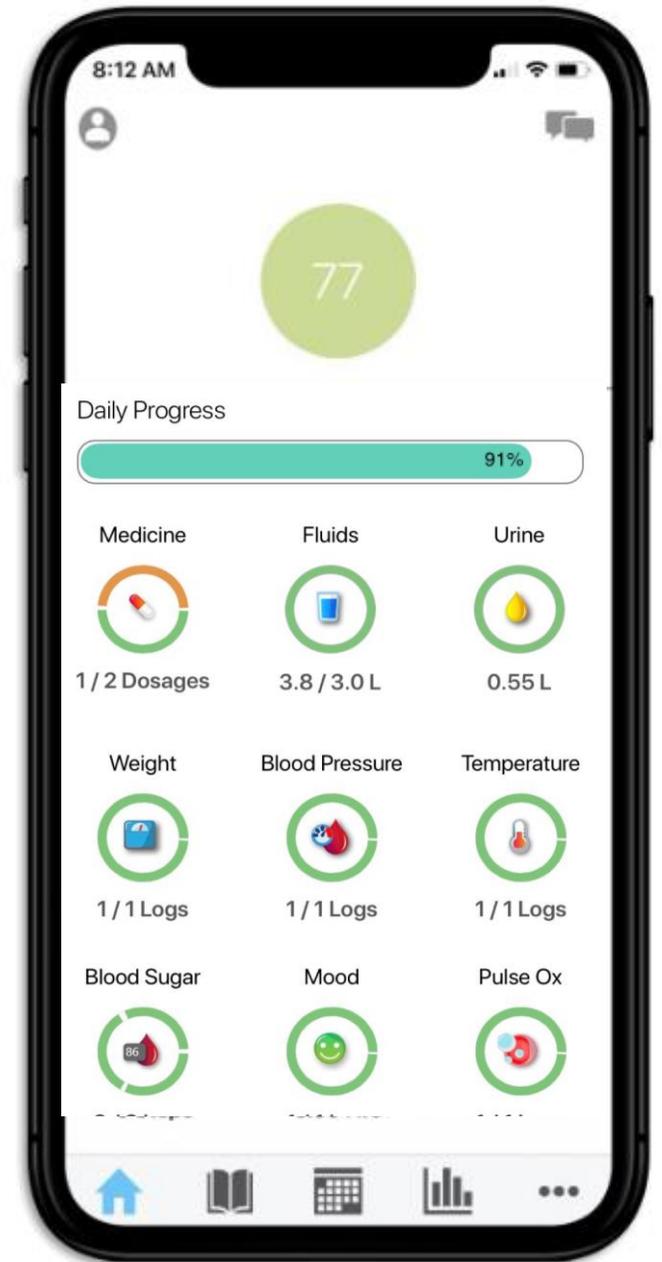
- Customizable to the patient and their current health needs
- Makes managing complicated medication regimes easy
- Puts tracking of important health information in one convenient to use place
- Helps identify important health trends and allows easy communication of these trends to care providers
- Enables a patient to stay educated and stay connected

To learn more, please contact

Koren Axelrod

kaxlerod@caredx.com

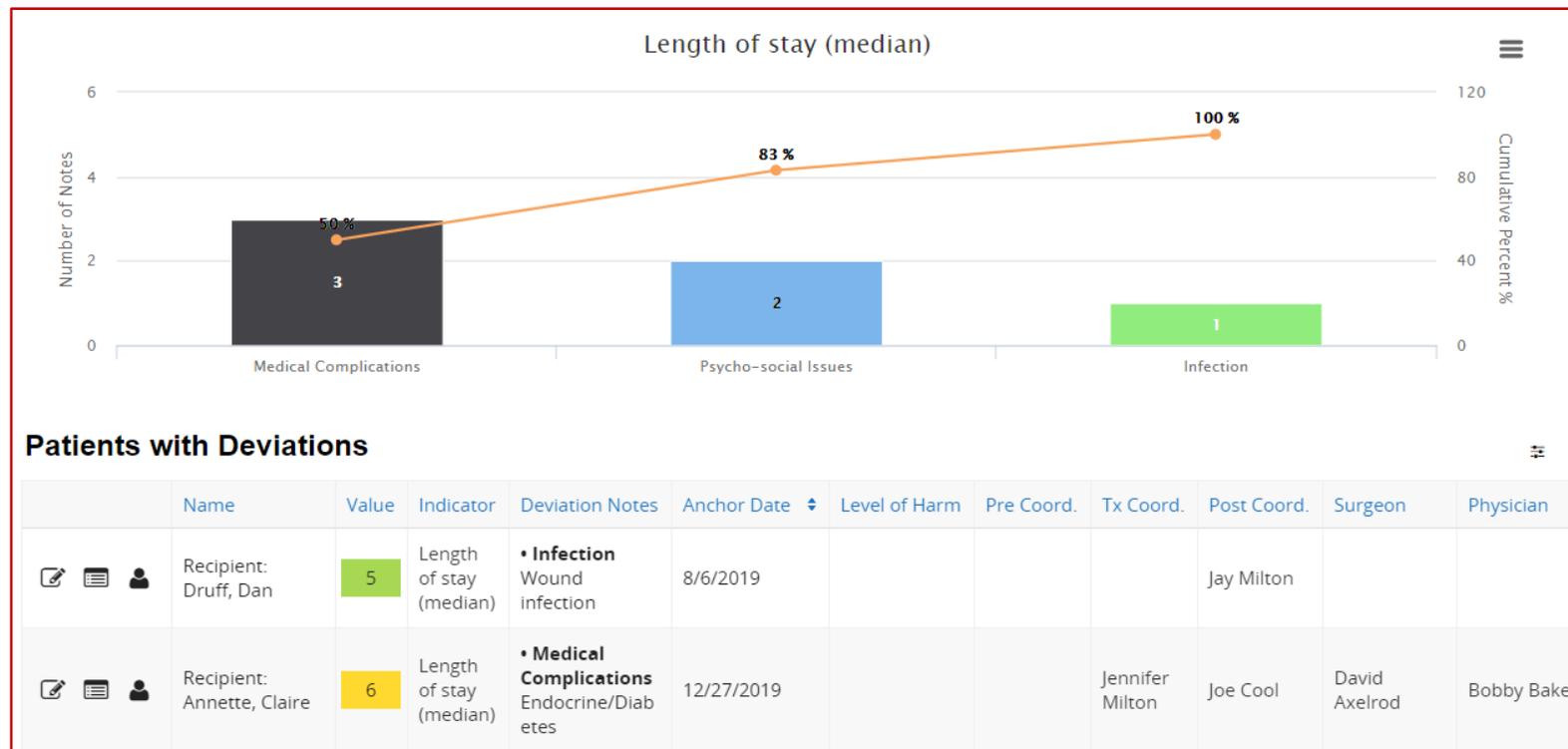
(802) 522-2564



XynQAPI

Providing high quality care and maintaining volume is hard and getting harder.
Your program needs real time, accurate, and easily accessible data.

- Comprehensive and regulatory compliant Transplant Quality Management solution
- Tools to predict patient risk and future center performance reports
- Comprehensive data extracted from UNOS
- Cloud based software with consulting services
- Reimbursable on the Medicare cost report



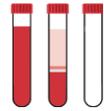
To learn more, please contact
Koren Axelrod
kaxlerod@caredx.com
(802) 522-2564



CareDx Supports Transplant Patients with



At-Home Blood
Draws



Complete
Testing and Labs



10,000
Phlebotomists



No Additional
Cost for Patients

Kidney Transplant

- **AlloSure – KidneyCare**
- Complete Blood Count (CBC)
- Immunosuppressant Level
 - Tacrolimus, Sirolimus, Cyclosporin, Everolimus
- Comprehensive Metabolic Panel + Mg + Phos
- Viral PCR (BK/CMV/EBV)
- Urinary Protein / Creatinine Ratio

Heart Transplant

- **AlloMap – HeartCare**
- Complete Blood Count (CBC)
- Immunosuppressant Level
 - Tacrolimus, Sirolimus, Cyclosporin, Everolimus
- Comprehensive Metabolic Panel + Mg + Phos
- Viral PCR (BK/CMV/EBV)
- NT-proBNP

150

Tx Centers Adopting

>6000

Patients Consented

>90%

Patient Satisfaction



Highlights

- Results integrated into **EMR**
- Results reported **within 2 days**
- Routine Labs reported **within 1 day**
- **“Peace of Mind”** for Patient & Team
- No Additional Cost for the Patient
- Covering the entire US

To learn more, please contact

Lisa Kumpula

[lkumpula@caredx.com](mailto:lkumpula@ caredx.com)

Cell: 803.622.5075

“Thank you CareDx for RemoTraC”

Madelyn Quinn: Heart Transplant Recipient (3/5/2015) and
RemoTraC participant (3/24, 5/24, 7/23, 9/21, 11/19 - 2020)

The logo for UNOS (United Network for Organ Sharing) features the word "UNOS" in a stylized font. The "U" and "S" are blue, while the "N" and "O" are green. A small "SM" trademark symbol is located to the upper right of the "S".

UNITED NETWORK FOR ORGAN SHARING

Post Transplant Testing Solutions and Future Direction

1. Molecular Surveillance Tools
2. Dedication to Science and Innovation
3. Pipeline and Future Direction

Presented by:

Theresa Wolf – Senior Medical Science Liaison



CareDx[®]

Your Partner in Transplant Care



Monitoring the Allograft Health of Your Kidney Transplant Patients

Common Questions when Managing these Complex Patients...



Is there **active rejection** occurring with my patient's allograft?



What simple surveillance tools can I use to build a **longitudinal view** of allograft health?



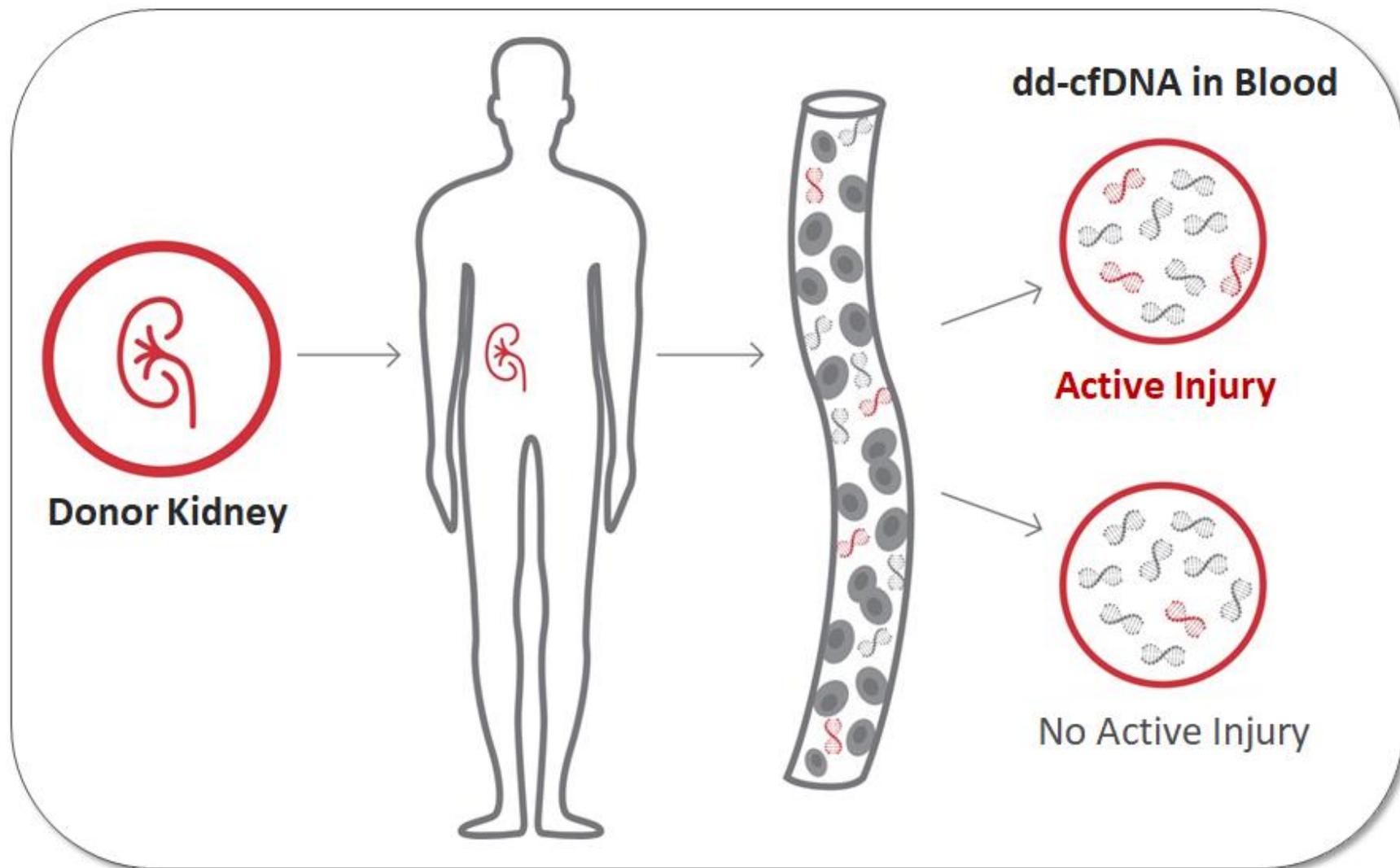
How often should I be monitoring the health of the allograft?



Do any changes need to be made with my patient's **immunosuppressant medication** protocol?

Donor-Derived Cell-Free DNA

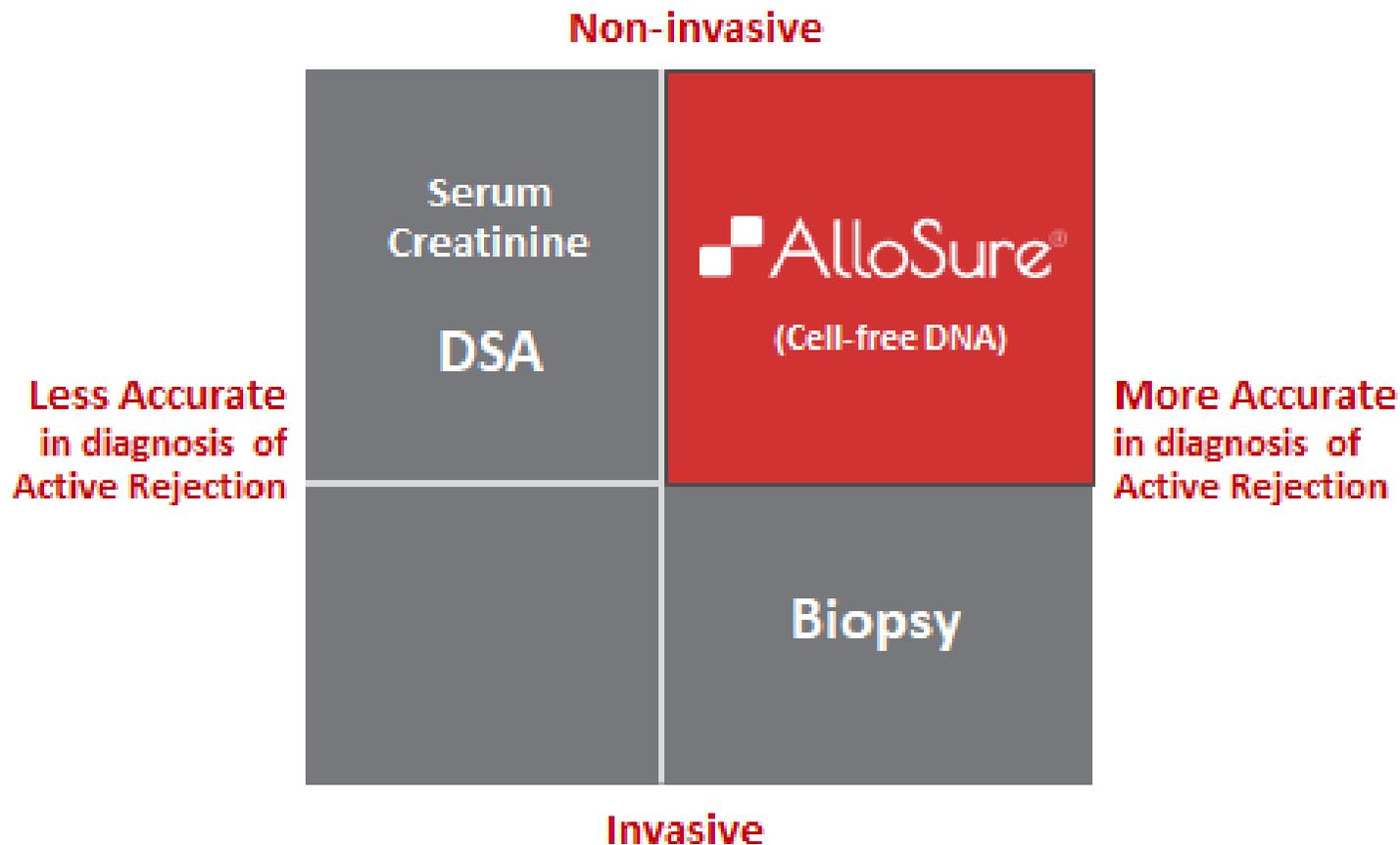
What information does this provide?



Marker of Injury
Donor-derived cell-free DNA can provide a signal of allograft injury

Transplant-Specific SNPs
are the choice for building high-quality tests to differentiate donor-cfDNA from recipient-cfDNA

AlloSure® A Simple Blood Test For Transplant Surveillance



KidneyCare[®]

 AlloSure[®] KIDNEY

**Donor-derived Cell-free DNA
(dd-cfDNA)**

 iBox[™]

**Machine learning
Transplant Data Analytics**

 AlloMap[®] KIDNEY

**Gene Expression
Profiling (GEP)**

HeartCare Includes Two Powerful Diagnostics



ALLOMAP IS AN ESTABLISHED STANDARD IN HEART TRANSPLANT



Used in 90% of US heart transplant centers and 1 in 2 new patients



Guideline recommended since 2010



Extensively validated including publication in NEJM



BROADLY REIMBURSED

Wide coverage by Medicare and commercial payers



FDA-CLEARED

FDA 510(k)-cleared to identify recipients at low probability of ACR



ALLOSURE HEART BRINGS THE PROVEN POWER OF DD-CFDNA TO HEART TRANSPLANT



CLINICALLY VALIDATED

In three independent studies including >1,000 patients

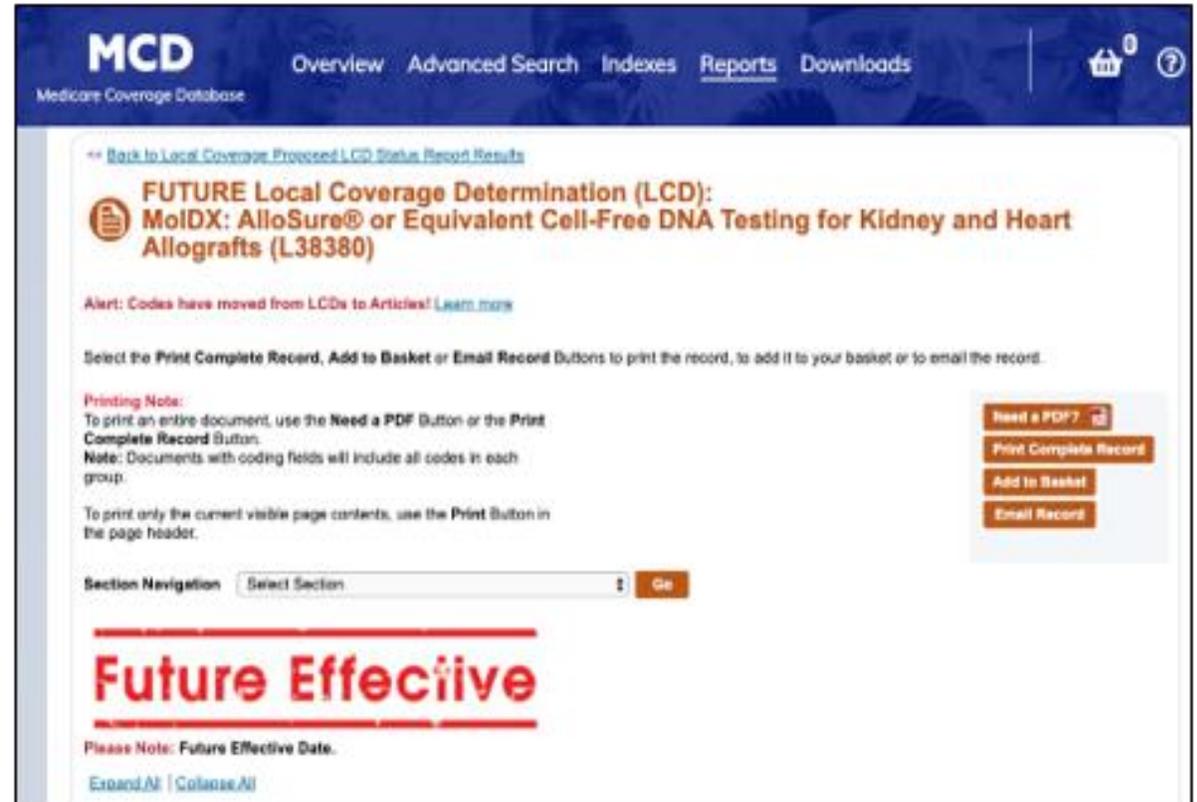


DEMONSTRATED ABILITY

To distinguish acute rejection and AMR vs. no AMR

Medicare Coverage for HeartCare Effective Nov 15

- AlloSure[®] Heart is covered when used in conjunction with AlloMap[®] to assess the probability of allograft rejection in heart transplant recipients with clinical suspicion of rejection and to inform clinical decision-making about the necessity of a heart biopsy in such patients at least 55 days post-transplant in conjunction with standard clinical assessment



The screenshot displays the Medicare Coverage Database (MCD) interface. At the top, there is a navigation bar with links for Overview, Advanced Search, Indexes, Reports, and Downloads. The main content area features a prominent orange header for a 'FUTURE Local Coverage Determination (LCD): MoIDX: AlloSure[®] or Equivalent Cell-Free DNA Testing for Kidney and Heart Allografts (L38380)'. Below this, an alert states 'Alert: Codes have moved from LCDs to Articles! Learn more'. A section titled 'Printing Note' provides instructions on how to print the record or generate a PDF. A 'Section Navigation' dropdown menu is visible, and a large red banner at the bottom of the content area reads 'Future Effective'. The footer includes a 'Please Note: Future Effective Date.' and a link to 'Expand All | Collapse All'.

AlloSure® has a Strong Body of Clinical Evidence

Robust Clinical Evidence supports **AlloSure**

Only dd-cfDNA with multicenter, prospective clinical validation

Findings Include:

Detects Active Rejection and Outperforms Serum Creatinine¹

Reference Change Value of 61%²

Utility in Repeat Tx Patients³

Improve Non-Invasive Diagnosis of active ABMR⁴

Helps Verify Resolution of Rejection⁵

Discriminates ABMR⁶

Stratifies Biopsy-Confirmed TCMR1A/Borderline Rejection Patients⁷

Aids in the Diagnosis of BK Virus Nephropathy⁸

¹Bloom et al. Cell-Free DNA and Active Rejection in Kidney Allografts. American Journal of Transplantation, 2017.

²Bromberg et al. Biological Variation of Donor-Derived Cell-Free DNA in Renal Transplant Recipients: Clinical Implications. Journal of Applied Laboratory Medicine, 2017.

³Mehta et al. Repeat Kidney Transplant Recipients With Active Rejection Have Elevated Donor-Derived Cell-Free DNA. American Journal of Transplantation, 2019.

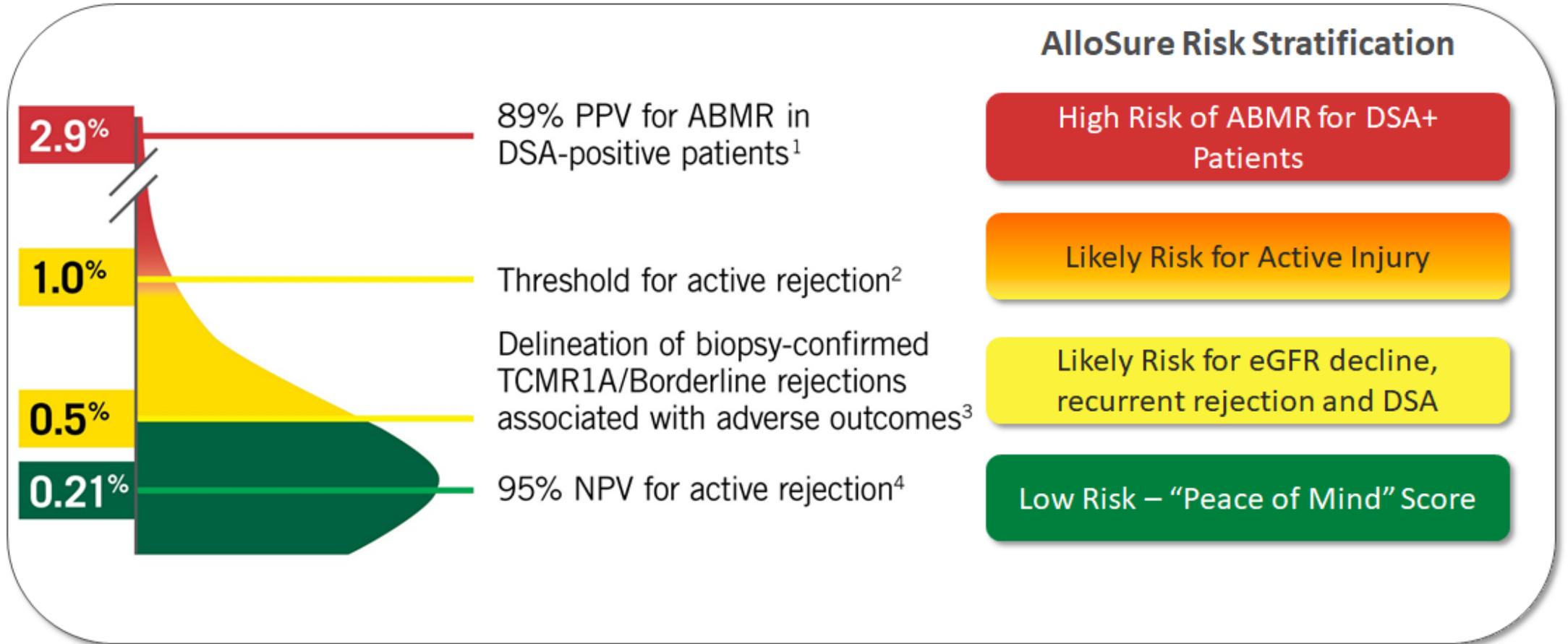
⁴Jordan et al. Donor-Derived Cell-Free DNA Identifies Antibody-Mediated Rejection in Donor-Specific Antibody-Positive Kidney Transplant Recipients. Transplantation Direct, 2018.

⁵Hinojosa et al. dd-cfDNA May Confirm Real-Time Response to Treatment of Acute Rejection in Renal Transplant Patients. Transplantation, 2019.

⁶Huang et al. Early Clinical Experience Using Donor-Derived Cell-Free DNA to Detect Rejection in Kidney Transplant Recipients. American Journal of Transplantation, 2019.

⁷Stites et al. High levels of dd-cfDNA identify patients with TCMR 1A and borderline allograft rejection at elevated risk of graft injury. American Journal of Transplantation, 2020.

⁸Brennan et al. Donor Derived Cell Free DNA (dd-cfDNA) May Aid in the Diagnosis of BK Virus Nephropathy. American Journal of Transplantation, 2019.



¹Jordan SC et al. Transplant Direct. 2018; 4:e379

²Bloom RD et al. J Am Soc Nephrol. 2017; 28.2221-2232

³Stites E, et al. Am J Transplant. 2020; 00:1-8

⁴Bromberg JSet al. J Appl Lab Med. 2017; 2:309-321

Strategic Investments in Clinical Development

Large Multi-Center Clinical Studies

Start	Name	Impact	Centers	Patients	Samples
2020	c19txr	Long-term COVID Transplant Outcomes	>30	>1000*	N/A
2019	OKRA	Long-term Kidney Transplant Outcomes	>50	>1500	>8,000
2018	SHORE	Long-term Heart Transplant Outcomes	>50	>3000	>8,000
2018	K-OAR	Long-term Kidney Transplant Outcomes	>50	>1500	>8,000
2015	DART	Validation AlloSure Kidney Transplant	14	400	2,100

Investigator Initiated Trial Program

> 40

Transplant Centers



COLUMBIA UNIVERSITY
MEDICAL CENTER



Grant Support incl. Societies

> 40

Transplant Investigators



Expanding Multi-Modality Solutions with New Offerings

Bringing Innovation from Benchtop to Clinic to Improve Transplant Outcomes

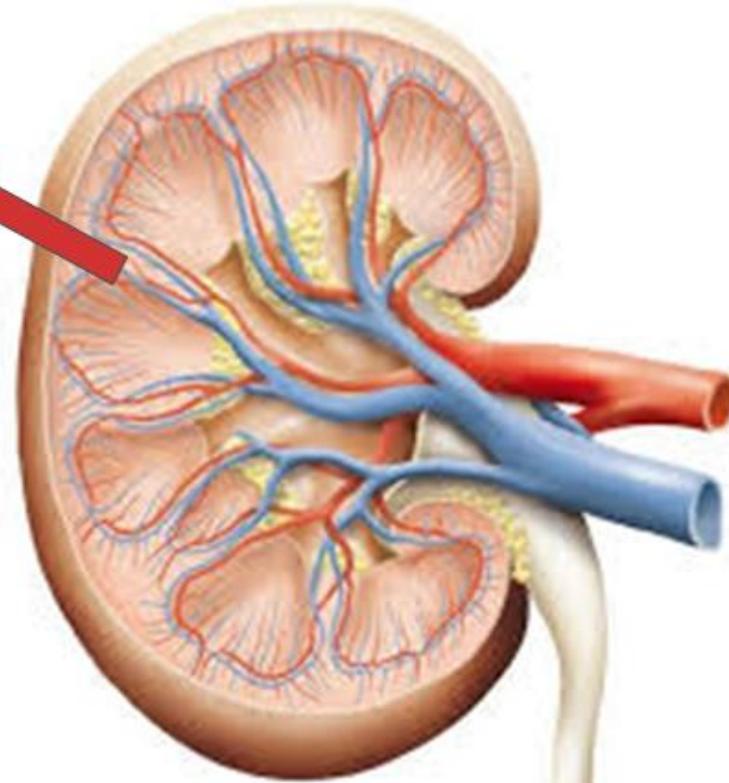
 HistoMap™

 nanoString®

 iBox™

 Paris Transplant Group
Kidney, Heart, Lung & Liver

 Weill Cornell
Medicine



 Stanford
MEDICINE

dd-cfDNA

 AlloSure®

Gene Expression Profiling

 AlloMap®

 UroMap™

 CareDx®



Thank You For All That YOU Do For the Field of Transplantation

♥ Madelyn and the CareDx Team ♥

