

Maine Transplant Program

2018 OUTCOMES REPORT



Maine Medical Center
MaineHealth

centered around you



2018 Outcomes Report

PICTURED: Living donor, Stan, attending an event where he met his recipient for the first time.

“

I have found the Maine Medical Center Transplant Team to be highly professional, caring, and more than willing to help in any way. Highly recommend.

August, patient

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FRONT COVER: Donors and recipients of kidney chain meet for first time during a Donate Life month event. The green and blue lei's represent donor vs. recipient in support of the Donate Life colors.

Introduction

It is a pleasure to present the 2018 Maine Transplant Program Outcomes Report. We are very proud of the work we do as a team to provide the best care for patients with irreversible kidney failure and their living donors. Our group has years of experience in the transplant field and are constantly working to refine our outcomes. The mission of the Maine Transplant Program is to provide exceptional management that is compassionate, patient centered, quality focused, academic and at the forefront of tomorrow's care. Through innovation and technology, we continuously implement novel techniques and approaches to care that benefit our patients.

This outcomes report demonstrates our commitment to providing top quality, personalized care. We benchmark our results against national and regional trends validating that excellent care is achievable close to home.

Our greatest achievement comes with the satisfaction of watching a recipient get back to their life without the rigors of dialysis. Giving someone additional time to be with family, and continue living their days, is the reason our team is dedicated to this important work.



John Vella MD, FRCP, FACP, FASN, FAST
Director of Nephrology and Transplantation, Maine Transplant Program
Associate Professor of Medicine, Tufts University School of Medicine



About

The Maine Transplant Program has been providing care and kidney transplantation to residents of Maine and surrounding areas for nearly 50 years. Our first kidney transplant was completed in 1971, and was a successful living donor whereby the recipient went on to live a full life for another 30 years. Our mission is straightforward and demonstrated by our expert and committed multidisciplinary team on a daily basis: to provide quality,

compassionate, patient centered care that utilizes the most effective and advanced care treatment methods available. We have continuously and vigorously partnered with community nephrologists, dialysis centers, and other care providers to offer our patients freedom from the demands and negative health impacts of dialysis and a longer, more fulfilling life through kidney transplantation.



Designed by Kathy Finkel, a local artist, in 2002

Transplant Team



PICTURED (FROM LEFT)
First Row: Heidi Algara, BSN; Laura Madigan-McCown, MSW, MTS; John Vella, MD; Mark Parker, MD; James Whiting, MD;
Second Row: Betsy Bernazzani, RN; Marizela Savic, PharmD; Trish Messer; Ashley Lazarz, RD, LD; Marilyn Flanders, RN, BSN;
 Terry Boulos, RN, BSN, CCRN; **Third Row:** Kimberly Provencher; Deborah Hoch, DNP, CCRN, ACNP-BN; **Fourth Row:** David Clark, MD; Amie
 Neikirk, MA; Nicole Irvin, RN; Shellylee Remington; Mike Akom, MD; **Fifth Row:** Ardyce Peters, MS; Ron Rubocki, PhD;
 Shelby Mc Donnell, MS; **Not Pictured:** Juan Palma-Vargas, MD; Ana Rossi, MD

Our multidisciplinary team includes:

- Five nephrologists
- Two surgeons
- Five nurse coordinators
- Allied health – two dietitians, a social worker, a financial coordinator, an independent living donor advocate and transplant pharmacist



PICTURED: Mike, a recipient, meets his donor, Kate, for the first time.

Patient Volume 2017

52	Total transplants
28	Living Donor recipients
10	Kidney Paired Donation recipients
24	Deceased Donor recipients

SOURCE: Epic EHR Maine Transplant Program data

As a medium-sized kidney transplant program, we have continued to maintain our annual transplant volumes between 40-50 transplants. Unlike other programs in the region however, we have been highly successful in growing our living donor program to the point of achieving a majority of living vs. deceased donor transplants. We recognize the wonderful gift of

deceased donors who benefit many recipients. Living donor transplants offer multiple advantages for our patients: shorter waiting times, a healthier donor with known medical history, and longer kidney graft survival period (usually 10 years for a deceased donor kidney; 15-20 years for a living donor kidney).

Journey to Transplant

The journey to transplantation involves a strong partnership between the patient, nephrologist, and the Maine Transplant Program. Ongoing education is essential in this journey, so that the patient and his/her family and support network are keenly aware of the risks, benefits, and lifelong commitments involved in pursuing transplantation.

Our process begins with a required educational session, where our RN Transplant Coordinator reviews essential information regarding transplantation: our multidisciplinary team approach, eligibility, the evaluation process, financial implications, the candidate selection process, remaining healthy on the waiting list, options for living donations, and the transplant surgery.

The transplant evaluation involves a number of tests and evaluations to determine the candidate's status in a number of areas: medical/physical, psychological, nutritional, and ability to adhere to a rigorous

pharmaceutical regimen following transplant. Testing includes imaging, cardiac and renal function, histocompatibility, infectious disease, and body mass index. The full multidisciplinary team (MD, RN, Nutrition, Pharmacy, Social Work, and Surgery) engages in this evaluation to provide a comprehensive assessment of the candidate's likelihood to benefit from transplantation and ability to manage the surgical and post-transplant process. If the candidate does have a potential living donor, additional compatibility testing is required. The evaluation process can take anywhere from 60 days to several months depending on the patient's condition and ability to follow through on required testing.

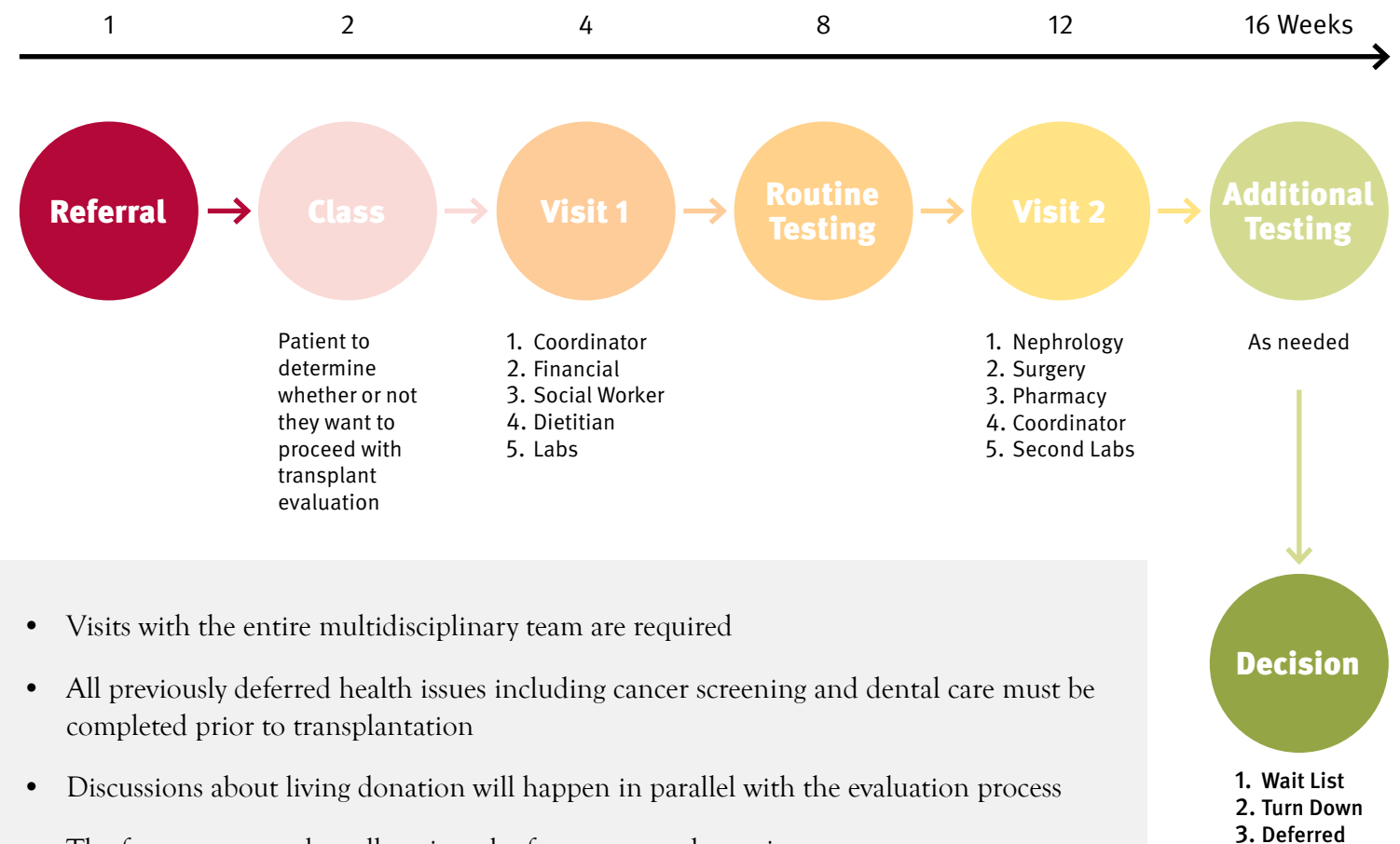
Once waitlisted, our team continues to monitor the candidate's status and health to assure continued readiness for transplantation should an organ become available. Waiting time for patients on our waiting list is substantially lower than other programs in the

region: approximately 16 months compared to 55 months for other programs in our region. This shorter waiting time is driven almost exclusively by our higher living donation rate.

After transplant surgery, the transplant journey does not end. The post-transplant period is a crucial time when rigorous regimens for immunosuppression must be followed and nephrology and surgical follow up are provided via a strict protocol.

Throughout the transplant journey, our team maintains contact with the referring nephrologist and dialysis center (if the patient is on dialysis), and remains available for communication and consultation. Unlike many transplant programs, our team provides lifelong medical management for post-transplant kidney patients.

Timeline Targets



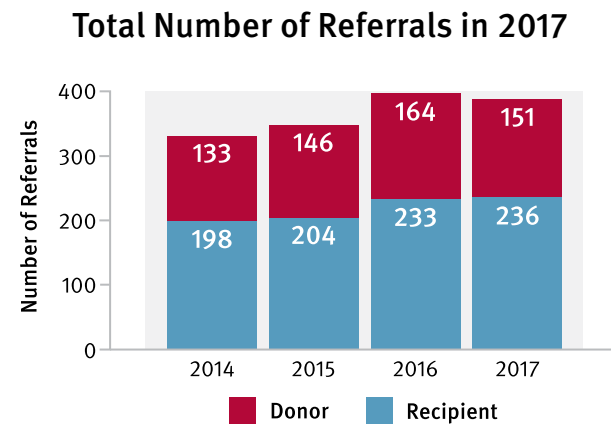
- Visits with the entire multidisciplinary team are required
- All previously deferred health issues including cancer screening and dental care must be completed prior to transplantation
- Discussions about living donation will happen in parallel with the evaluation process
- The faster you complete all testing, the faster we can determine your transplant candidacy
- The evaluation should be completed within 6 months



I couldn't be more pleased with my experience with the Maine Transplant Program. Above all else, the doctors, nurses, and support staff were caring, supportive, and incredibly responsive. I felt well cared for from the evaluation, surgery, and after care. It was a wonderful life changing experience!

Ida, patient

Referrals for Transplants



SOURCE: Epic (12/16-12/17 data) & TeleResults (1/14-11/16 data)

As the only transplant resource in the state of Maine, we are pleased to partner with nephrologists and dialysis centers in the region who refer their patients to learn more about transplantation and complete an evaluation. Our living donors most often come to us directly with the desire to donate to a particular patient on our waiting list, or altruistically to offer one of their healthy kidneys to someone in need. Our referrals for both recipient candidates and living donors continue to grow as the number of patients with end stage renal disease increases both locally and nationally.

Who Do We Transplant?

Transplantation is the treatment of choice for patients with End Stage Renal Disease (ESRD) who are either on dialysis or approaching dialysis with a GFR < 20 mls/min. A full battery of tests prior to placement on the waiting list determines eligibility, with certain conditions considered an absolute contraindication to transplantation:

- Metastatic cancer
- Congestive heart failure with EF < 40%
- Active coronary artery disease not amenable to revascularization
- Advanced COPD (hypercarbia, FEV1/FVC < 80% and FEV1 < 50%, Chronic O₂ use)
- Dementia
- Physical disability sufficiently severe to require long term skilled nursing facility placement
- Active substance abuse
- Demonstrated patient non-adherence
- Morbid Obesity (BMI > 37 Kg/m²)
- Uncontrolled psychiatric disorders
- Cirrhosis with portal hypertension – these patients should be referred to a liver-kidney transplant program

Patients with risk factors such as obesity, certain malignancies, infections, and coronary artery disease may be considered appropriate candidates with lifestyle modifications or active treatment for a defined period of time.

Time to Transplantation

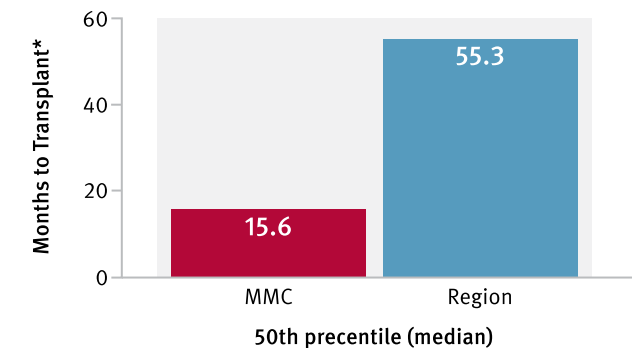
Our median time to transplant is about 1/3 of the time compared to other programs in our Organ Procurement and Transplantation Region (OPTN)

For patients needing a kidney transplant, particularly those who will need to rely upon a deceased donor to become available, the amount of time spent on the kidney waiting list is an important consideration in choosing a transplant center. Additional time on dialysis means further decline in functioning and although dialysis is a lifesaving treatment, it performs only about 10% of the work of a functioning kidney. As a result, the impact of continued dialysis on the body can be devastating, resulting in infections, anemia, and other serious health problems and complications. In addition, patients spending years on dialysis are more likely to lose their transplanted kidney than those who spend shorter periods on dialysis. For those not yet on dialysis, a shorter waiting time may prevent the need to go on dialysis and face the associated complications. From a cost perspective as well, kidney transplant vs. dialysis shows clear positive long term financial benefit from kidney transplantation.

*Our Organ Procurement and Transplantation Network Region (OPTN) is defined as Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Eastern Vermont.

Time to Transplant for Waiting List Candidates

Candidates registered on the waiting list between 7/1/11-12/31/16



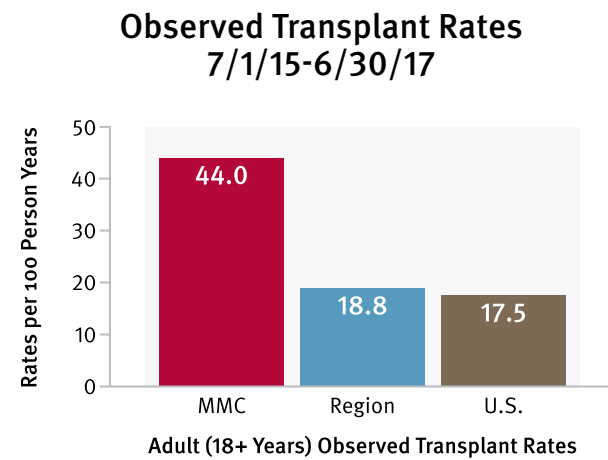
SOURCE: SRTR, Table B9, published 1/5/18
*Censored on 6/30/17. Calculated as the months after listing, during which the corresponding percent of all patients initially listed had received a transplant.



PICTURED: Maine Medical Partners surgical team performing transplant surgery.

Transplant Rate & Monthly Wait List

Our center has higher transplant rates (proportion of referred patients who actually receive transplants) than our OPTN region and U.S.



SOURCE: SRTR, Table B3, published 1/5/18

Activity for Time Period as Percent of Registrants on Waiting List at Beginning of Time Period (7/1/16)

Donor Type	MMC	Region	U.S.
Received Living Donor Transplant	26.2%	7.5%	5.4%
Received Deceased Donor Transplant	16.8%	12.8%	13.2%

SOURCE: SRTR, Table B1, published 1/5/18

As a percentage of patients on the waiting list, MMC transplanted more than three times as many living donor recipients than the OPTN Region, and the rate was five times as many than for the total U.S. waiting list population.

As a percentage of patients on the waiting list, MMC transplanted more deceased donor recipients than both the OPTN Region and the U.S. waiting list populations. At the end of 2017, we had 98 candidates on the waitlist.



Transplant Admission Length of Stay

Our length of stay in the hospital after transplant is 1/4 less than our OPTN Region and U.S.

Median Length of Stay per Donor Type 7/1/16-6/30/17

Donor Type	MMC	Region	U.S.
Deceased	4.0 days	5.0 days	5.0 days
Living	3.0 days	4.0 days	4.0 days

SOURCE: SRTR, Tables C4D & C4L, published 1/5/18

At Maine Transplant Program we have worked diligently to be as efficient as possible in reducing patients' length of stay. Allowing patients to go home faster means they can recover where they are more comfortable.

Patients with shorter lengths of stay recover faster, have better outcomes, reduce their chances of developing hospital acquired complication and may reduce health care costs associated with their surgery.

Transplant Patient & Graft Survival

Our patient and graft survival rates are excellent. Our graft survival rate is higher than the U.S. average.

Transplantation is a complex surgery that requires a high degree of expertise, vigilance, and a strong multidisciplinary approach. Patient and graft survival are key measures of a program's ability to not only select the most appropriate candidates for transplantation, but provide the surgical, medical, and multidisciplinary care needed to support transplant recipients through the entire process of pre, peri, and post-transplant care. Our team is committed to provide the highest level of quality care at each phase of transplant, and to work collaboratively with referring physicians to assure that patients accepted as candidates are those who are most likely to do well not only during surgery, but in the post-operative follow up period as well.

Rates of Patient & Graft Survival At 1 Year Post-Transplant Per Donor Type Adults (18+ Years)

At time 7/1/14-12/31/16	Total – MMC	Total – U.S.
Graft Survival Rates*	97.06% n=108	95.23% n=41,909
Patient Survival Rates**	96.56% n=92	97.36% n=36,218

SOURCE: SRTR, Table C6 & C12, published 1/5/18
*Deaths and re-transplants are considered graft failures
**Re-transplants are excluded

Re-admission Rate

Re-admissions are an important measure of success for our program and for our patients. Although returns to the hospital are often unavoidable, our goal is to provide hospital care, treatment, education, and coordination to our patients in a manner that minimizes the need for a return to inpatient setting.

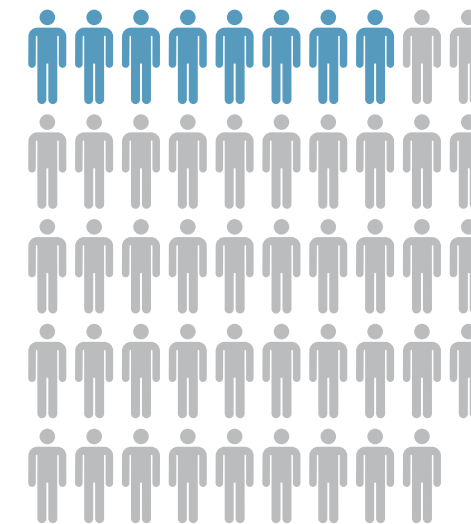
re-admission rates for kidney transplant recipients to be between 28% and 45%.

Through a strong multidisciplinary approach and vigorous team rounding model, we have been able to maintain 30-day re-admission rates that are lower than these rates.

A recent article in *Clinical Transplantation* (Volume 30: 779-786) noted national hospital

30-DAYS POST-DISCHARGE (1/1/17-12/31/17)

8 out of 51 patients (16%) were readmitted within 30-days
(comprising 52 transplants total*)



1 out of 28 living donors (3%) were readmitted within 30-days



SOURCE: Epic, TXP Re-admissions After Transplant Surgery report

*One patient was retransplanted.

Living Donation

As the waiting list for deceased donor organs continues to increase, the need for living donors becomes more important. At Maine Transplant Program, we have made living kidney donation a primary focus, understanding that living donation means less time waiting for a transplant, and better long term outcomes for the recipient than deceased donor transplantation. As a program, and thanks to our donors' generosity, over half of the transplants we performed last year involved a living donor. In a recent review of national United Network of Organ Sharing (UNOS) data, Maine was noted to have a higher percent of living donor transplants than any other state in the country. This is a testament to our strong commitment to both reducing waiting time for our patients in need

of a kidney transplant, and promoting living donation as an alternative known to produce better long term outcomes than deceased kidney transplantation. To further this goal, we are fully committed to find every possible transplant option for our donors that are not compatible with their intended recipients. This is called Kidney Paired Donation. We utilize an internal database to match incompatible donors locally and collaborate with the National Kidney Registry (NKR) to broaden options for successfully matching donors and recipients.

We are proud to have a strong and successful Living Kidney Donation program with over 600 living donor transplants completed to date!



Juan Palma-Vargas, MD
*Director, Living Kidney Donation, Maine Transplant Program
Maine Medical Partners – Surgical Care*



Academics & Research

The faculty of Maine Transplant Program is actively involved in a broad variety of academic activities. As a teaching hospital, we are intimately involved in medical student, medicine/surgery resident, and nephrology fellow education. In addition, the faculty publishes broadly within the field of transplantation. Such activities include numerous peer review journal papers, book

chapters, UpToDate, and NephSAP (a journal of the American Society of Nephrology). In addition, Maine Transplant Program has been a prolific clinical trial participant over the years. Such studies have included numerous industry sponsored immunosuppression and CMV vaccine studies, as well as participation in the NIH funded Kidney Donor Outcome and FAVORIT study.

In the News

Maine Transplant Program's innovative work with kidney chains and paired donation has captured the attention of media statewide. With some of the highest living donor rates compared to the region and the US, we are able to improve more patients' lives.



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My experience with MTP has been wonderful. I have received excellent care and attention. I am able to call any hour to receive advice or instructions. I couldn't think of anything to improve on the exceptional care they provide.

Theresa, patient



Maine Transplant Program

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mmc.org/maine-transplant-program