

Transplant Institute of New Mexico

Proposal for the Establishment of a Multi-Organ Transplant Program for
the Citizens of New Mexico

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“You are not here merely to make a living. You are here in order to enable the world to live more amply, with greater vision, with a finer spirit of hope and achievement. You are here to enrich the world and you impoverish yourself if you forget the errand.”

~ Woodrow Wilson

Discussion Topics

- Strategic Positioning
- Current Disadvantages for New Mexico
- Prior Challenges vs. Current Key Advantages
- New Mexico Volumes by Organ Type
- Five Year Financial Metrics
- Start up Requirements

Strategic Positioning

New Mexico has the opportunity to position itself as a leader in liver transplant services through the creation of a NM Transplant Institute where it could provide excellent results combined with reduced waiting periods.

- No in-state competition allows access to a greater majority of donors.
- New Mexico is 1 of 12 states WITHOUT an active multi-organ transplant program (liver, kidney and pancreas).
- Significant demand based on the number of potential liver transplant patients and available organs.
- Provide education and training capabilities for local physicians, residents and medical students, promoting the retention of resources whom may otherwise leave the state.
- Increased opportunities for local medical research.

Current Disadvantages for NM

- **Patients in the state are underserved**
 - 153 livers have been exported in the past five years, averaging 34 per year
 - 165 NM residents are currently listed in other states for liver transplants
- **Liver Disease is a major health issues for New Mexico**
 - Alcoholism remains a primary cause of liver disease
 - Cirrhosis and Chronic Liver Disease are the cause of death more than twice the national average
 - **NM 2.6% vs U.S. 1.1%**
 - At least 2% or 40,000 New Mexicans are infected with Hepatitis C
 - Over the next 10 years, at least 25% of hepatitis C patients will develop cirrhosis, and several hundred will die if not offered liver transplantation
- **New Mexico citizens are forced to get liver transplants outside the state**
 - Necessary relocation for the patients and their families
 - Time is a limiting factor for New Mexico recipients when an organ is available
 - Limitations for medical follow-up in the pre and post-operative period
 - High MELD scores indicate that most of the patients are already hospitalized in New Mexico, making it more difficult to move the patient outside the state when an organ is available.
 - Increase cost and expenses for patients, families and hospitals

Prior Challenges vs. Current Key Advantages

Challenges faced by prior liver transplant program in New Mexico

- No MELD score for fair allocation of organs.
- Low number of procurement operations
- Low recipient pool for liver transplants
- Local expertise was not sufficient.

Advantages for proposed NM liver transplant program

- MELD scores were created in 2002 improving the allocation of organs
- Hepatitis C and alcoholism are the primary reasons for liver transplantation
- Organ donation has increased due to enhanced educational programs promoting organ donation
- Recipient pool exists as 165 New Mexicans are on waiting lists in other states
- Local professional expertise is in place to support the program as follows:
 - ✓ Transplant surgeon
 - ✓ Transplant Hepatologist
 - ✓ Liver pathologist
 - ✓ Multi-organ transplant manager
 - ✓ Anesthesiologist
 - ✓ Intensivist
 - ✓ Interventional radiologist
 - ✓ Nephrologist
 - ✓ Pulmonologist
 - ✓ Cardiologist
 - ✓ Psychologist
 - ✓ Social workers
- Local Facilities and Services are available:
 - Blood Bank
 - HLA Lab

NM Volumes By Organ Type

- The combination of liver and kidney transplant programs has the potential to achieve required volumes to support a multi-organ transplant program averaging 100 per year.
- Opportunities exist to increase liver transplants by using DCD (Donation after Cardiac Death) donors, thereby necessitating the education of ICU teams to identify DBD (Donor Brain Dead) and DCD donors as well as cooperation between principal hospitals
- 91% of recovered livers over the past five years have been successfully transplanted

Recovered and Transplanted Organs in New Mexico

By Units	2012	2011	2010	2009	2008	Average Per Year
Recovered Livers						
Deceased Donor (non DCD donors)	24	38	35	47	28	34
Living Donor	0	0	0	0	0	0
Total Recovered	24	38	35	47	28	34
Total Transplanted	23	32	31	45	26	31
Recovered Kidneys						
Deceased Donor	62	85	82	97	79	81
Living Donor	13	16	16	23	23	18
Total Recovered	75	101	98	120	102	99
Number Transplanted	48	77	71	83	65	69
Grand Total Recovered	99	139	133	167	130	134
Grand Total Transplanted	71	109	102	128	91	100

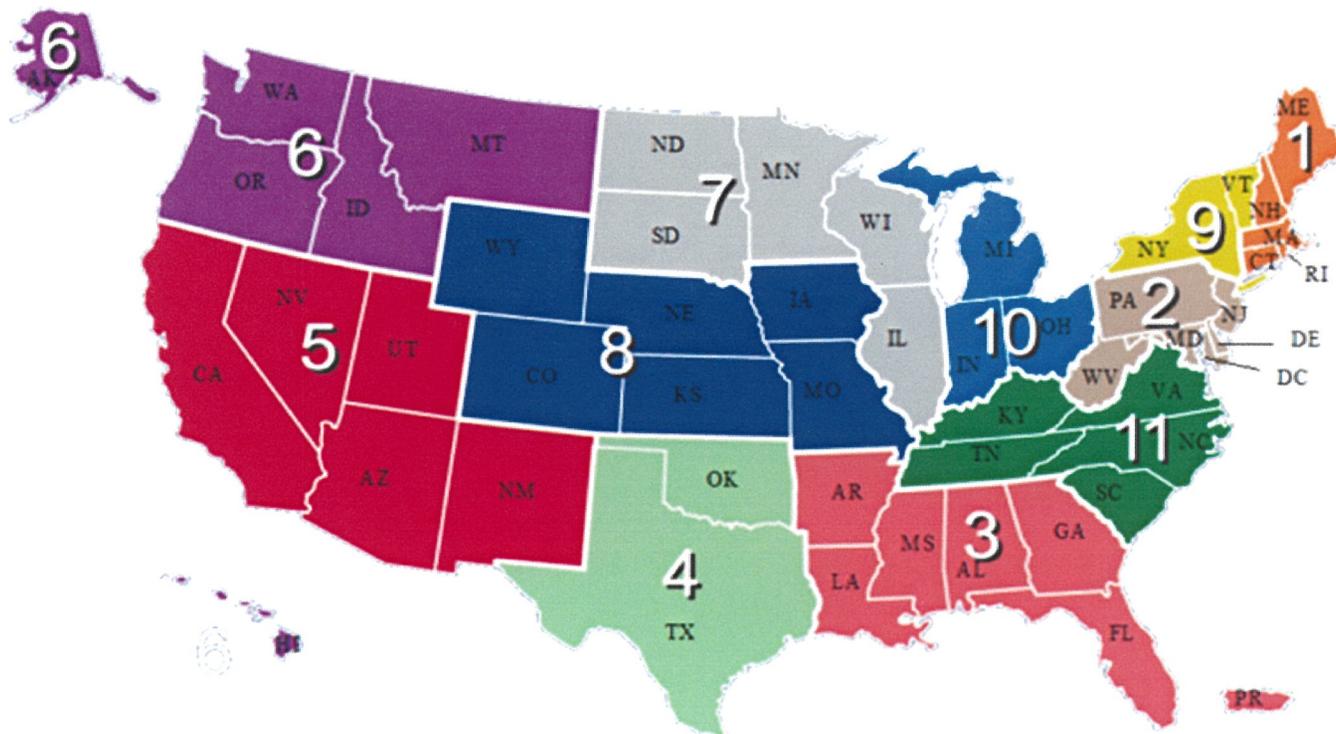
Source: U.S. Transplants Performed : January 1, 1988 - November 30, 2012

For Organ = Kidney and Liver, State = New Mexico

Based on OPTN data as of February 22, 2013

Map of 11 UNOS Regions

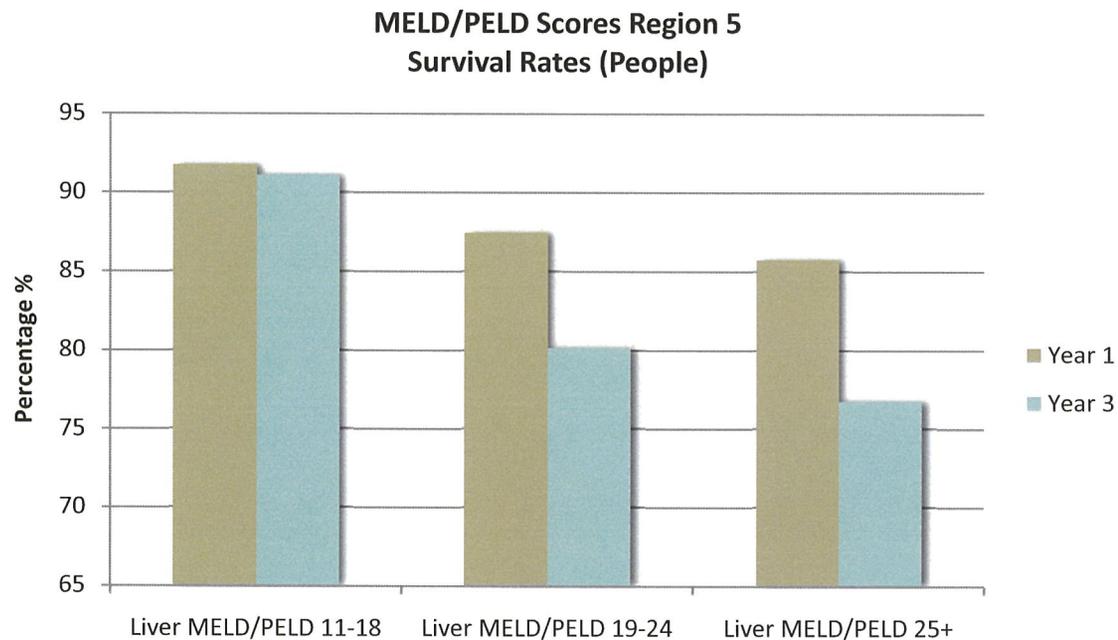
OPTN/UNOS REGIONAL MAP



MELD Scores Region 5

The **Model for End-Stage Liver Disease**, or **MELD**, is a scoring system for assessing the severity of chronic liver disease. This score, developed in 2002, is used by the United Network for Organ Sharing (UNOS) for prioritizing the allocation of liver transplants.

MELD uses the patient's values for serum bilirubin, serum creatinine, and the international normalized ratio for prothrombin time (INR) to predict survival.



Five Year Financial Metrics

- Similar liver transplant programs with both Clinic and Hospital facilities experienced the following financial results **over a five year period**:
 - 32% increase in transplants performed
 - 120% increase in gross revenue
 - 7% net profit contribution as a percentage of total revenue
- Ten (10) liver transplants would need to be performed per annum in order for the program to be viable. 80% of transplant centers perform less than 60 liver transplants per year.
- NM data suggests this target is attainable coupled with additional opportunities to harvest from DCD donors. It is estimated that an additional 8-10 DCD donors per year could be attained.

Potential Financial Forecast - Similar Programs

(millions)	Year 1	%	Year 5	%
Clinic				
Gross Revenue	9	100%	22	100%
Total Payments	3.9	43%	7.4	34%
Costs	4.8	53%	10.4	47%
Net Contribution	-0.9	-0.1	-3	-14%
Hospital				
Gross Revenue	38	100%	99	100%
Total Payments	17	45%	35	35%
Costs	15	39%	24	24%
Net Contribution	2	0.05	11	11%
Combined Clinic & Hospital				
Gross Revenue	47	100%	121	100%
Total Payments	20.9	44%	42.4	35%
Costs	19.8	42%	34.4	28%
Total Combined Contribution	1.1	0.02	8	7%

“Coming together is a beginning; keeping together is progress;
working together is success.”

~Henry Ford



EDWARD DULLARD,
KILKENNY, IRELAND.



Proposal For Regional Distribution of Livers for Critically Ill Candidates

- **Specific Requests for Comment:** The Committee asks the following:

Do you support a regional share for candidates with MELD/PELD scores of 35 or higher?

Do you feel that a Sharing Threshold is needed for regional distribution to of livers to patients with high MELD/PELD scores?

Number of Potential Candidates Affected

Of all candidates that were waiting for a liver during 2010, 2,032 (7.7% of total) were at some point listed with a MELD/PELD score of 35 or higher.

Policy or Bylaw Proposal

- **Combined Local and Regional**
 1. Status 1A candidates in descending point order
 2. Status 1B candidates in descending order.
- **Local and Regional**
 3. Candidates with MELD/PELD Scores ≥ 35 in descending order of mortality risk (MELD) scores, with Local candidates ranked above Regional candidates at each level of MELD score
- **Local**
 4. Candidates with MELD/PELD Scores $\geq 15-34$ in descending order of mortality risk scores (probability of candidate death)
- **Regional**
 5. Candidates with MELD/PELD Scores $\geq 15-34$ in descending order of mortality risk scores (probability of candidate death)

- **Local**

6. Candidates with MELD/PELD Scores < 15 in descending order of mortality risk scores (probability of candidate death)

- **Regional**

7. Candidates with MELD/PELD Scores < 15 in descending order of mortality risk scores (probability of candidate death)

- **National**

8. Status 1A candidates in descending point order
9. Status 1B candidates in descending point order
10. All other candidates in descending order of mortality risk scores (probability of candidate death)