The National Minority Organ Tissue Transplant Education Program: Strategies Necessary to Eliminate Transplant Disparities in America

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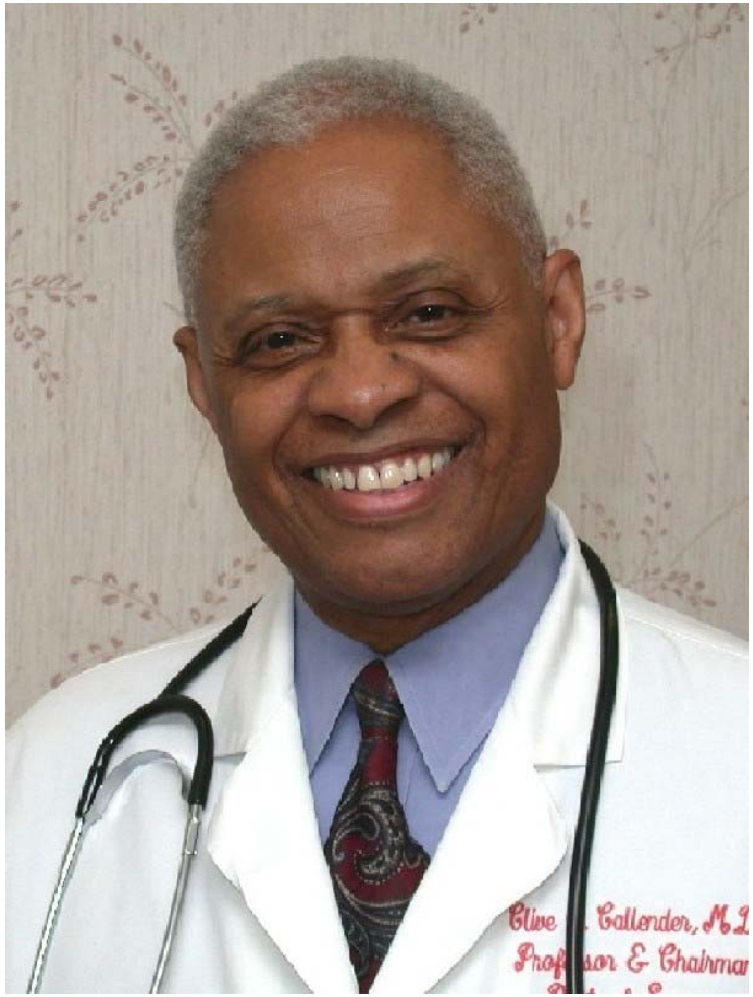
American Kidney Fund®

Thanks to our speaker!



- Dr. Clive O. Callender
- Professor of Surgery at Howard University College of Medicine
- Founder of both National Minority Donor Awareness Week and the National Minority Organ/Tissue Transplant Education Program (MOTTEP)
- Dr. Callender helped develop the first minority-directed dialysis and transplant center in the United States

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INTRODUCTION

- In 2002, twelve (12) key issues associated with transplant ethnic disparities were identified as well as strategic plans for the elimination of each of these.

INTRODUCTION

- This presentation addresses the current status of each of these and identifies three additional disparities as well as other steps that can be taken to narrow these disparities - many of which are now more than 40 years old.

The Key Problem

- Health disparities in the Unites States of America are a major source of concern. The narrowing of the majority-minority health disparity gap has been a priority of our federal government for the past 30 years.(Heckler Report,1985)

Health Disparity

- We first became aware of these disparities in 1972, more than 40 years ago. Since then ten are unchanged or have worsened, four have changed or are in the process of changing, and three new ones have been added.

Health Disparity

- While the general gender health disparity is in favor of female longevity, few are aware of the gender and the age disparities as they relate to ESRD and Kidney Transplantation.

- The goal of this presentation is to educate the participants regarding all of these matters.

Presentation Goals

At the end of this presentation, participants will be able to:

- Identify the additional steps necessary for transplant health disparity elimination
- Identify which of the 17 disparities have been narrowed or eliminated

Presentation Goals

- Appreciate the importance and value of fighting political battles from within

- Recognize that while the female gender is a positive for health in general and longevity in females is evident in most countries, that in ESRD and kidney transplantation it has negative connotations

Presentation Goals

- Identify the wisdom of majority-minority community education and empowerment as a powerful step in the strategy to narrow or eliminate all of these disparities.

Disparities in Transplantation

1) RACISM----Eliminate the use of the term "Race" in Science and replace it with Ethnicity or Race/Ethnicity --- in all scientific Journals, UNOS, Census Bureau and the Federal Government.

Disparities in Transplantation

2) Eliminate the 10% to 20% poorer graft (kidney) survival rates—begin by funding further research into the role of Institutionalized Racism [I.R], HTN, Immunologic hyper-responsiveness and Immunologic heterogeneity.

The provision of research funding should be at the level of one billion dollars.

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African American Ethnicity and Kidney Transplantation

- A.A. continue to have a 42% higher risk of graft loss 5 years after kidney transplants.
- Functional kidney graft survival in A.A. is ½ of that of other ethnic groups.
- This disparity remains now 40 years after Opelz first described this.

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African American Ethnicity and Kidney Transplantation

- In general, A.A. have better outcomes with more potent immunosuppressive regimens (cytolytic Induction, Tacrolimus, Cellcept, Corticosteroids).

- Success in transplantation of A.A. likely requires an individualized approach to immunosuppression choice and dosing.

African American Ethnicity and Kidney Transplantation

- Based upon patient specific risk factors (age, comorbidities, socioeconomics).

- Donor and recipient genotyping and the presence of APOL1 and pharmacogenetics differences as seen with the different rates of metabolism of drugs(CYP3A5).

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African American Ethnicity and Kidney Transplantation

- African Americans(AA) require more anti-rejection medications than other ethnic groups for optimal immunosuppression.

- Mycophenolic acid therapy is more effective at reducing acute rejection than azathioprine in AA.

Pitch, NA., et al. Annals of Surgery 2014, 259:888-93
Neylan, J.F., et al. Transplantation, 1998, 65:515-23.
Neylan, J.F., et al. Transplantation, 1997, 64:127-82.

African American Ethnicity and Kidney Transplantation

- The incidence of acute rejection is lower in A.A. when tacrolimus and induction therapy are used than in Caucasian ethnic groups.

Disparities in Transplantation

3) *(Changing)* The Transplant Waiting times for A.A.--Eliminate transplant waiting time which is twice as long as for Whites –the application of the Euro transplant model of Danovitch, Cohen and Smits to overcome the causative barriers of I.R., HTN, Immunologic hyper responsiveness, and immunologic heterogeneity.

Disparities in Transplantation

4) The higher prevalence and incidence rate for kidney failure which in Blacks is 2-4 times more frequent than the rate for Whites------ stress reduction ("The BE Blessed Model "), exercise, proper nutrition---The application of the MOTTEP--Love Yourself, Take Care of Yourself Program in all communities.

Disparities in Transplantation

5) A.A. and other minorities are referred for dialysis and transplantation 12-18 months later than White (Caucasian) ethnic groups—Community Education and Empowerment are necessary to overcome I.R.

As a consequence of the adoption of the Eurotransplant Model of Danovitch, Cohen and Smits (10/2014), these numbers are changing for the better already.

Disparities in Transplantation

6) The "Green Screen," which keeps many minority extra renal transplant candidates and some renal transplant candidates from getting on transplant waiting lists. Eliminate the A.A. "Green Screen" for kidney and extra renal transplantation—Nationally and Regionally.

The Woman/Man in the mirror, can help us find creative ways to enable the under and uninsured patients to be transplanted.

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Disparities in Transplantation

7) *(Changed)* A.A. patients have patient survival rates (PSR) on dialysis that are superior to all other ethnic group (twice those of Whites)—Equalize Caucasian and A.A. kidney transplant rates [now 20%C-10%A.A.]. Recent UNOS data 2014 indicate that Native American and Latino/Hispanic patient survival rates exceed A.A. and White patient survival rates.

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Disparities in Transplantation

8) **Reduce the organ donor-recipient disparity [now over 90,000]—**

Increase ODR in all ethnic groups especially minorities via community education and empowerment, and hospital—family interactions. (*Unchanged except in A.A.*)

Disparities in Transplantation

- In 1982, minorities represented more than 50% of the national transplant waiting list, but represented only 15% of the donor population. Previously minorities, especially, African Americans [Blacks], were thought not likely to donate.

Organ Donors Per Million

Rising from the Bottom to the Top

Year	Blacks	Whites	Hispanics	Asians
1995	33.1	34.2	31.5	17.9
2010	35.36	27.07	25.59	14.70

Based on the above data from UNOS, Blacks rank as the number one ethnic group in reference to organ donors per million.

Note: Blacks now represent 17% of the donor population (deceased and living), while representing 13% of the total U.S. population.

CURRENT MOTTEP SITES

National MOTTEP Office

Cleveland, OH

New York, NY

Detroit, MI

Pittsburgh, PA

Chicago, IL/
NW Indiana

Nashville, TN

Washington, DC
(George Washington
University Hosp.)

Impact

- Organizations such as National MOTTEP, The Association of Multicultural Affairs in Transplantation, The Washington Regional Transplant Community and other Organ Procurement Organizations using special observances such as National Minority Donor Awareness Week, the Triple A Effect (Awareness, Action, Accountability) and Community Education and Empowerment have contributed to increased and sustained donation rates.

UNOS Data

- Based upon the data retrieved from the United Network for Organ Sharing in 2010, Blacks were ranked above Whites and other ethnic minority populations as the number one ethnic group of organ donors per million within the U.S.

Grass Roots Significance

- This indicates that when a campaign comprised of grass roots face to face presentations and interactions along with media reinforcement is applied, donation rates can be increased and sustained.

Social Media vs. Grass Roots

- Emphasis on social media with the exclusion of face to face interaction may partially explain the decrease in other ethnic groups.

Disparities in Transplantation

9) *(New)* A. The disproportionate affectation of Focal Segmental Glomerulosclerosis (FSGS) in African Americans (MYH-9 or APOL-1 Gene) Genovese(2010).

B. Microvascular Endothelial Dysfunctionof the afferent arterioles of the glomerulus, Wilcox, Wang and Melancon(2010,2013) are defective in A.A.

Disparities in Transplantation

10) Statistically, significant inferior graft survival of A.A. kidneys and other organs when transplanted into A.A. and Caucasians—increase minority research funding as previously indicated.

Disparities in Transplantation

11) *(Changing)* Eliminating the inequitable allocation problems (the national application of the Euro- Transplant Model of Danovitch, Cohen and Smits) will bring us closer than ever before.

Disparities in Transplantation

12) INSTUTIONALIZED RACISM (I.R.)

Alive, well and flourishing, the elimination of the superior/inferior race concept is paramount in order to overcome the negative health consequences of I.R. which may be at the core of all of the majority/minority health disparities. Community education and empowerment of all communities is key.

Disparities in Transplantation

13) The unique post-transplant drug responses of A.A. when compared and contrasted to Whites (e.g. Blacks on Prograf have twice the incidence rates of diabetes than Whites). Conduct further analysis and research in order to understand and correct.

Disparities in Transplantation

14) *(New)* Understand why Black kidney donors represent 13% of the kidney donors, but 44% of the donors who after kidney donation require dialysis and renal transplantation. Further research and analysis is essential.

Disparities in Transplantation

15) *(New)* Recognize and overcome: the impact of gender disparity between male/female organ donors and transplant recipients- Community education and empowerment may be one of the first STEPS.

Gender

Gender (sex differences) affect graft outcomes in kidney transplant recipients.

- Female recipients, as compared with male recipients have a 10% increased odds for acute rejection during the 1st 6 months after transplantation.

Gender

- Female recipients have a 10% lower risk of graft loss secondary to chronic allograft failure than males.

- Female recipients have a greater reduction in the risk of chronic graft failure by using mycophenolic acid [Cellcept] when compared with men.

Transplantation, Feb 2001, 71(3):429-432

Gender

Conclusions drawn by Dr. Jeremiah D. Monper, Pharm D., PAD, University, California, San Diego, La Jolla, California:

- Differences in drugs and their metabolism rates in commonly used transplant meds require the need to identify (sex) gender in dosing.

- Additional research is needed to further elucidate the mechanism for these sex differences in dosing recommendations.

Gender

- A better understanding of these gender (sex) differences will speed up the individualization of treatment for transplant outcomes.

Disparities in Transplantation

16) NON COMPLIANCE

Blacks continue to be no more non compliant with immunosuppressant therapy than any other ethnic group, (Greenstein, Siegal (1998)). Younger patients <20 and those patients with lower income were the groups found to be least likely to be compliant with immunosuppressant therapy for transplantation (Chisolm, et al., 2004, 2005) (Goldfarb-Rumyantzev (2010) Russell, et al 2013).

Ageism

17) A rationale for age-adapted immunosuppression in organ transplants.

SRTR Data – 1991 – 2011

Donors age greater than 50 increased by 200%

Donors age less than 50 decreased by 76%

Standard criteria donors now less than 50% donors

- Stefon G. Tullus, MD, PhD
- Edgar Milford, MD, PhD

AJT - 2013

Ageism

- As donors age increases over 50, the rejection rate increases.

- As the recipient age increases over 50, the rejection rate decreases.

Ageism

- As the donor age increases so does the immunogenicity of the kidney and the incidence of rejection.
- Older donor APC's exert a more vigorous allo-immune response.
- Intra-graft dendritic cells of older donors have a response rate that is aggressive and they release IL-17A which promotes rejection.
- Older Recipients release more suppressor cells and tolerogenic factors.

Slegtenhorst, B, Tullus, SG. Transplantation, 2014
Heinbakel, T, Tullus, SG. Transplant International, 2013
Bedi, D and others, Transplantation, 2015

Summary and Conclusion on Ageism

As the age of the donor increases, the immunogenicity of the organ increases along with the incidence of rejection.

As the age of the recipient increases, the likelihood of transplant tolerance increases and the likelihood of rejection decreases.

Additional References

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"BE BLESSED MODEL"

Biopsychosocial-Spiritual Sub-domains

***B* iology:** Functional status of organ systems, organs, tissues, cells, cellular inclusions and organelles

***E* nvironment:** Elements of physical and social settings that serve as contextual factors and may precipitate, behavioral, affective and physiological responses

***B* eliefs:** Ideas about the self, others, and the world that are held to be true; cognitions, reasoning and planning skills, and outlook

***L* ifestyle:** Health-enhancing and health-compromising behaviors

***E* xperiences:** Events (single, intermittent, recurring, or continuous) that may have cumulative beneficial (allostasis) or harmful effects (allostatic load)

***S* pirituality:** Concerned with quest for meaning, purpose and significance; the sacred, the transcendent and the metaphysical

***S* tress:** Behavioral, affective and physiological responses to stimulus conditions that are perceived as damaging, challenging, threatening, or demanding

***E* motions:** Positive and negative affective states

***D* esires:** Appetitive motivational state that an individual seeks to satisfy

UNOS DATA

Organ Donors Per Million

Table 5

Year	White			Black			Hispanic			Asian		
	# donors	Population	Doners PMP	# donors	Population	Doners PMP	# donors	Population	Doners PMP	# donors	Population	Doners PMP
1999	6,835	226,861	30.13	959	35,470	27.04	1,010	32,832	30.76	176	11,279	15.60
2000	6,978	224,611	31.07	932	34,862	26.73	992	31,337	31.66	194	10,820	17.93
2001	7,128	230,290	30.95	1,043	36,247	28.77	1,082	36,972	29.27	183	10,983	16.66
2002	7,070	232,647	30.39	1,129	36,746	30.72	1,138	38,222	29.77	176	11,559	15.23
2003	7,018	234,241	29.96	1,140	37,082	30.74	1,215	39,373	30.86	201	11,933	16.84
2004	7,165	236,064	30.35	1,195	37,496	31.87	1,306	40,754	32.05	230	12,321	18.67
2005	7,177	237,855	30.17	1,300	37,909	34.29	1,416	42,082	33.65	200	12,687	15.76
2006	7,354	239,746	30.67	1,392	38,343	36.30	1,482	43,693	33.92	221	13,159	16.79
2007	7,126	241,167	29.55	1,294	38,756	33.39	1,493	44,853	33.29	216	13,366	16.16
2008	6,970	242,639	28.73	1,308	39,059	33.49	1,422	46,228	30.76	241	13,549	17.79
2009	6,689	244,298	27.38	1,316	39,641	33.20	1,385	47,655	29.06	235	14,014	16.77
2010	6,558	242,295	27.07	1,427	40,358	35.36	1,300	50,810	25.59	224	15,239	14.70

Questions?

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Join us for next month's webinar!

Emergency preparedness and kidney disease – using KCER (Kidney Community Emergency Response) as a resource.

Peter Traub

- Associate Director of KCER

Beverly Whittet, RN, CDN, CPHQ

- Patient Services Director for ESRD Network 7 and KCER Coordinator

Tuesday, September 20, 2016

1:00 – 2:00 p.m. (Eastern Time)

Join us to learn about:

- The Kidney Community Emergency Response (KCER) Coalition's online platform.
- Ways to plan ahead to ensure dialysis services are available in emergency situations.
- The tools and resources available to patients with kidney failure and dialysis facilities relating to emergency preparedness.

Go to www.KidneyFund.org/webinars to learn more and register!