



THE UNIVERSITY OF
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MEDICINE

New Approaches to Evaluate And Optimize Older Patients for Transplant (Allogeneic)

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Center for Care and Discovery

Outline

- The influence of Age on MDS and Transplant Use
- Using Physiologic Age to Inform and Optimize Older Transplant Patients: The Chicago Experience

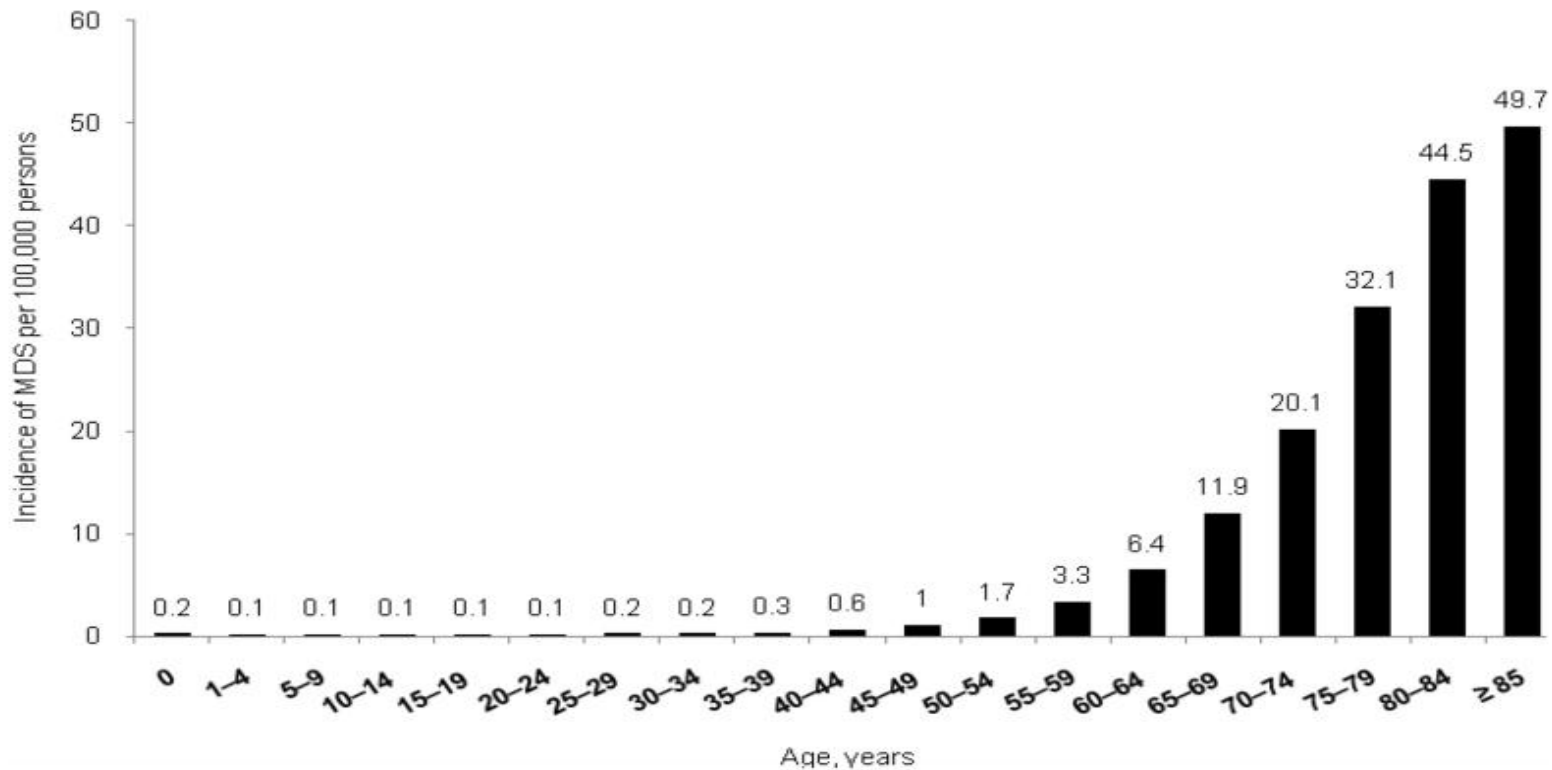
Survey: What Age Does A Person Become Old?

Age of respondents	Age of becoming old
18-29	60
30-49	69
50-64	72
65-plus	74

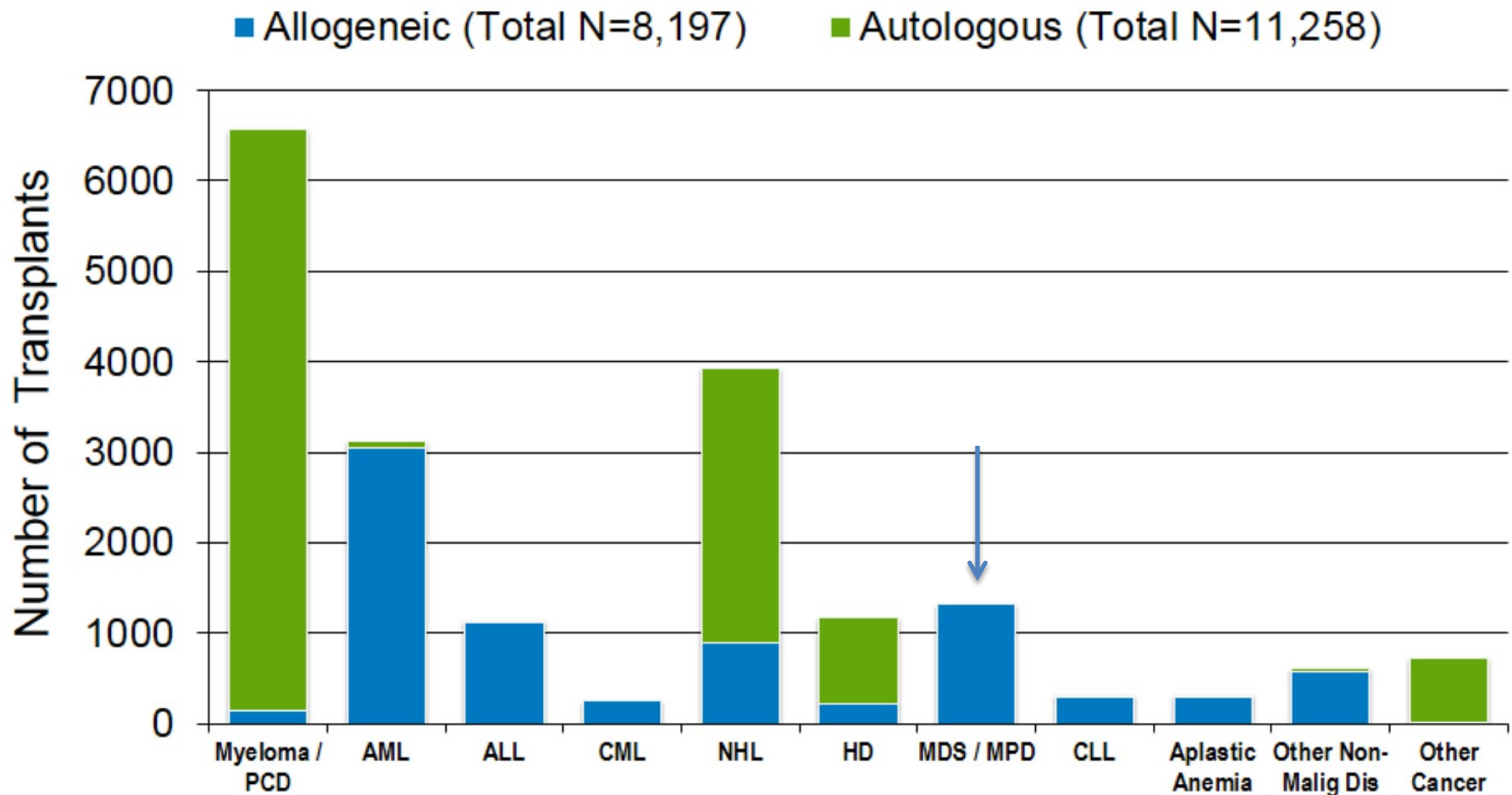
Source: Pew Research Center telephone survey of 2,969 adults, 2009; margin of error: +/- 2.6 percentage points

The Wall Street Journal

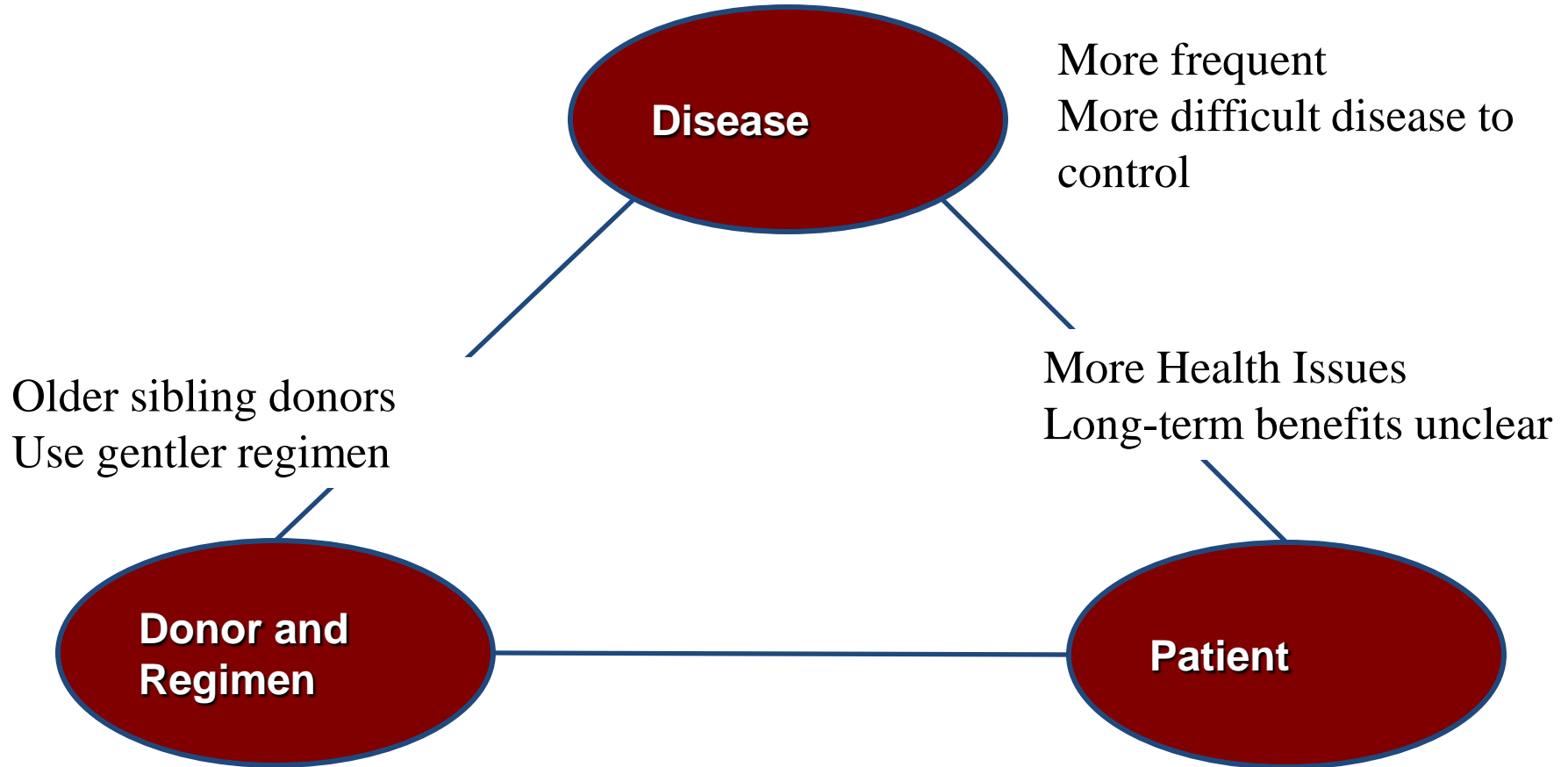
Incidence of MDS per age group



Indications for Hematopoietic Stem Cell Transplants in the US, 2013

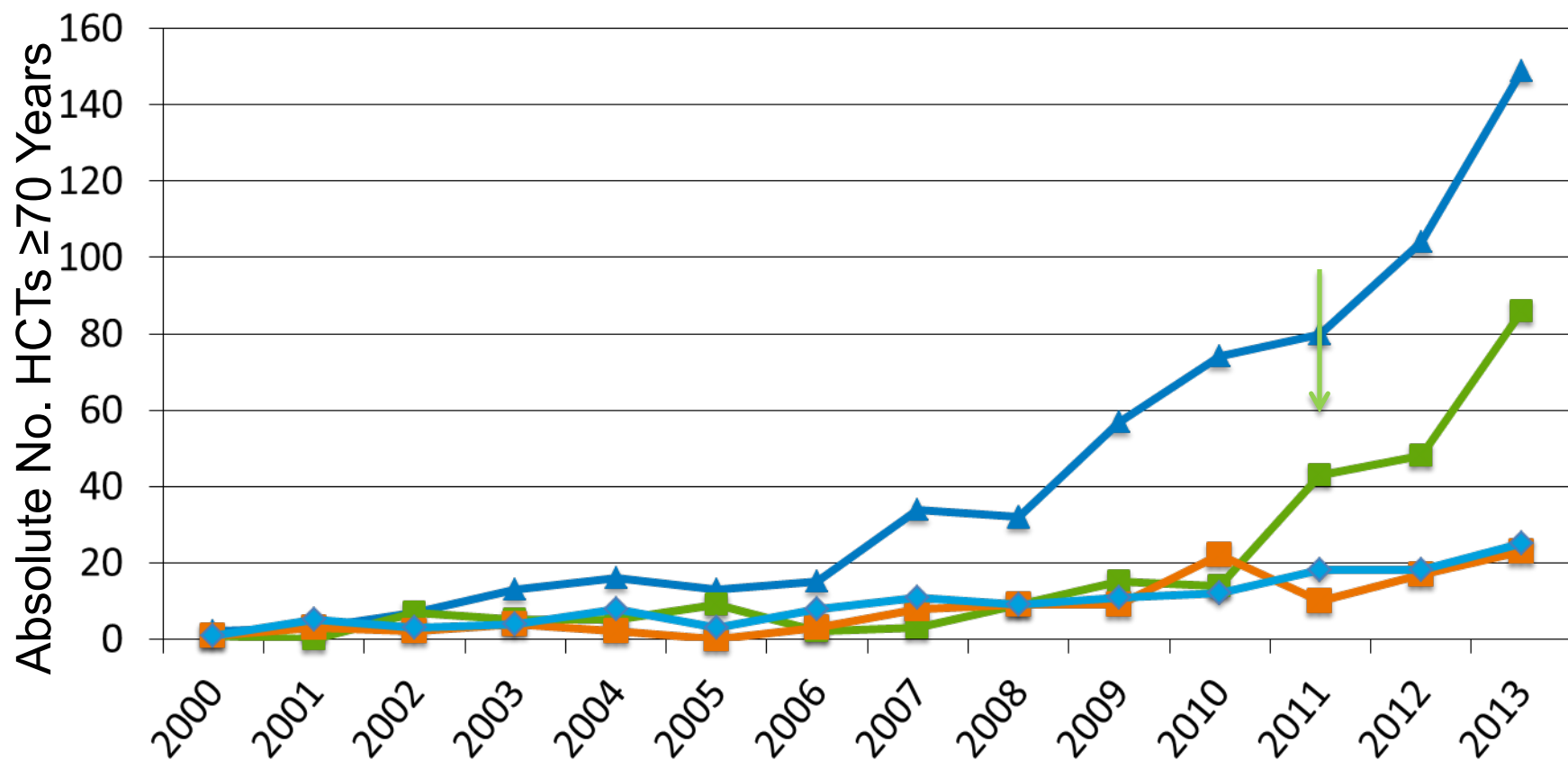


The Transplant Triad: Influence of Older Age



Allogeneic Transplant Trends for Age 70 and Greater by Disease

AML MDS/MPS Non-Hodgkin lymphoma Others



Calendar Age versus Physiologic Age



Stock photo Dr. Artz found on internet



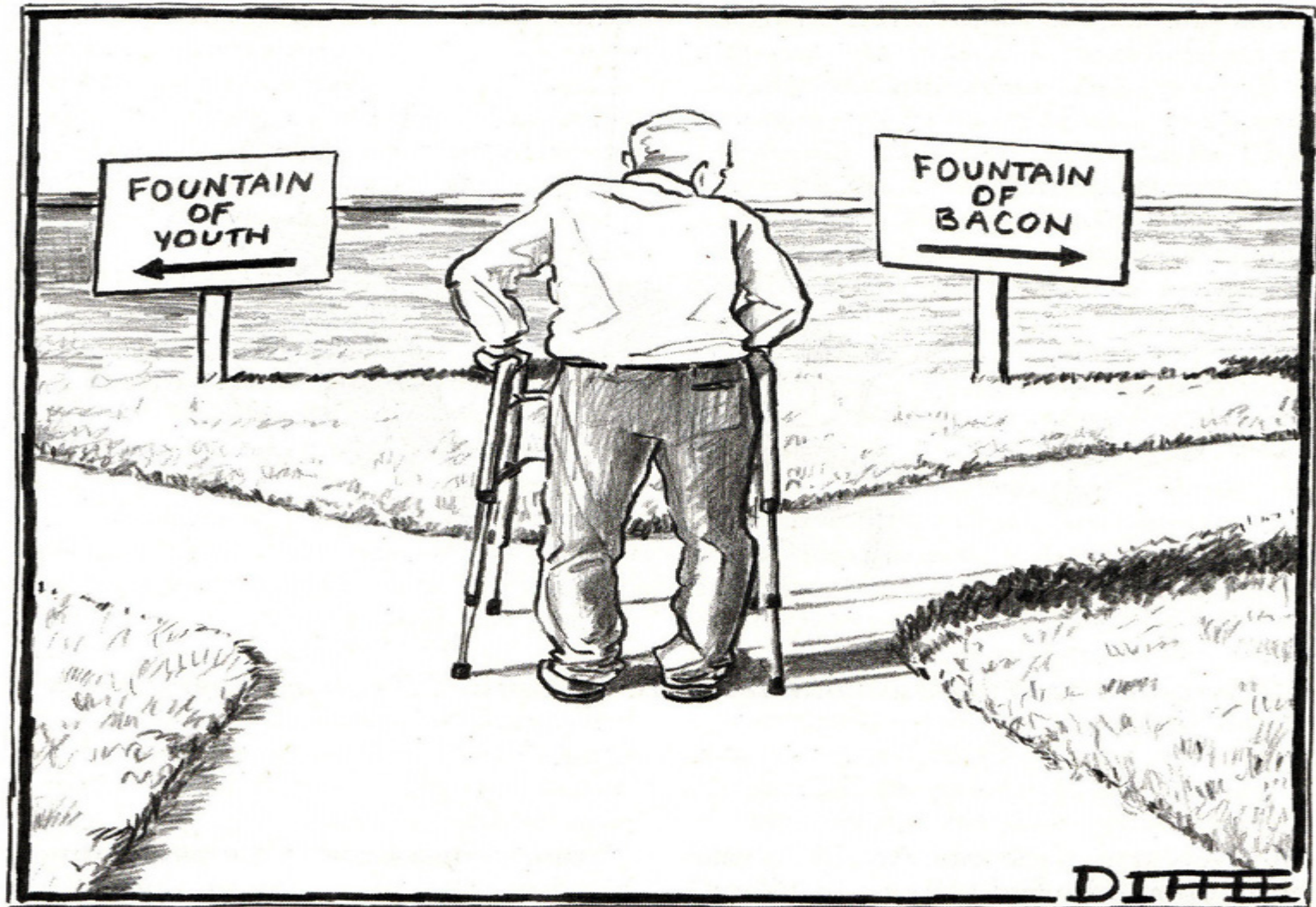
Chau Smith- 7 marathons, 7 days, 7 continents age = 70

Staging the Age: “Geriatric Assessment”

Domain	Measured
Comorbidity	Medical History and testing (e.g,
Polypharmacy	Lawton Instrumental Activities of Daily Living (independence in these tasks)
	Ability to use the telephone
Physical	Shopping
	Food preparation
Psychosocial	Mode of Transportation
	Manages medications
Cognitive	Manages finances
	Housekeeping
Social Support	Patient survey
Nutrition	Patient survey



Candidacy: To transplant or not to transplant



Standard Transplant “Exclusions”

Factor	Auto Transplant (Stamina 0702)	Allo Transplant (BMT CTN 0502)
Age	>70	>74
Heart	X	X
Liver Function	X	X
Kidney	X	X
Lungs	X	X
Other cancer	<5 years	N/A
MD rated Function	X	X

High Prevalence of Vulnerabilities by Geriatric Assessment prior to Transplant: Pts 50+

GA Toolbox

Frailty: Fried Frailty Index

PCS: SF 36 Physical component score

MCS: SF-36 Mental component score

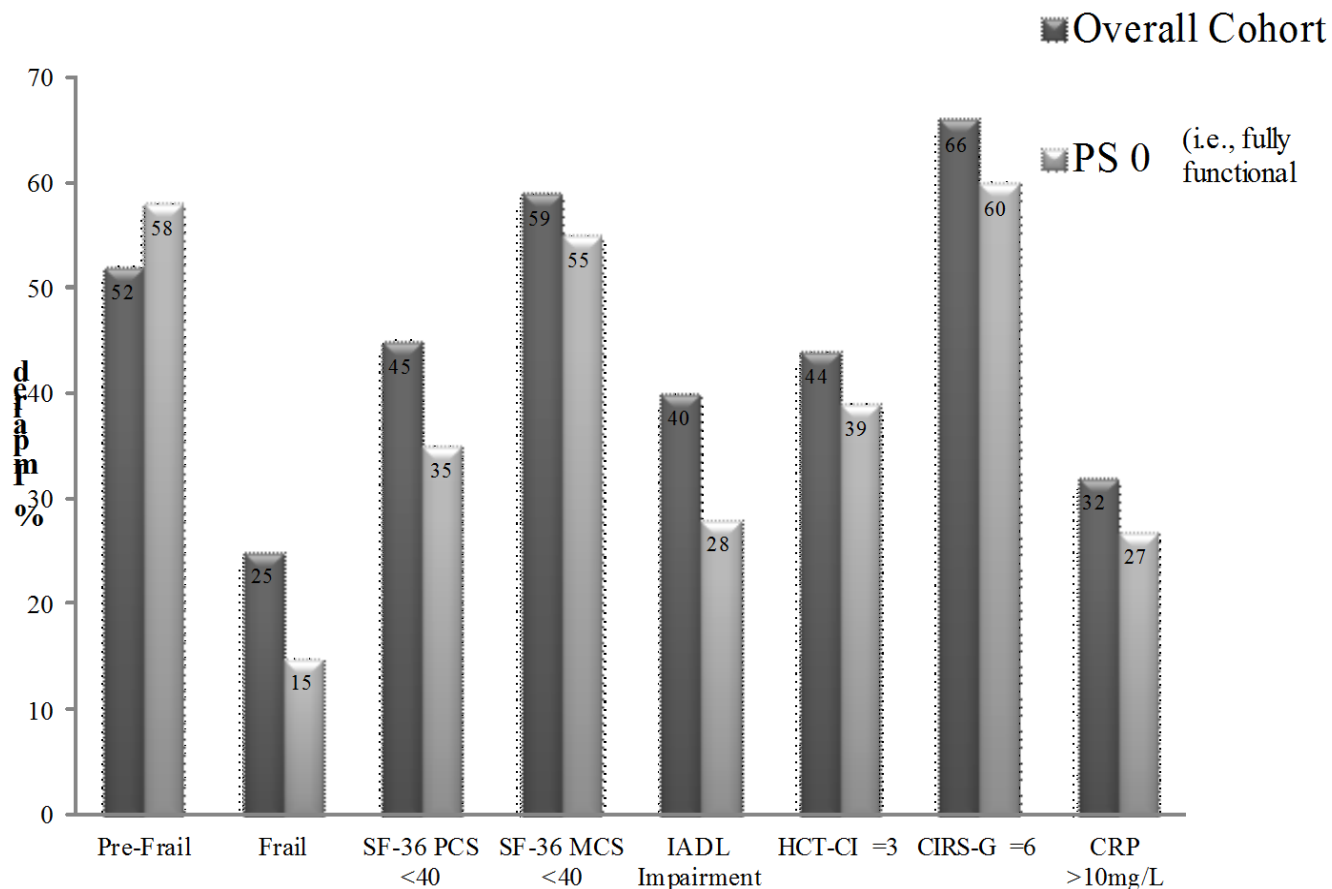
IADL: Instrumental activities of daily living

HCT-CI: Hematopoietic cell transplantation-comorbidity index

CIRS: Cumulative Illness rating scale-Geriatrics

CRP-C-reactive protein

CGA Impairments By PS



Muffy L, Biol Blood marrow Transplant, 2013 19(3):429-434
Also see Holmes H.M. , J Geriatr Oncol: 2014 5(4):422-430

Transplant Success: Listen to thy patient

- Very Important
 - Function by questions, high measure of inflammation or low albumin
- Intermediate
 - Other conditions (comorbidity), disease control, slow walk speed



Proposed Transplant Eligibility For Patients 60+

Factor	Auto High/ Exclude or trial	Allo High/ Exclude or trial
Age	70+/ >79	>60/ >79
Disease	Not controlled	Not controlled
KPS (%)	60-70/ <60	70-80/ <70
Comorbid	severe or HCT-CI 5+/ none	HCT-CI 3-4/ 5+ or Severe
Cognitive Impair	Mild/ Moderate	Mild/ Moderate
Function	IADL limitation, Frail function, falls / combination	IADL limitation, Frail function, falls / combination

HCT-CI: hematopoietic cell transplantation comorbidity index, KPS-Karnofsky performance score, IADL: Instrumental activity of daily living

Optimization: A case study

- 41 year old female with MDS (IPSS intermediate 2)
- potential perfect matched unrelated donor
- MD function-OK (KPS-80%), Diabetes, depression
- Other symptoms: forgetful at times, knee and hip pain,
- Social: Widowed, children in area

Eligibility to Resilience: Transplant Optimization Program (TOP) for older adults



TOP: GA to Inform and Optimizing Transplant

Domain	Comments	Vulnerability (V) or Asset (A)	Plan
Comorbidity	Diabetes, Depression, arthritis, kidney function mild impaired	V	endocrine on admit Change arthritis medication
Functional	Good strength, limited endurance	+/-	Pre-habilitation with PT
Cognition	Normal	A	Detailed education in writing
Emotional Health	Coping, anxiety	V	Engage family, psych referral
Social support	Initially poor, later strong	A	Family meeting Caregivers in room
Nutrition	No weight loss, partial dentures	A	Educate on supplements
Polypharmacy	3 Rx medication One supplement	A	Safety of other medications, stop supplement

Conclusions

- Calendar age important but physiologic age essential to guide decision to pursue transplant in older patients
- Multi-disciplinary team approach tailored to physiologic age holds promise to expand transplant and transplant success for older adults



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University of Chicago Transplant Team

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MDs-Transplant, Leukemia,
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Fellows, residents and interns:

Transplant Optimization Program

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