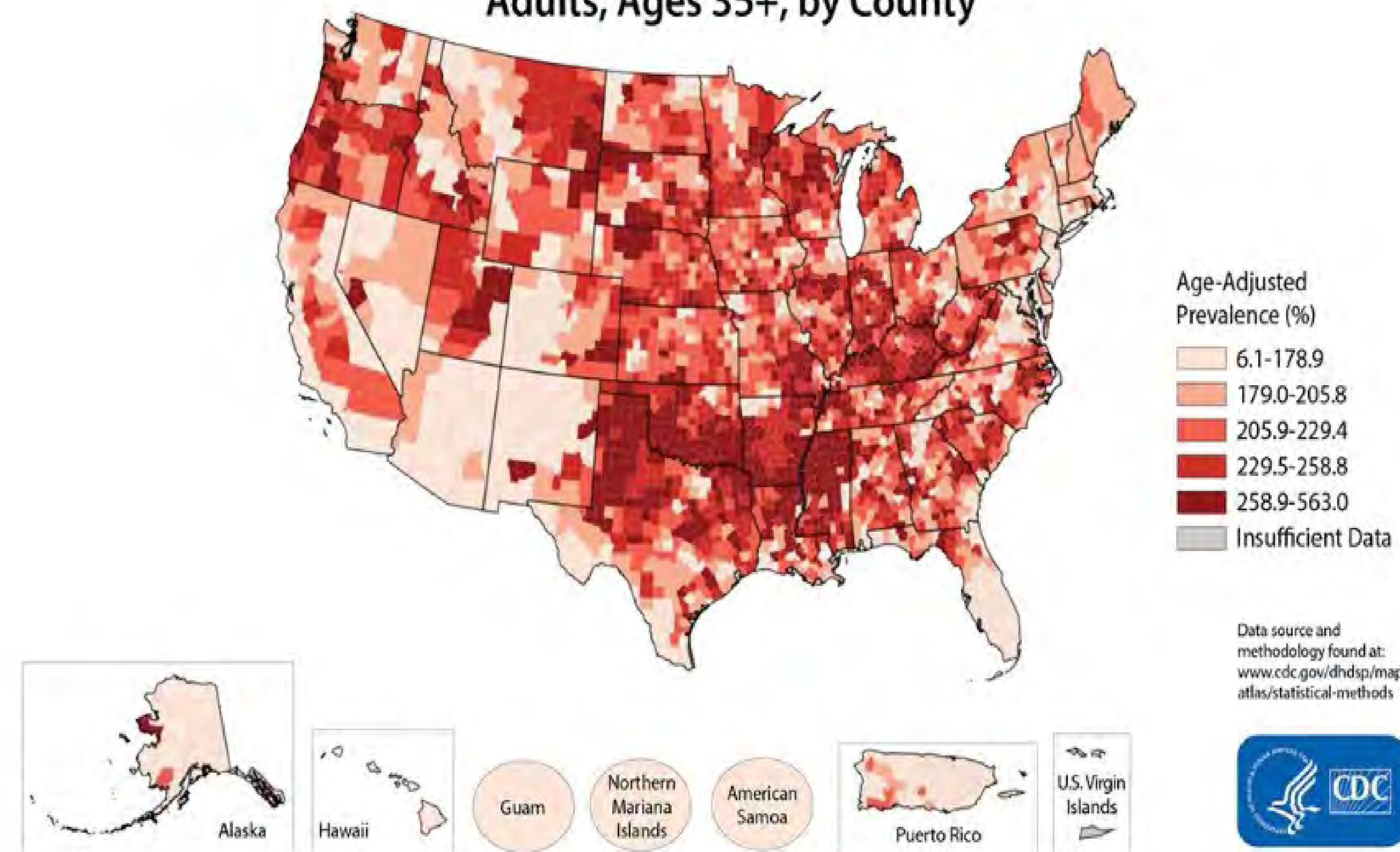


Population

The National Health and Nutrition Examination Survey 2017 to 2020 data revealed that 6.7 million Americans ≥20 years of age had heart failure (HF). A 5% is estimated to have end stage HF (stage D) and death is more common in some areas of the United States than in others.

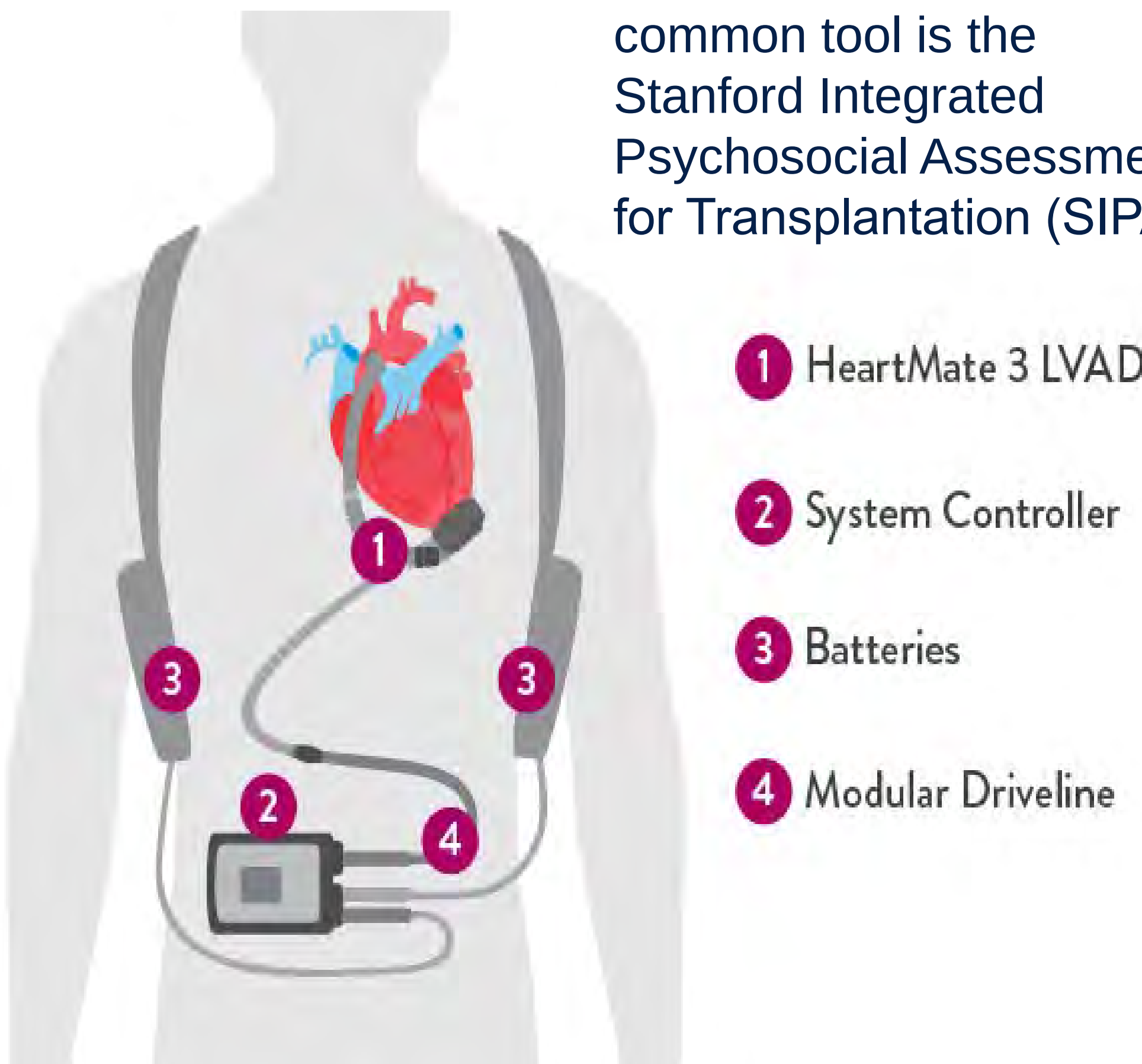
Heart Failure Death Rates, 2018-2020
Adults, Ages 35+, by County



- Left ventricular assist device (LVAD) is established therapy for stage D HF.
- The latest generation of LVAD is a fully magnetically levitated centrifugal flow pump implanted in the apex of the left ventricle and anastomosed to the ascending aorta.
- In determining which patients with stage D HF may benefit from LVAD, assessments are performed across the surgical, medical and psychosocial spheres. For this last one, the most common tool is the Stanford Integrated Psychosocial Assessment for Transplantation (SIPAT)

Lessons learned

- The SIPAT includes four primary domains—readiness, social support, psychopathology, and lifestyle—each consisting of multiple items that contribute to a total score ranging from 0 to 115, with higher scores indicating greater psychosocial risk.
- Prior studies found that higher pre-LVAD implant SIPAT scores were associated with increased adverse events such as death, device exchange, major bleeding and readmissions.
- However, evidence on the modifiability of the SIPAT overall, domain and component scores after LVAD implantation remains uncertain at this time.



Learning Objectives

- To evaluate how many patients on LVAD support have a re-assessment of psychological profile using SIPAT and analyze factors associated with re- evaluation.
- To examine possible changes detected by SIPAT that may occur post-LVAD implant during support and quantify directionality of the changes in each of the components of the SIPAT score

Methods and Deliverables

- Either parametric or machine-learning longitudinal data analysis will be used for post-LVAD SIPAT scores, accounting among other factors.
- Factors related to score improvements or deterioration will be analyzed if there is a sufficient number of patients in the final cohorts.
- The new dataset with SIPAT variables will serve for other future analyses the latest generation of LVAD.
- An infographic related to dynamic risk factors will also be available for medical professionals and patients.

Public Health Implications

- These findings will offer patients and health professionals insights into modifiable psychosocial factors in order to drive resources to improve access for those with psychosocial limitations.
- Results will also inform whether LVAD therapy can serve as a platform for mitigating psychosocial risk in and support the development of targeted post-implant psychosocial interventions.

SIPAT Domains	SIPAT Items	Score
A. Patient's Readiness Level (0-24)	I. Knowledge & Understanding of Medical Illness Process	0-4
	II. Knowledge & Understanding of the Process of LVAD	0-4
	III. Willingness/Desire for Treatment (LVAD)	0-4
	IV. Treatment Compliance/Adherence (Pertinent to medical issues)	0-8
	V. Lifestyle Factors (including diet, exercise, fluid restrictions; and habits according to organ)	0-4
B. Social Support System (0-20)	VI. Availability of Social Support System	0-8
	VII. Functionality of Social Support System	0-8
	VIII. Appropriateness of Physical Living Space & Environment	0-4
C. Psychological Stability & Psychopathology (0-37)	IX. Presence of Psychopathology	0-8
	IXa. Assessment of Depression	0-3
	IXb. Assessment of Anxiety	0-3
	X. History of Organic Psychopathology or Neurocognitive Impairment	0-5
	Xa. Assessment of Cognitive Functioning	0-2
	XI. Influence of Personality Traits vs. Disorder	0-4
	XII. Effect of Truthfulness vs. Deceptive Behavior in Presentation	0-8
	XIII. Overall Risk for Psychopathology	0-4
	XIV. Alcohol Use/Abuse/Dependence	0-8
D. Lifestyle & Effect of Substance Use (0-29)	XV. Alcohol Use/Abuse/Dependence – Risk for Recidivism	0-4
	XVI. Substance Use/Abuse/Dependence – Including Prescribed & Illicit Substances	0-8
	XVII. Substance Use/Abuse/Dependence – Including Prescribed & Illicit Substances – Risk for Recidivism	0-4
	XVIII. Nicotine Use/Abuse/Dependence	0-5