Improving Healthcare for the Typical Patient in a Rural-Serving Cardiology Practice: A Review of the ECU Cardiac Psychology Service

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BACKGROUND

- The Cardiac Psychology Service embedded in the cardiology clinic at the East Carolina Heart Institute (ECHI) has facilitated the co-training of psychologists and cardiologists. Integration of these disciplines has increased access to psychological care for many rural patients impacted by a spectrum of cardiovascular diseases and has further cultivated a patient-centered approach to care that has received national recognition [1-2] .

PROJECT AIMS

- Conduct a quality assurance review of the patient population seen in and services provided by the ECHI Cardiac Psychology team from 2021-2022
- Identify characteristics (demographic, medical) of populations served
- Establish standard treatment practices
- Identify gaps in patient care and areas for improvement to better meet patient needs

PROJECT DESIGN & STRATEGY

- This project was approved by ECU IRB.
- A medical record review of all patients seen for initial intake by the ECHI Cardiac Psychology Service (2021-2022) was conducted.
- Demographic and treatment variables, cardiac diagnosis, patient and provider treatment goals, and presence and severity of cardiac-specific psychological factors were collected, coded, and descriptives analyzed.
- In total, 86 charts were reviewed. Only patients seen for an intake appointment during the study timeframe were included, 13 participants did not meet this criteria; 67 were included in the final analyses.

RESULTS

Patient Demographics:

Most patients were **married (65.7%)**, insured by **Medicare/Medicaid insurance (52.3%)**, and had **at least a high school education (78.1%)**. See Table 1 for additional demographics.

Referral Source & Reason for Referral:

The most common reasons for referral included **cardiac-specific anxiety** (51.5%), followed by **ICD shock-specific anxiety** (40.9%), **depressive symptoms** (19.7%), **general worry/anxiety** (13.6%), **PTSD symptoms** (6.1%), difficulty with **disease adjustment** (6.1%), and **disease management** concerns (3.0%). Overlapping referral concerns were common. Approximately half of referrals came from ECU providers.

Cardiovascular History:

The majority of patients demonstrated cardiac concerns with **non-ischemic etiology** (56.7%). Across the sample, as much as 44.6% had documented history of **AF**, and 6% exhibited history of **stroke**. The majority had an **ICD or pacemaker** (58.2%), and of those individuals, 48.3% had documented device-detected **shock history**. 40% had a recent **EF** of 40% or less, indicative of left ventricular dysfunction.

Treatment Variables:

Following initial intake, the most common diagnosis given was **psychological factors affecting other medical condition** (49.3%) followed by **depression** (20.9%), **PTSD** (11.9%), an **anxiety disorder** (10.4%), and **adjustment disorder** (7.5%). A diagnosis was either not given or deferred for 10.4% of the sample. The most common recommendations given across patients seen in the clinic included initiation of **health behavior change** (98.5%), follow up with **psychotherapy** with the Cardiac Psychology team (89.6%), and **care coordination** with other patient providers (39.7%).

Table 1. Patient demographics

Demographics	
	Patients Referred
Age *M* (Range)	57.79 (22 to 83)
Gender n (%)	
Female	22 (32.4%)
Male	46 (67.6%)
Race n (%)	
African American/Black	20 (29.4%)
White	48 (70.6%)
Ethnicity	
Hispanic or Latino/a	65 (95.6)
Non-Hispanic or Latino/a	3 (4.4%)
Education n (%)	
Less than high school	7 (21.9%)
High school education	8 (25%)
Some college	9 (28.1%)
Completed college	5 (15.6%)
Graduate or Professional Degree	3 (9.4%)
Insurance Source n (%)	
Medicare/Medicaid	34 (52.3%)
None	1 (1.5%)
Other	2 (3.1%)
Private	28 (43.1%)

Figure 1. Referral Card

INDICATIONS FOR REFERRAL

Affect
- Depressed mood
(ask: Do you feel down in the dumps, depressed, or hopeless?)
- Anhedonia
(ask: Have you recently felt little interest or pleasure in doing things you typically would enjoy?)
- Suicidality
(ask: Have you had any thoughts about hurting or killing yourself? Do you have a plan for how you would do this?)
- Excessive or uncontrollable worry
- Panic Attacks

Behavior
- Avoidance of exertion
- Excessive ETOH use
- Cigarette smoking
- Illegal drug use
- Limited social support
- Sleep difficulties
- Marital distress
- Medical non-compliance
- High utilizer of medical services
- Difficult patient

Cognitive
- Fear of exertion
- Memory impairment
- Pessimism

RISK FACTORS FOR POOR ADJUSTMENT TO THE ICD

- Young age (under 50)
- High number of shocks
- Avoidance of exertion
- Female
- Pre-existing psychological difficulties
- Limited social support
- Poor knowledge of ICD/Heart condition

LESSONS LEARNED

- Results gives insight into common referral needs by cardiology providers and their patients
- Patients with CVD often experience mood concerns related to cardiac disease prevention, adjustment, management, and coping
- The most common mental health diagnosis post-intake was *Psychological Factors Affecting Another Medical Condition (CVD)*, which reflects unhelpful coping styles, denial of symptoms, poor adherence to medical treatment, and/or maladaptive health behaviors
- Many patients sought services due to ICD-related concerns highlighting the importance of regularly assessing device-related fears.
- Cardiology providers both internal and external to ECU refer patients to our service
- Cardiac psychologists provided holistic services as evidenced by their integrative treatment recommendations.

NEXT STEPS

- Patient health literacy levels should be documented as a major component of the Cardiac Psychology service is providing patients with psychoeducation about their disease and its course. Understanding what the patient knows about their condition is critical for health behavior change and management.
- Further efforts should be made to coordinate patient care across disciplines, as communication between providers is essential for comprehensive medical care.
- A standardized referral form could ease physician burden and streamline referral.

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More about Dr. Sears

Cardiac Psychology Service in the news

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