Implementing A Novel Electronic Medical Record (EMR) for Street Medicine in Denver

Sonaali Pandiri, MS4[1]; Scott Harpin, PhD, MPH, RN[2]; Lina Tat, MS3[1]; Rebecca Mullins, MD[1]; Kathryn Boyd-Trull, MD[1]

University of Colorado School of Medicine[1], University of Colorado College of Nursing[2]

Introduction

What is "street medicine"?
- Started in 1990s by Dr. Jim Withers and others
- "House calls" to the street and most vulnerable
- Now part of medical programs nationally and globally

Why should we care?
- Average lifespan of unhoused population up to **30 years** less than housed population[1]
- Low access to brick-and-mortar health systems

Challenges in Street Medicine[2,3]:
- Patient continuity and mobility
- Lack of standardized documentation
- Electronic vs. paper medical records

Who we are

CU Street Medicine is a student-run group that:
- Enhances education around healthcare for people experiencing homelessness
- Brings social and medical outreach services to people experiencing homelessness in the Denver Metro Area
- Clinic services include:
  - Routine screenings (i.e. blood pressure, blood glucose)
  - Prescription and referral services
  - Dedicated time with licensed provider
  - Harm reduction, wound care, cold weather supplies

Research Purpose

Our current limitations:
- Cumbersome and error-prone paper records
- Limited space on intake forms
- Poor referral and follow-up data

This project will:
- Streamline accurate data collection
- Allow for follow-up on patient data
- Identify needs of patients to improve outreach
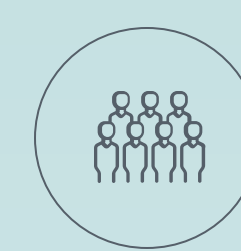
Methodology: Project Stages

1. Development
Transition paper medical record to online format

Build EMR in HIPAA-compliant database

Finalize EMR with key stakeholders

2. Implementation
Implement and troubleshoot EMR at outreaches

Train clinic staff in utilizing EMR

Adapt EMR to fit clinic flow and patient needs

3. Data Analysis
Analyze key informant data from volunteers

Quantitative review of medical issues addressed

Assessment of supplies given by region

Initial Pilot Testing

Pilot testing highlighted points of improvement in our EMR system:
- Database in REDCap vs. Google Administrator Spreadsheet
- Data collection methods
- Access to HIPAA-compliant database by volunteers

Transitioning from paper to electronic medical records:

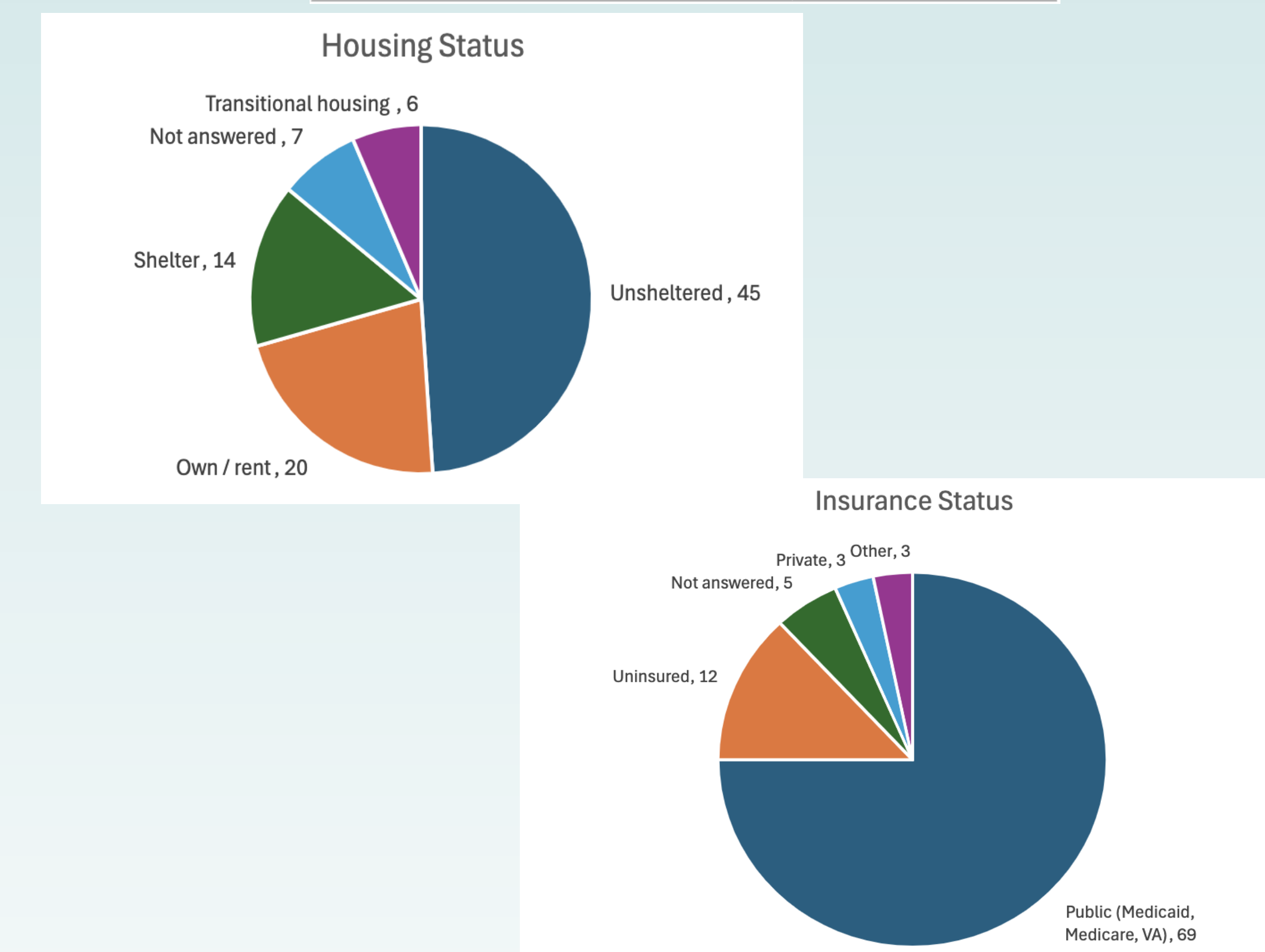**Blue section** = Triage team
Pink section = Vitals team
Orange section = Provider / scribe

Novel elements of the EMR:
- Spreadsheet capabilities for analysis of patient needs / resource utilization
- Format easily adaptable to organizational growth
- More space for details of medical history and encounter

Preliminary Results

Chief Concern	Number of Patients
Vitals / routine check up	35
Wound care	21
Over-the-counter medications / supplies	17
Acute concerns	12
Prescription refills	5
Other	2

Total Patients	92
Referrals made	20
Prescriptions written	19

Housing Status
- Transitional housing, 6
- Not answered, 7
- Shelter, 14
- Own / rent, 20
- Unsheltered, 45

Insurance Status
- Private, 3
- Other, 3
- Not answered, 5
- Uninsured, 12
- Public (Medicaid, Medicare, VA), 69

Conclusions

Street medicine is a needed service in Denver. This EMR shows that primarily for unsheltered individuals, street medicine meets needs for primary care, wound care, and over-the-counter supplies. Our outreach should continue prioritizing these needs, and this EMR will help refine programming as we gather more patient data.

References

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2. Harry Laurence Selby Coleman, Liam Levy-Philipp, Elias Balt, Teun Zuiderent-Jerak, Harsh Mander, Joske Bunders & Elena Syurina (2022) Addressing health needs of the homeless in Delhi: Standardising on the issues of Street Medicine practice, Global Public Health, 17:11, 2991-3004.
3. Tito E. Street Medicine: Barrier Considerations for Healthcare Providers in the U.S. Cureus. 2023 May 9;15(5):e38761. doi: 10.7759/cureus.38761. PMID: 37303393; PMCID:PMC10250111.
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