



Using Health Information Exchange Data to Develop Community Interventions

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Integrated Care Collaboration
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Outline

- Introduction to ICC
- Data Analytics Methodology
- Emergency Department Frequent Users
- Community Action
- Discussion



Integrated Care Collaboration (ICC)

- Consortium of safety net providers in Central Texas Region
- To improve access to healthcare for un/underinsured
- 24 members: hospitals, clinics, academic institutions, mental health authority, public health departments, EMS, jail health, call centers
- Hybrid model of a health information exchange (HIE) with a database

ICC Functions

- Point-of-care sharing of patient-data using HIE network
- Quality improvement and evaluation using data repository
- Strategic planning and research using the HIE database
- Community-coordinated provider efforts using the collaboration

I-Care Database

- MPI/CDR (Master Patient Index/Clinical Data Repository)
 - Accessed through an internet software application
- Data collected via electronic interfaces
 - Only for uninsured or those on assistance programs
 - Demographics, encounters, PHI disclosure authorizations, medications, labs



I-Care Snapshot

- Over 70 locations send data: 16 hospitals, 50 clinics, Mental Health Authority, Physician Networks
- Nearly 800,000 unique patients (un/underinsured)
- About 5 million encounters (2002-present)
- More than 750,000 prescriptions

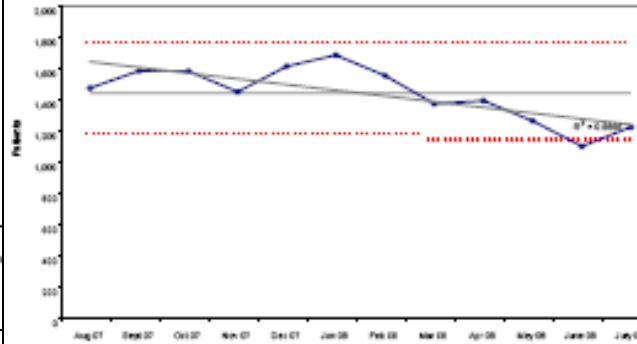


Dashboard

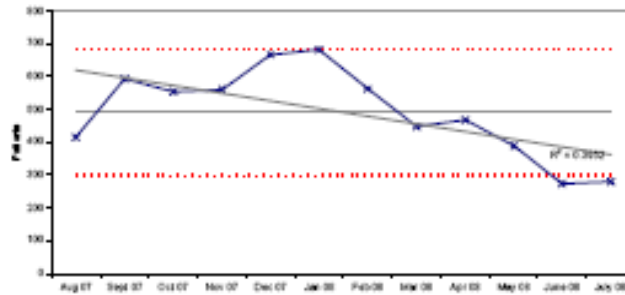
ICC DASHBOARD REPORT

ICC October Dashboard Report – Aug07-Jul08

Patients with All Preventable Chronic ED visits
(Asthma, COPD, Chronic Bronchitis, Diabetes, Hypertension, CHF)



All ED Patients with Asthma Diagnoses

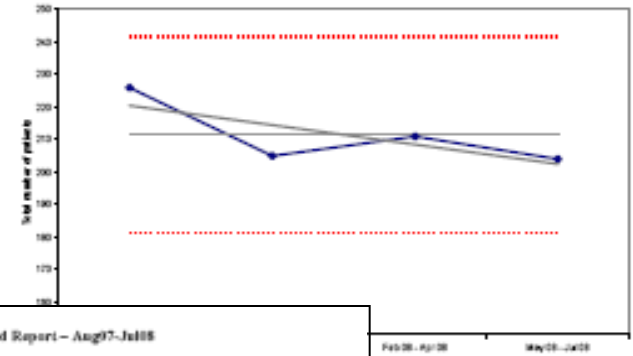


ED- Chronic Disease & Asthma

Integrated Care

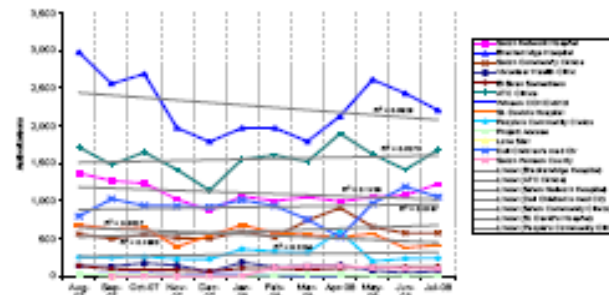
ICC October Dashboard Report – Aug07-Jul08

ED Frequent Flyers at all ICC Member Hospital facilities

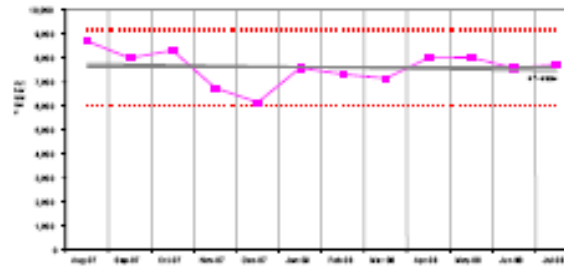


ICC October Dashboard Report – Aug07-Jul08

Signed Authorizations Received by Member by Month



Total Signed Authorizations Received



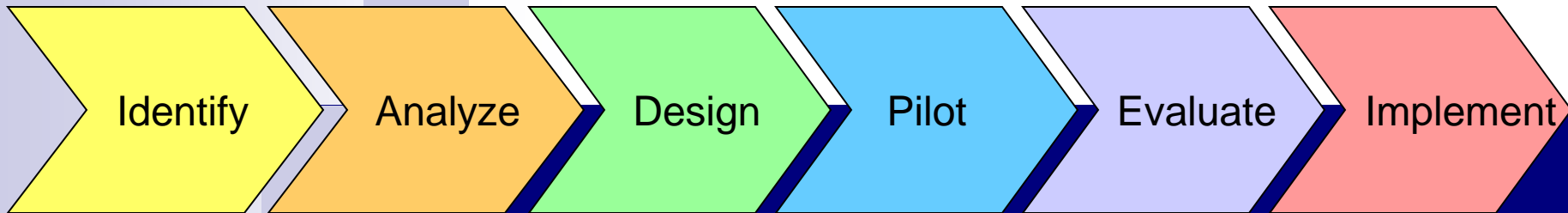
Authorizations

Feb 08 - Apr 08 May 08 - Jul 08

more ED visits within a 3 month time

ED Frequent Flyers

Methodology



Identify actionable items through:

- Data analysis
- Dashboard
- Patients
- Case studies
- Expert views

Use ICare data to understand impactable points in system:

- Detailed Data Analysis
- Hypothesis Testing
- Predictive Modeling
- Shared Results
- Community Standards

Design focused intervention to impact outcomes identified and analyzed using data:

- Use Research Design Criteria to assess impact
- Develop Business Plan

Pilot intervention to test translating evidence into practice:

- Collect and link relevant data to I-Care

Thorough evaluation of process and outcomes:

- Estimate ROI for proposed interventions

Based on evaluation:

- Finalize Community Standard
- Implement sustainable intervention shared across ICC members
- Continuous monitoring and improvements

Emergency Department (ED) Frequent Users (FU)

■ Problem Statement

- ED services are overburdened*
- Some patients use the ED services more frequently than others**

* *American College of Emergency Physicians, 2009*

** *Shumway 2008, Huang 2008, Byrne 2003*

Emergency Department (ED) Frequent Users (FU)

■ Project Scope

- To identify and stratify frequent users of ED services and design interventions to improve care

Emergency Department (ED) Frequent Users (FU)

Questions

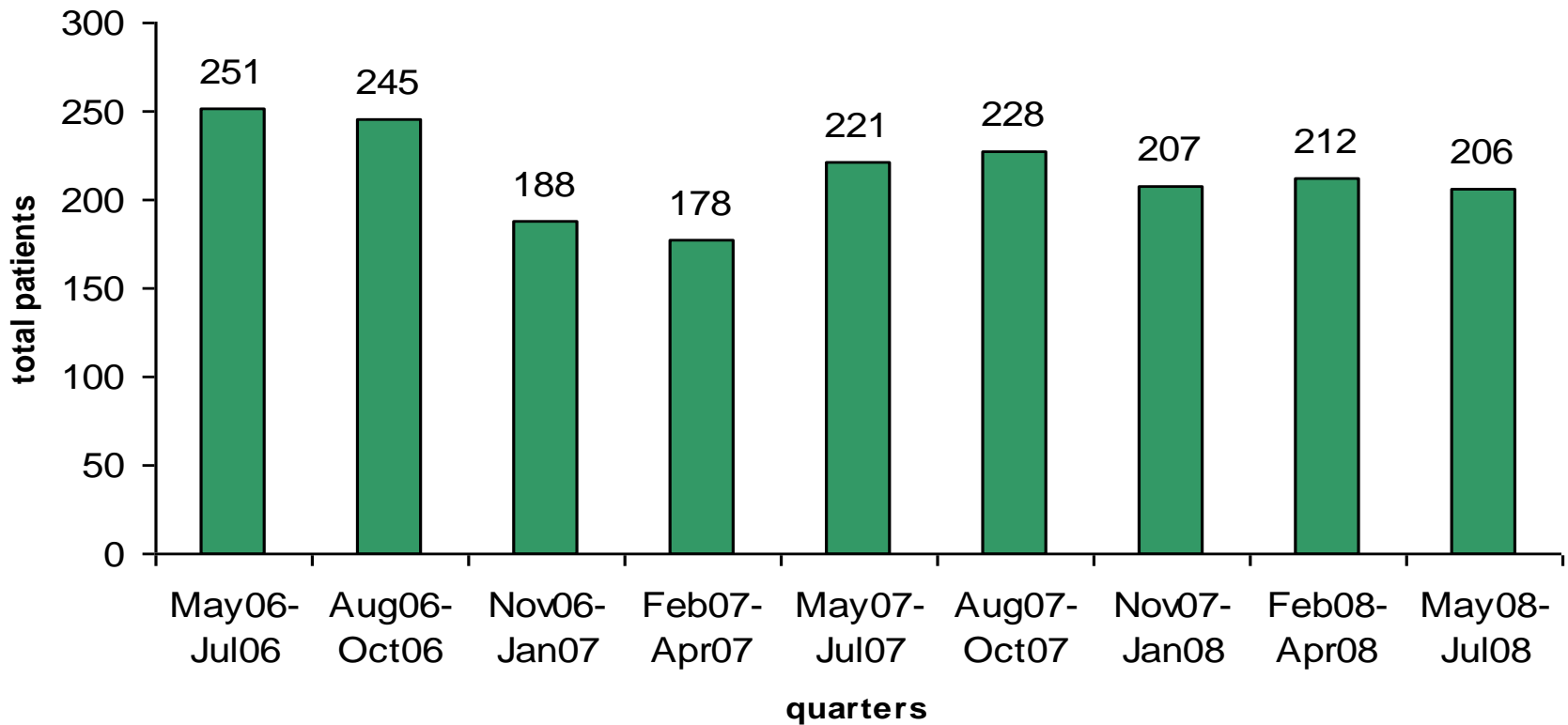
- Who are the ED Frequent Users?
- Is this a homogenous group?
- What are the differences within ED FUs that may inform actions?

Emergency Department (ED) Frequent Users (FU)

■ Methodology

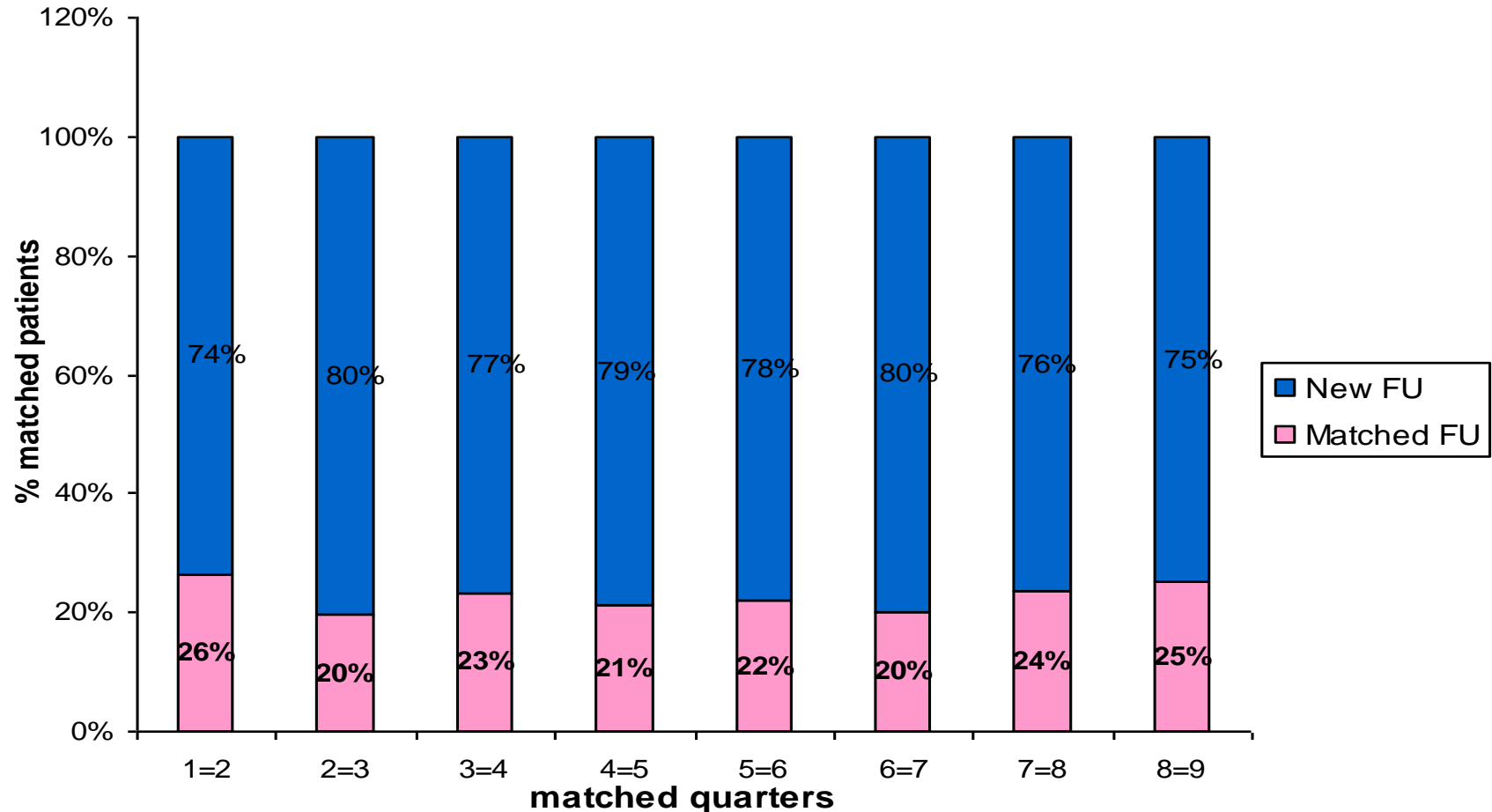
- Secondary data analysis
- Define frequent user of ED based on utilization: ≥ 6 ED visits in a quarter
- Identify patients in I-Care database using above definition
- Time period: May 2006 – July 2008

ED Frequent Users*, 2006-08



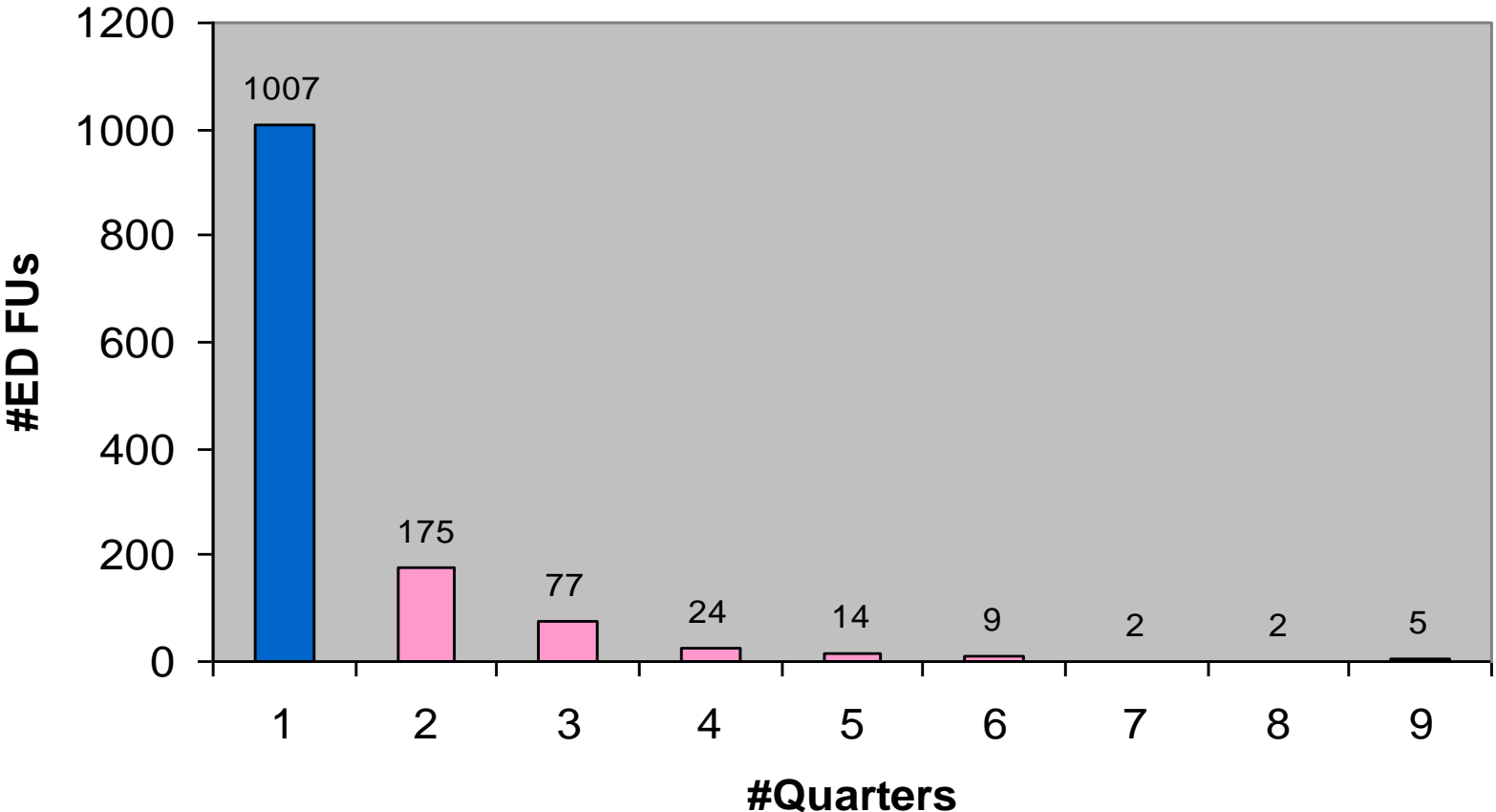
*ED Frequent Users defined as patients with ≥ 6 ED visits in a quarter (3months)

ED Frequent Users (FUs) Matched in Consecutive Quarters, 2006-08



**ED Frequent Users defined as patients with ≥ 6 ED visits in a quarter (3months)*

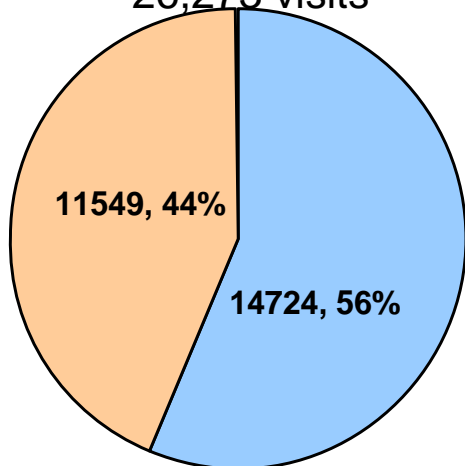
ED FUs in Quarters, 2006-08



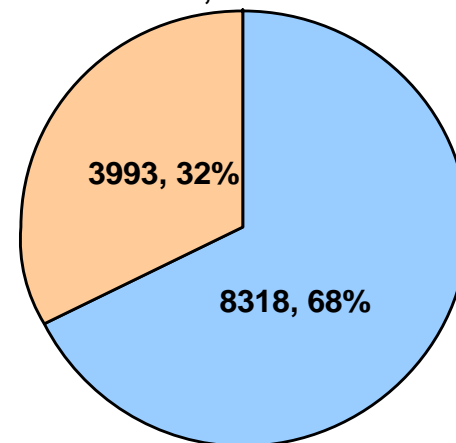
Total ED FUs, 2006-08=1315

Utilization by ED FUs, 2006-2008

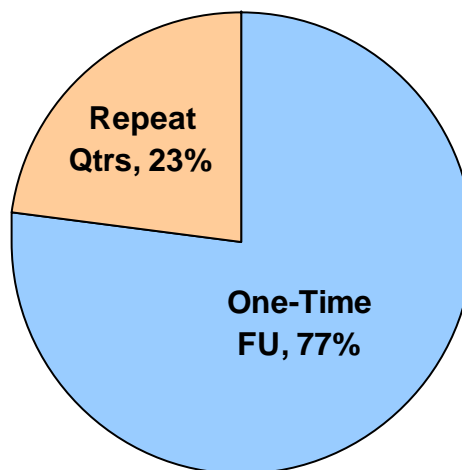
ED 06-08
26,273 visits



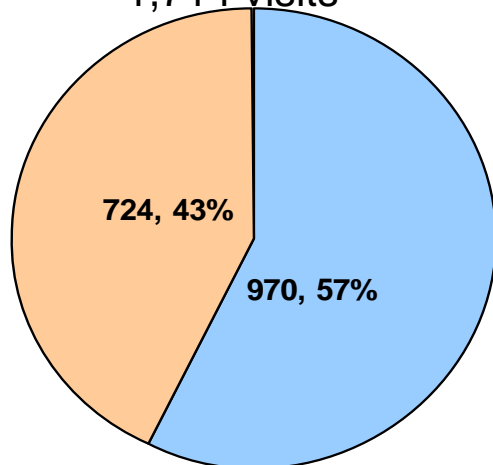
CV 06-08
12,311 visits



ED FUs
N=1315



IP 06-08
1,714 visits



Demographic Comparisons

		Repeat ED Freq Users (N=308)	One-time ED Freq Users (N=1007)	All ED Users, 2007 (N=127,617)
Gender	Male	50%	43%	48%
	Female	50%	57%	52%
Age	<18 years old	1%	9%	39%
	18-45 y/o	58%	64%	50%
	45-65 y/o	42%	28%	12%
Race/Ethnicity	Caucasian	57%	53%	34%
	Afr American	20%	19%	15%
	Hispanic	9%	14%	30%
	Others/Unkno wn	14%	13%	20%



Stratifying Frequent Users for Intervention

- No Medical Home
- Identified Homeless
- Behavioral Health Diagnoses
- Chronic Disease Diagnoses (Diabetes)
- Disabled Status

Community Action

- ICare data used to identify frequent users of ED services and develop care plans for individual patients
- Plan to share these care plans across the community through the HIE
- Use database to evaluate the effectiveness of these interventions

Discussion

- Community HIE can improve the capacity of local healthcare system to identify and stratify frequent users of ED
- Data analytics can help in development of focused strategies to improve care for un/underinsured patients through coordinated care plans in the community