

# EMERGENCY DEPARTMENT CARE COORDINATION IMPACT ON HEALTH CARE UTILIZATION

APRIL 19, 2013

6-MONTH POST-ED VISIT

MILWAUKEE HEALTH CARE  
PARTNERSHIP

**Emergency Department (ED) Care Coordination** is a priority initiative of the Milwaukee Health Care Partnership. Objectives include: (1) Decrease avoidable ED visits and related hospitalizations; (2) Reduce duplicative ED tests and procedures; and (3) Connect targeted Medicaid and uninsured individuals with medical homes.

**Status:** 7,088 appointments scheduled in 2012 with 47% show rate. Payer mix: 79% uninsured, 12% Medicaid.

## EDCC Strategies

- Standard Case Management processes in EDs (patient education, scheduling appointments) and FQHCs (outreach and engagement)
- Wisconsin Health Information Exchange (WHIE) to support clinical decision-making and care coordination
- Appointment scheduling to medical homes while patient is in the ED, using MyHealthDIRECT (MHD)

## **Evaluation Question: What is the short-term impact of the EDCC Initiative on the emergency department and other healthcare utilization of patients?**

**Indicators: (1)** Is there a change in ED, inpatient, and/or outpatient utilization the **six months** after an ED visit when an **appointment is scheduled** using the ED Care Coordination Initiative compared to the **six months** preceding that ED visit? **(2)** Is there a change for **patients with kept appointments**?

\*For more detailed methods, please see Page 2.

## Evaluation Findings

- For patients who **Kept Their Scheduled Appointment**, there was a **44% reduction in the number of ED visits, comparing the six months pre-appointment to the six months post-appointment.**
  - 72% have fewer Post-Appointment ED visits than Pre-Appointment ED visits.
  - 90% of patients have more Post-Appointment outpatient encounters than Pre-Appointment.
  - 80% of patients have no change in number of inpatient encounters.
  - Using the Poisson model, ED and outpatient pre-post differences were statistically significant.
- For all patients with **Scheduled Appointments**, there was a **30% reduction in the number of ED visits, comparing the six months pre-appointment to the six months post-appointment.**
  - 67% of patients have fewer Post-Appointment ED visits than Pre-Appointment ED visits.
  - 35% of patients have more Post-Appointment outpatient encounters than Pre-Appointment.
  - 84% of patients have no change in number of inpatient encounters.
  - Using the Poisson model, ED and outpatient pre-post differences were statistically significant.
- Twelve month pre/post appointment analyses showed similar trends for both scheduled and kept appointments, however, with this smaller dataset, the difference in pre- and post-ED visits was not statistically significant.

**Table 1. Description of encounters per patient, pre- and post-scheduled appointment.**

	Pre-Appointment Encounters Mean (Range)		Post-Appointment Encounters Mean (Range)	
	Appointment Scheduled	Appointment Kept	Appointment Scheduled	Appointment Kept
ED Visits	2.39 (1-23)	2.25 (1-17)	1.67 (0-30)	1.26 (0-10)
Inpatient	0.17 (0-9)	0.17 (0-3)	0.16 (0-7)	0.22 (0-7)
Outpatient	0.58 (0-28)	0.76 (0-28)	1.47 (0-33)	3.49 (1-33)

## Implications

- The six-month EDCC follow-up analysis results are consistent with analyses conducted in 2012. The larger population size (2012 N=162, 2013 N=726) confirms the initial interpretation of results.
- Results continue to be an indicator of success of the ED to Medical Home process, as suggested by the reduced number of ED visits and the increased number of outpatient visits for patients involved in the process.
- WHIE-MyHealthDIRECT allowed evaluation of county-wide interventions across health care organizations.
- Opportunity for analysis by patient stream: Frequent users, payer, or diagnosis.
- Lack of significant finding in the 12-month pre/post comparison may be due to small number of patients who have accumulated 12 months post-appointment record. Results may also suggest additional strategies needed to prolong the reduction in ED utilization over time.
- **Cost avoidance estimate**, based on 30% reduction in ED visits for those with scheduled appointments, is **\$2.3 million over six months** for the 2012 ED to Medical Home population. This assumes an estimated cost per ED visit of \$580, based on average charge for 2011 Medicaid ED visit in Milwaukee County of \$1,455; average Medicaid cost to charge ratio of 40%. (Source: WHA 2011 Fiscal Survey)

## Methods

- **Data Source:** Integration of WHIE and MHD in September 2011 made available patient encounter data and appointments scheduled and kept using the ED Care Coordination Process. Due to rolling implementation of the WHIE-MHD Interface, data primarily reflects referrals from a single hospital to one community health center.
- **Dataset:** Includes index ED appointments from Sept 7, 2011-Sept 24, 2012 (+/- 6 month history)

**Table 2. Description of the sample.**

<b>Total Encounters</b>	<b>4,870</b>
Emergency	61%
Outpatient	31%
Inpatient	5%
<b>Total Patients (N)</b>	<b>726</b>
Male (%)	55%
African American (%)	59%
Aged 30-59 years	49%
Patients with Kept Appointments (N)	144
Payer (Index Visit)	
Self-Pay	45%
Medicaid	20%

*The evaluation was conducted by the Center for Urban Population Health. Data were provided by the Wisconsin Health Information Exchange (WHIE).*