



# ***Enhanced Health Benefits Impact on Medication Utilization Among Low-Income, Uninsured Working Adults with Behavioral Health Conditions***

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# Texas in Context



## Uninsured Adults, Age 19 – 64, 2008\*

<b>Texas</b>	US
<b>4.5 million</b>	37.6 million
<b>31%</b>	20%

\* Source: Kaiser Family Foundation, [Statehealthfacts.org](http://Statehealthfacts.org). Latest year available.

- ▶ 28% of **working** Texans are uninsured (highest rate in nation)
- ▶ County hospital districts care for those without insurance
- ▶ 250,000 working age Texans with disabilities receive SSI and 380,000 receive SSDI
- ▶ Medicaid expenses for working age Texans = \$3.5 billion

# Overall Texas Working Well Study Design



- ▶ Does a coordinated set of health and employment supports help adult workers with significant health issues remain working and independent?
- ▶ Harris County Hospital District in Houston, TX
- ▶ 1,616 participants: 904 intervention and 712 control
- ▶ Interventions
  - ▶ Fully subsidized health and behavioral healthcare, prescriptions
  - ▶ Vision and dental care benefits
  - ▶ Self-care oriented case management by vocational counselors, social workers and nurses
    - ▶ Planning, advocacy and coordination
    - ▶ Navigation of health system
    - ▶ Connection to community resources
    - ▶ Employment/vocational supports
    - ▶ Psycho-social support

# *Study Eligibility*



- ▶ Currently working 40+ hrs/month or average 40+ hours per month over past 3 or 6 months
- ▶ 21 - 60 years of age
- ▶ Enrolled in Harris County healthcare program covering un-insured and under-insured
- ▶ Not receiving Medicaid
- ▶ Not currently certified eligible for Social Security benefits
- ▶ Medical records diagnosis of SMI or another behavioral health diagnosis plus one of 13 physical disorder with high potential for disability

# *Who is Working Well?*



- ▶ Female (76%), minority (72%), middle-aged (70% > 45 yrs)
- ▶ Divorced / separated (42%)
- ▶ Less than high school diploma (30%) or high school diploma (31%)
- ▶ Income < 100% of poverty (48%), income < 200% of poverty (87%)
- ▶ Worked on average 33 hours per week over past year
- ▶ Under 25% had access to employer-sponsored insurance
- ▶ 41% reported at least one limitation in daily activities
- ▶ 11% had diagnosis of severe mental illness
- ▶ Self-reported health conditions include high blood pressure (57%), depression (51%), anxiety disorder (32%), diabetes (29% )

# Participant Data



- ▶ 1,082 participants who were prescribed at least one of 15 medications used to treat chronic conditions (out of 1,616 total)
- ▶ Data sources:
  - ▶ Survey data from baseline survey at enrollment
    - ▶ Demographics (e.g., age, sex, race/ethnicity, occupation)
  - ▶ Medical encounter data: Health Risk score
  - ▶ Pharmacy prescriptions filled data from HCHD administrative systems:
    - ▶ 12 months prior to study enrollment
    - ▶ 13-18 months post study enrollment

# Analysis



- ▶ Group comparisons of participants' medication receipt, adherence and persistence outcomes from 13-18 months post enrollment in study
- ▶ Group differences were adjusted for:
  - Age
  - Sex
  - Serious Mental Illness vs. other
  - Occupation (Sales/Service, Health Support Workers, Other)
  - Overall health status (ACG score)
  - Recruitment cohort (mail/telephone vs. in person)
- ▶ Logistic regression models were used to test for group differences in receipt of medication
- ▶ Ancova models were used to test of group differences in adherence 13-18 months post-enrollment
- ▶ Cox proportional hazard models were used to test for group differences in persistence

# *Medication Outcome Definitions*



- ▶ Adherence: patient conformity to the recommendations about day-to-day treatment by the provider with respect to the timing, dosage, and frequency.
  - ▶ Measured by proportion of days covered
- ▶ Persistence: continuing the medication for the prescribed duration-“the duration of time from initiation to discontinuation of therapy.”
  - ▶ Measured by number of days till first 35 day break in supply of medication

# Key Study Questions



- ▶ For medications used to treat chronic diseases, does receiving the DMIE intervention predict better medication utilization at 18-months post-enrollment for participants?
  - ▶ The intervention group will show higher receipt of medication (more unique participants receiving medications)
  - ▶ Compared with the control group on medication utilization from 13-18 months post-enrollment, the intervention group should show higher:
    - ▶ adherence
    - ▶ persistence

# Medications



Medications Used for all analyses	Medication used for receipt of medication only
<ul style="list-style-type: none"><li>• Angiotensin converting enzyme (ACE) I inhibitors (<i>hypertension</i>)</li><li>• Antidepressants (<i>depression</i>)</li><li>• Beta adrenergic agonists (<i>asthma</i>)</li><li>• Beta blocking agent (<i>hypertension</i>)</li><li>• Biguanides (<i>diabetes</i>)</li><li>• HMG-CoA reductase inhibitors (<i>cholesterol</i>)</li><li>• Insulins (<i>diabetes</i>)</li><li>• Proton Pump Inhibitors (PPIs) (<i>gastro-intestinal</i>)</li><li>• Sulfonylureas (<i>diabetes</i>)</li><li>• Thiazide Diuretics (<i>hypertension</i>)</li></ul>	<ul style="list-style-type: none"><li>• Anxiolytics (anxiety)</li><li>• Dihydropyridine (hypertension)</li><li>• Opiate Agonists (pain)</li><li>• Non-steroidal anti-inflammatories (Pain)</li><li>• Second Generation Antihistamines (allergies)</li></ul>

# *Receipt of medication results (5 of 15)*



<b>Medications</b>	<b>Sample Size</b>	<b>Intervention</b>	<b>Control</b>	<b>Difference</b>
<b>ACE inhibitors</b> (for hypertension)	1082	39%	33%	6%
<b>Biguanides</b> (for diabetes)	1082	19%	13%	6%
<b>Non-steroidal anti-inflammatory</b> (for pain)	1082	37%	27%	10%
<b>Second Generation Antihistamines</b> (for allergies)	1082	26%	18%	8%
<b>HMG-CoA reductase inhibitors</b> (for high cholesterol)	1082	31%	25%	6%

## *Group comparison summary*



- ▶ Differences found across hypertension, diabetes, and cholesterol
- ▶ Differences also found for more expensive pain and allergy medication which can also be purchased OTC

# Medication Adherence (6 of 10)



Medications	Sample Size*	Intervention	Control	Difference
<b>ACE inhibitors</b> (for hypertension)	416	78%	71%	7%
<b>Antidepressants</b>	438	69%	64%	5%
<b>Beta adrenergic agonists</b> (for respiratory conditions)	194	58%	47%	11%
<b>Beta blocking agent</b> (for hypertension)	267	78%	72%	6%
<b>HMG-CoA reductase inhibitors</b> (for high cholesterol)	321	74%	67%	7%
<b>Sulfonylureas</b> (for diabetes)	198	77%	66%	11%

\* Sample size for medication utilization was based only on those participants who had at least one prescription for that specific drug

## *Group comparison summary*



- ▶ Greater adherence found across hypertension, diabetes, respiratory, depression and cholesterol
- ▶ Some sub-group analyses findings suggest intervention can help reduce health disparities
- ▶ Given that 80% adherence is goal for most medications taken for chronic conditions, barriers still remained to address for some patients.

# Medication Persistence (1 of 10)



Medications	Sample Size*	Intervention	Control	Difference
Beta blocking agent (for hypertension)	267	95%	89%	6%

\* Sample size for medication utilization was based only on those participants who had at least one prescription for that specific drug

## *Group comparison summary*



- ▶ Greater persistence for beta-blocking agents only
- ▶ Some sub-group analyses findings suggest intervention can help reduce health disparities
- ▶ Surprising finding for diabetes test strips.

## *Additional findings*



- ▶ Intervention help reduced health disparities related to race/ethnicity with African-Americans (compared to Whites) were more like to receive cholesterol-reduction medication and were more adherent to beta-blockers
- ▶ Intervention also helped participants in particular occupations with health support workers more likely to receive insulin medication while sales/service workers were more likely adherent to anti-depressants.
- ▶ Higher health risk scores were related to higher rates of medication breaks for angiotensin enzymes, thiazide diuretics and sulfonylureas.



*Mary*



### Challenges:

- Depression
  - Adrenal adenoma
  - Bipolar Disorder
  - Chronic back pain
- ▶ Mary has multiple psychosocial stressors due to being the sole caretaker of her disabled son. Because of money troubles, she was not taking her medications regularly nor going to the doctor. She had applied for disability due to not being able to use her hands any more as a cook and due to depression, but was denied.
- ▶ **Services:** With the assistance of her DMIE Case Manager, she received vocational counseling, psychiatric counseling, health information and support, job training, dental and vision services, and free medications and doctor visits.
- ▶ **Outcomes:** Mary now takes her medications as prescribed and follows all doctor's orders. She has regained her self-esteem and is now working 30 hours per week as a clerk. She is studying for her GED and hopes to continue her education to get an associate's degree.
- ▶ *"My Case Manager was able to encourage me to see a better perspective on life. I was able to acquire a job with the assistance of my Case Manager."*



## ***Overall Clinical Implications***

- ▶ Coordinated health benefits, including outpatient case management, can help individuals with behavioral health conditions increase medication utilization which can lead to better outcomes for their chronic conditions.
- ▶ Health providers should consider providing increased support for medication utilization for low-income patients with behavioral health conditions to better address treatment of chronic conditions.
- ▶ Health care reform will add many working adults who fit DMIE participant profile and may need assistance to fully utilize benefits.



## *Questions?*

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