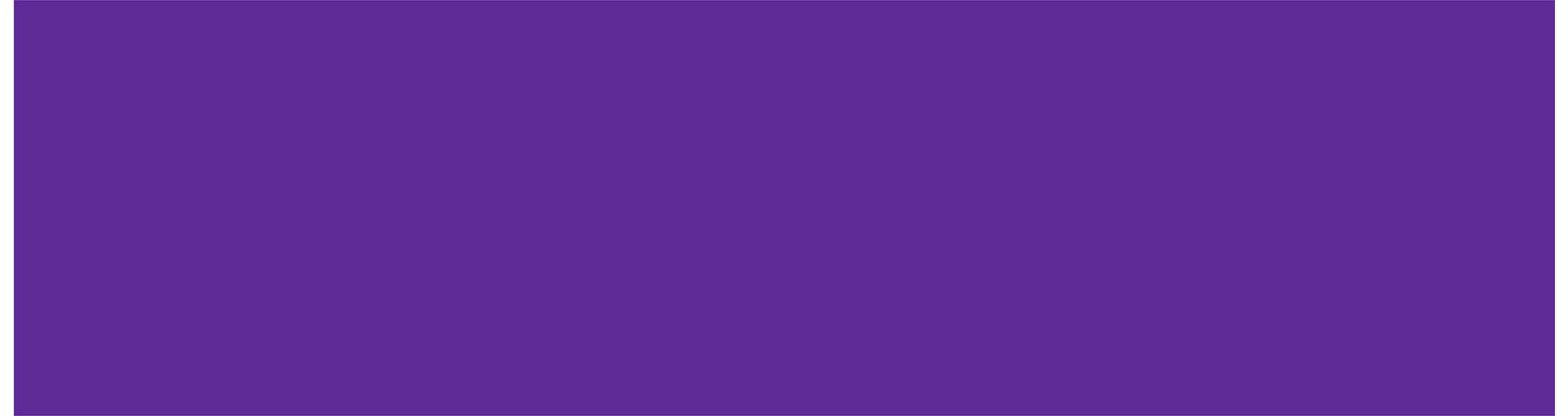


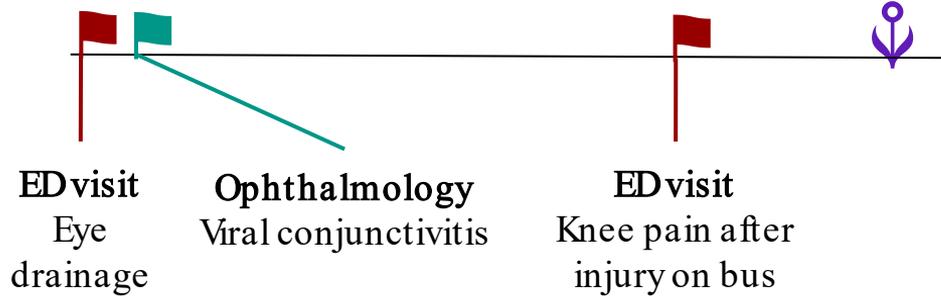
The Impact of an In-Shelter Clinic on Healthcare Utilization among the Homeless

Steven Neal

UVA Community Outreach Clinic



Mr. K



- 50y M, history of syphilis treated in 20s, no other medical conditions
- Staying at local shelter
- No primary care visits in year before first visit to Community Outreach Clinic at the Haven



Image: Derrick, InvisiblePeople.org
Not our patient

Homelessness in Charlottesville



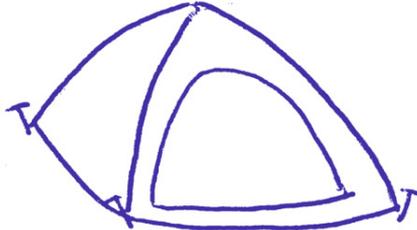
Emergency Shelter

135

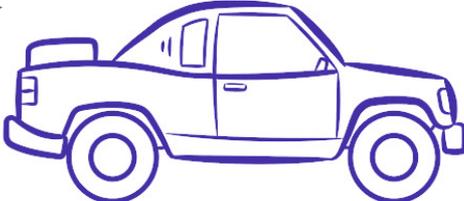
163

Individuals homeless
in Cville in Jan 2021

28



Rough Sleeping



Sleeping in Vehicle



The Haven
Day shelter

Overnight
Shelters:



Homeless Healthcare in Charlottesville

Pre-existing health access points in Cville:

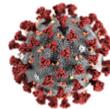


SENTARA®



regionten



| May 2019 March 2020 | July 2020 | July 2021 |
|---|---|--|
|  <p>Clinic Founded</p> <ul style="list-style-type: none"> UVA Community Outreach Clinic at the Haven opens in cafeteria of day shelter downtown, the Haven |   <p>Virtual Clinic x 2</p> <ul style="list-style-type: none"> Virtual clinic at the Haven begins Virtual clinic at new site, La Quinta Inn, begins  <p>COVID-19 arrived to Cville</p> <ul style="list-style-type: none"> Clinic at the Haven closes La Quinta temporary non-congregate shelter opens |   <p>Site Change</p> <ul style="list-style-type: none"> La Quinta Inn guests relocate to new city-funded shelter @ Red Carpet Inn, “Premier Circle” La Quinta clinic relocates to Premier Circle Clinics fully return to in-person |

Homeless Healthcare in Charlottesville, 2022



S E N T A R A®



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UVA Community Outreach Clinic at the Haven

Health Navigation Nights

Barrier reduction @ shelter sites

Inpatient Homelessness Consult Service

Discharge planning & resource connection @ hospital

Street Outreach

Delivery supplies, connect to clinic @ streets, Rt 29

Street Sheet

Community resource brochure

Vaccines & Tests

With Health Dept @ shelter sites

Study Objective :

To assess the impact of our clinic on the healthcare utilization patterns in Charlottesville's homeless population

Hypotheses:

Following their initial visit with our clinic, patients will:

- Have reduced ED visits



- Engage more frequently in ambulatory care



The effect of their clinic visit on utilization patterns depends on prior utilization



Methods

Retrospective Cohort study

Pre-pandemic cohort of UVA Community Clinic at the Haven patients

Chart Review

- 5 data extractors
- Identify & Categorize encounters 1 year before - 1 year following index clinic visit
- Included all visits @ UVA and in Care Everywhere



Results: Baseline Characteristics

SEX

Female 26% | Male 74%

AGE

49 ± 13 years

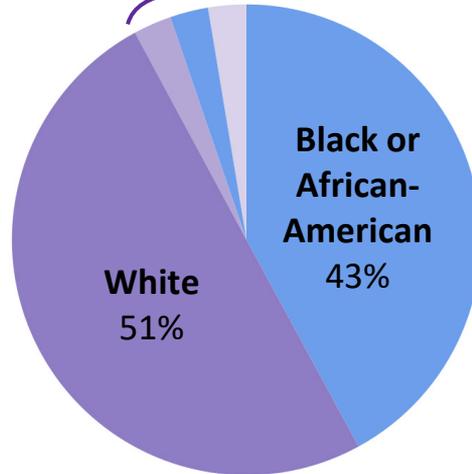
ETHNICITY

97% Non-Hispanic or Latino
3% Unknown

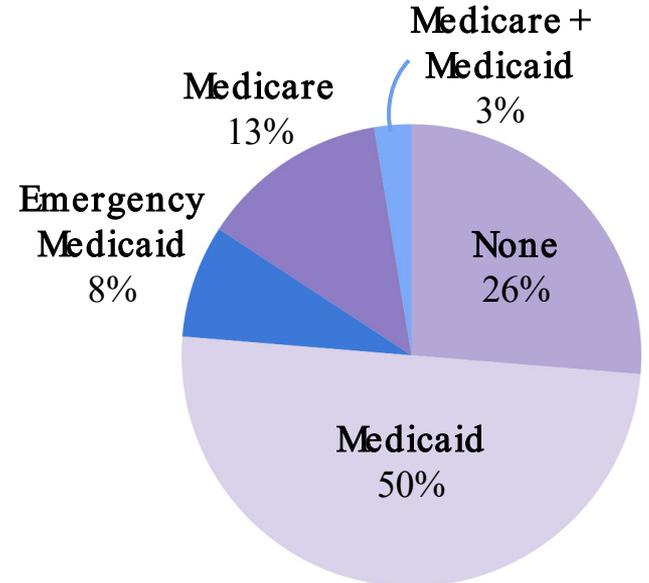
RACE

Other, Unknown, & Asian

3% each



INSURANCE STATUS



Results: Psychiatric Comorbidities & Substance Use

| TOP 5 MEDICAL CONDITIONS | |
|------------------------------------|------------|
| Hypertension | 19 (52.8%) |
| Diabetes | 7 (19.4%) |
| History of CVA or TIA | 6 (16.7%) |
| Non-violent Injury or Chronic Pain | 5 (13.9%) |
| COPD | 4 (11.1%) |
| Solid Tumor | 4 (11.1%) |

| PSYCHIATRIC CONDITIONS | |
|-------------------------|------------|
| Depressive Disorder | 15 (40.5%) |
| Anxiety Disorder | 7 (18.9%) |
| Bipolar Disorder | 3 (8.1%) |
| PTSD | 3 (8.1%) |
| Schizophrenia | 2 (5.4%) |
| Intellectual Disability | 0 (0%) |
| Other | 3 (8.1%) |
| None | 17 (45.9%) |

| SUBSTANCE USE | |
|----------------------------|------------|
| Tobacco | 28 (73.7%) |
| Alcohol | 19 (50%) |
| Cannabis | 8 (21.1%) |
| Cocaine | 8 (22.2%) |
| Methamphetamine | 5 (13.2%) |
| Heroin or other opioid | 2 (5.3%) |
| LSD or other hallucinogens | 0 (0%) |
| MDMA or Ecstasy | 0 (0%) |
| PCP | 0 (0%) |
| Other | 3 (7.9%) |
| None | 5 (13.2%) |

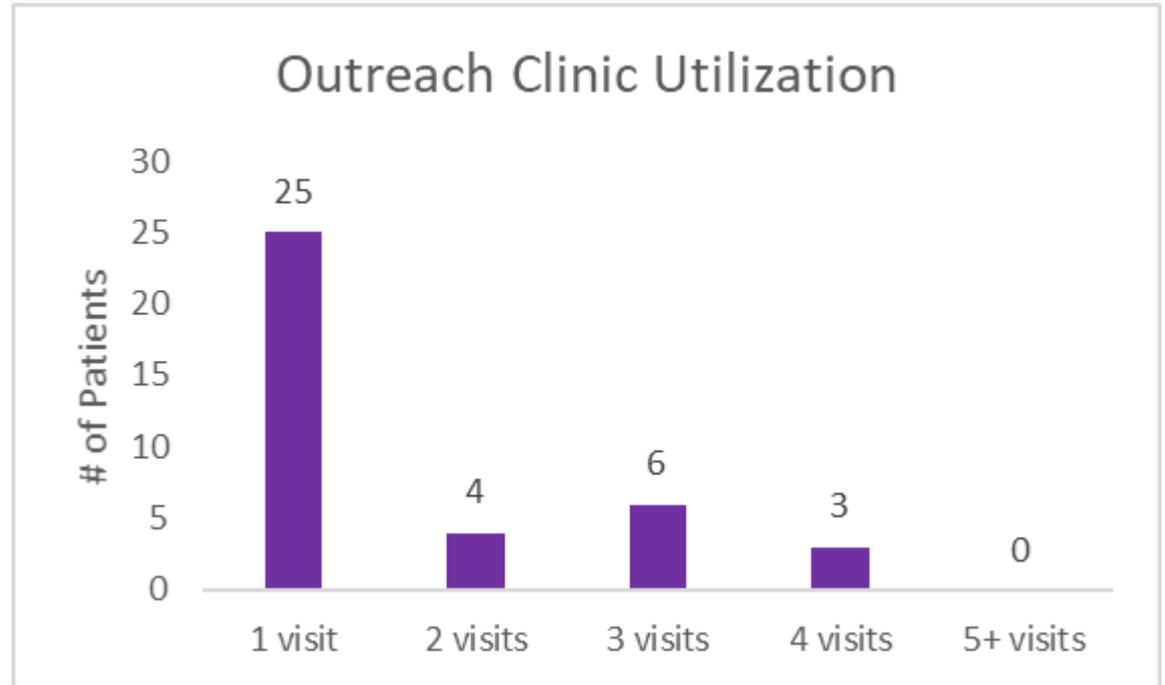
Results: Outreach Clinic Encounters

Outreach Clinic Encounters

Total visits: 63

Unique patients: 38

Mean visits per patient: 1.66 ± 0.3



Results: Overall Utilization

ED Encounters

Pre = 3.3 ± 1.5

Post = 2.8 ± 0.9

$P=0.42$

PCP Encounters

Pre = 0.9 ± 0.4

Post = 2.0 ± 0.9

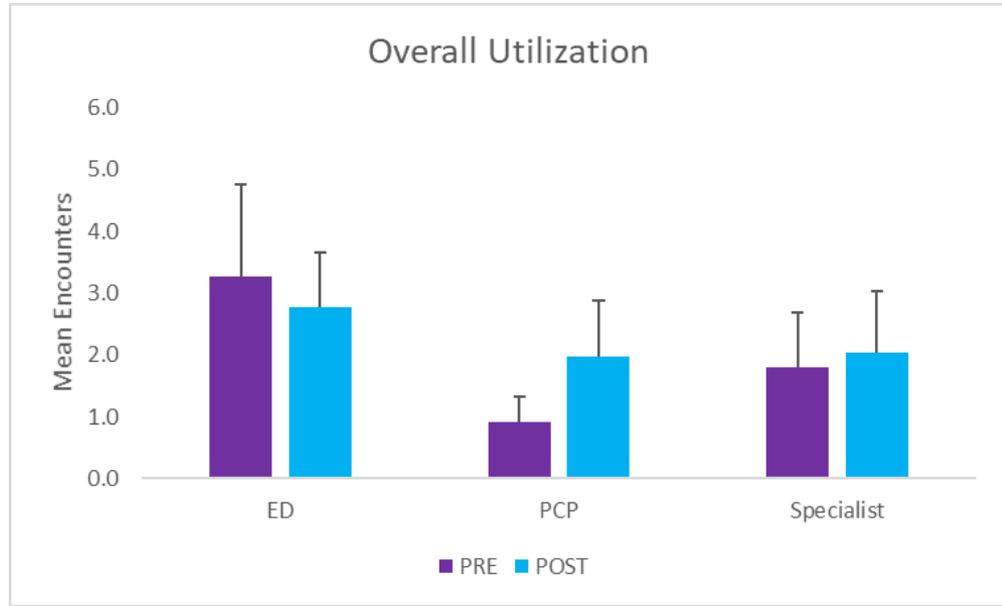
$P=0.02$

Specialist Encounters

Pre = 1.8 ± 0.9

Post = 2.0 ± 1.0

$P=0.65$



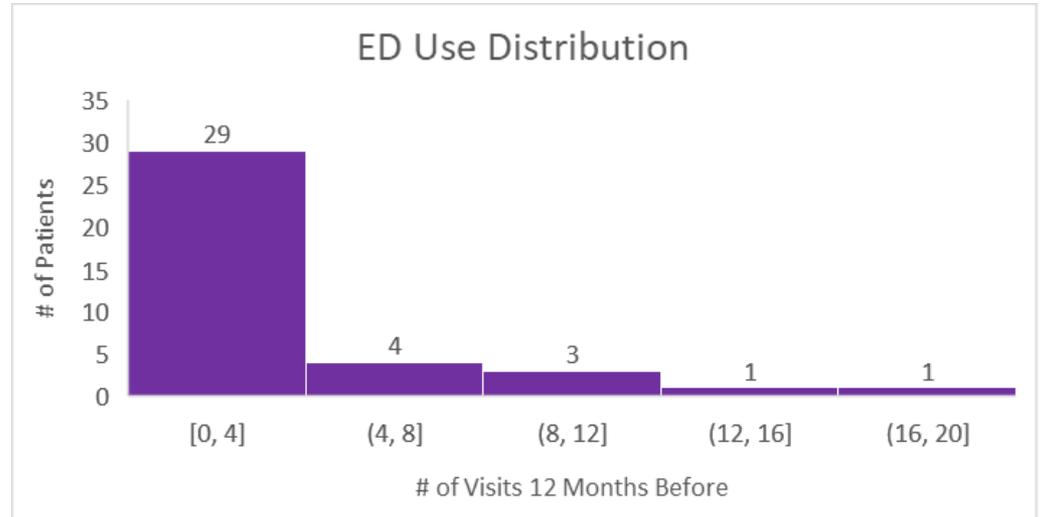
Results: Stratified Utilization - ED

High Utilizers

- 9 patients had 5 or more ED visits 12 months prior to first visit
 - 24% of sample

Low Utilizers

- 29 patients had 4 or fewer ED visits 12 months prior to first visit
 - 76% of sample



Results: Stratified Utilization - ED

High Utilizers

Pre = 9.6 ± 3.3

Post = 6.1 ± 1.6

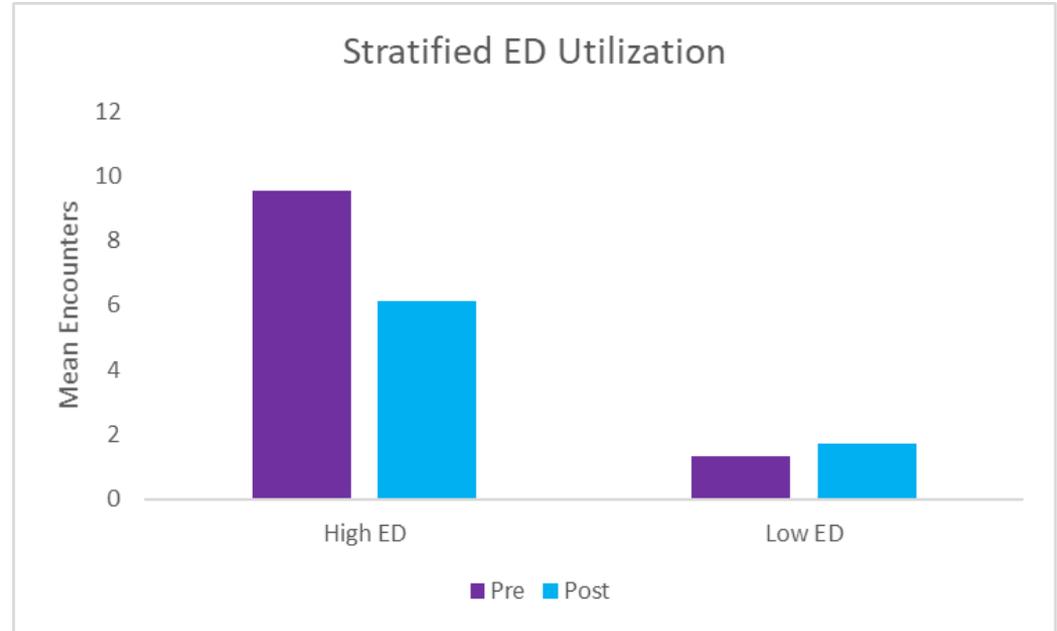
P=0.09

Low Utilizers

Pre = 1.3 ± 0.5

Post = 1.7 ± 0.8

P=0.40



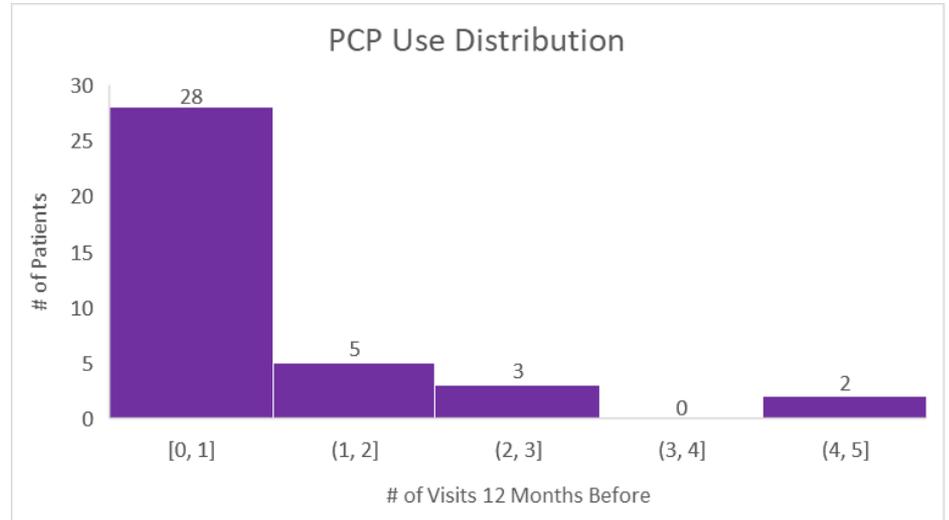
Results: Stratified Utilization - PCP

High Utilizers

- 10 patients had 2 or more PCP visits 12 months prior to first visit
 - 26% of sample

Low Utilizers

- 28 patients had 1 or fewer PCP visits 12 months prior to first visit
 - 74% of sample



Results: Stratified Utilization - PCP

High Utilizers

Pre = 2.9 ± 0.7

Post = 3.9 ± 2.4

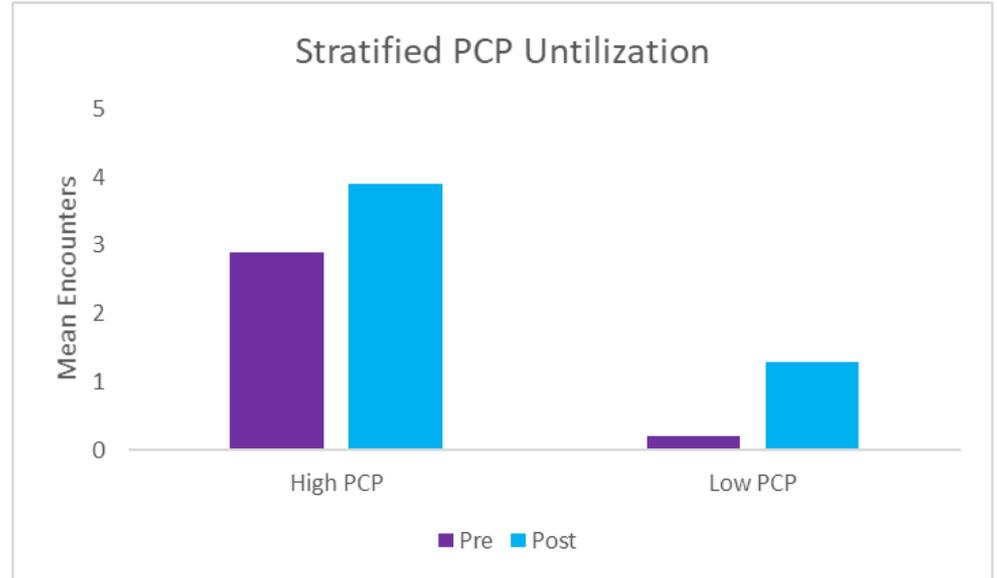
P=0.49

Low Utilizers

Pre = 0.2 ± 0.2

Post = 1.3 ± 0.7

P=0.01



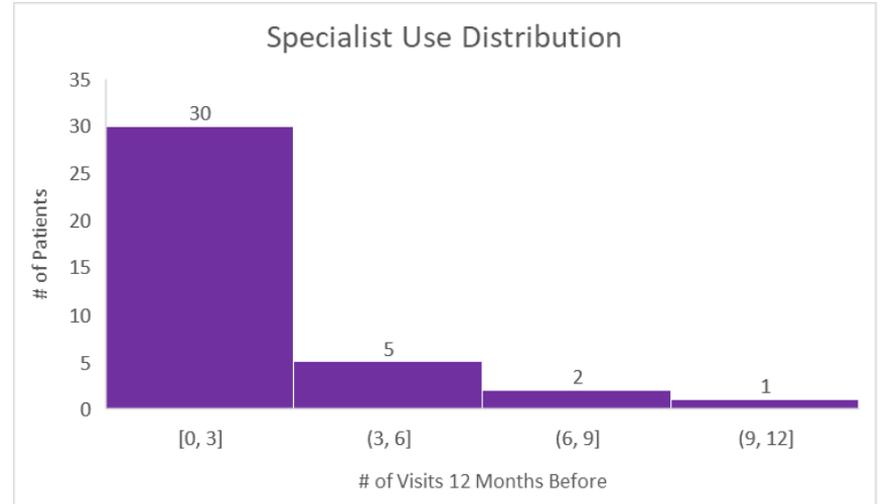
Results: Stratified Utilization - Specialist

High Utilizers

- 8 patients had 4 or more specialist visits 12 months prior to first visit
 - 21% of sample

Low Utilizers

- 30 patients had 3 or fewer specialist visits 12 months prior to first visit
 - 79% of sample



Results: Stratified Utilization

High Utilizers

Pre = 6.4 ± 1.7

Post = 4.6 ± 3.5

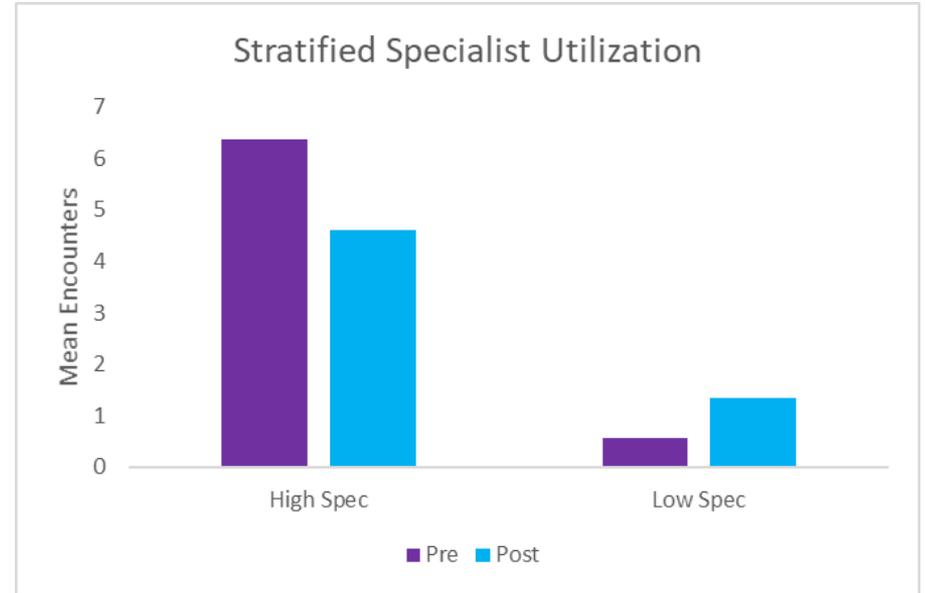
P=0.41

Low Utilizers

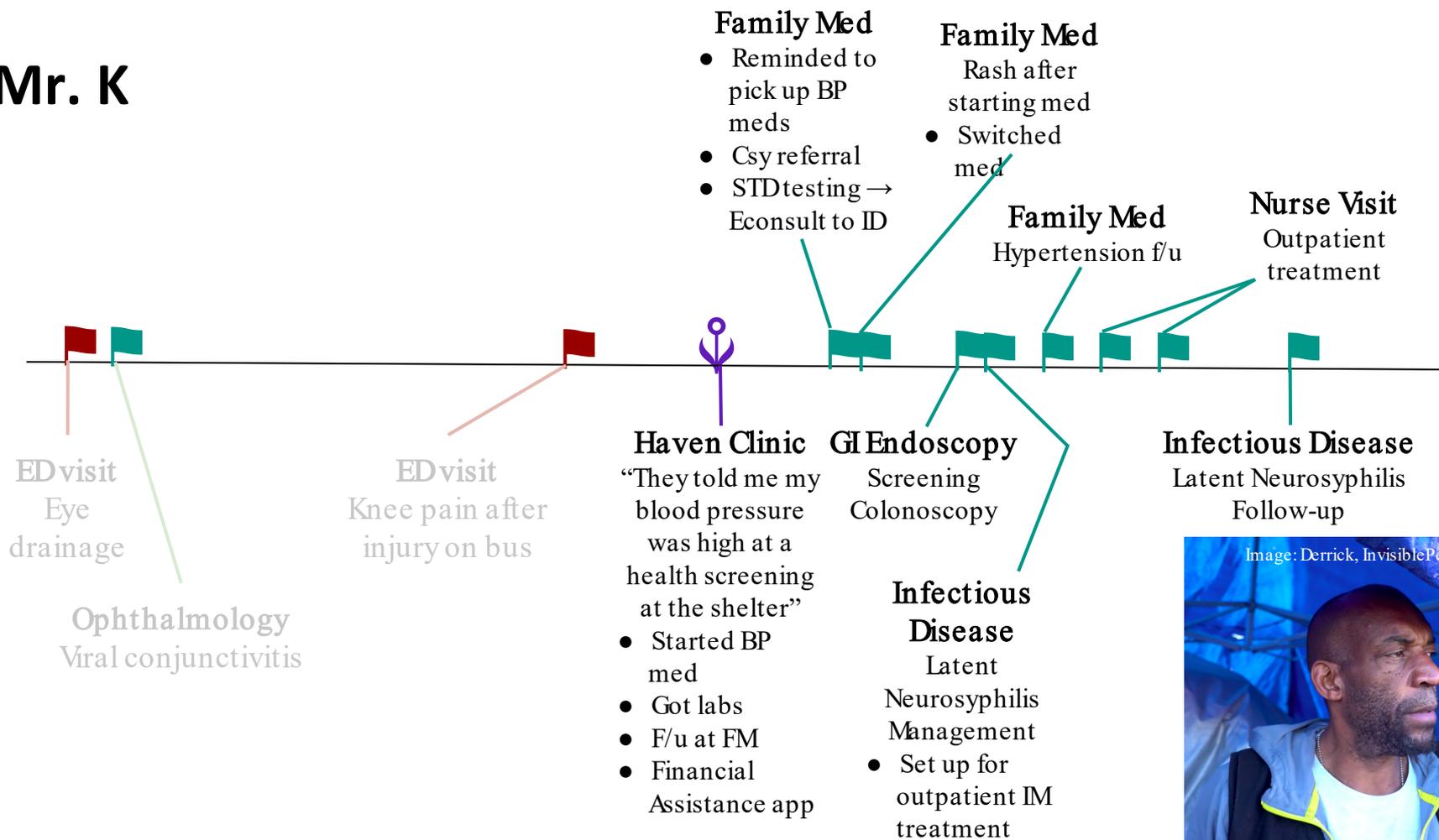
Pre = 0.6 ± 0.4

Post = 1.3 ± 0.8

P=0.04



Mr. K



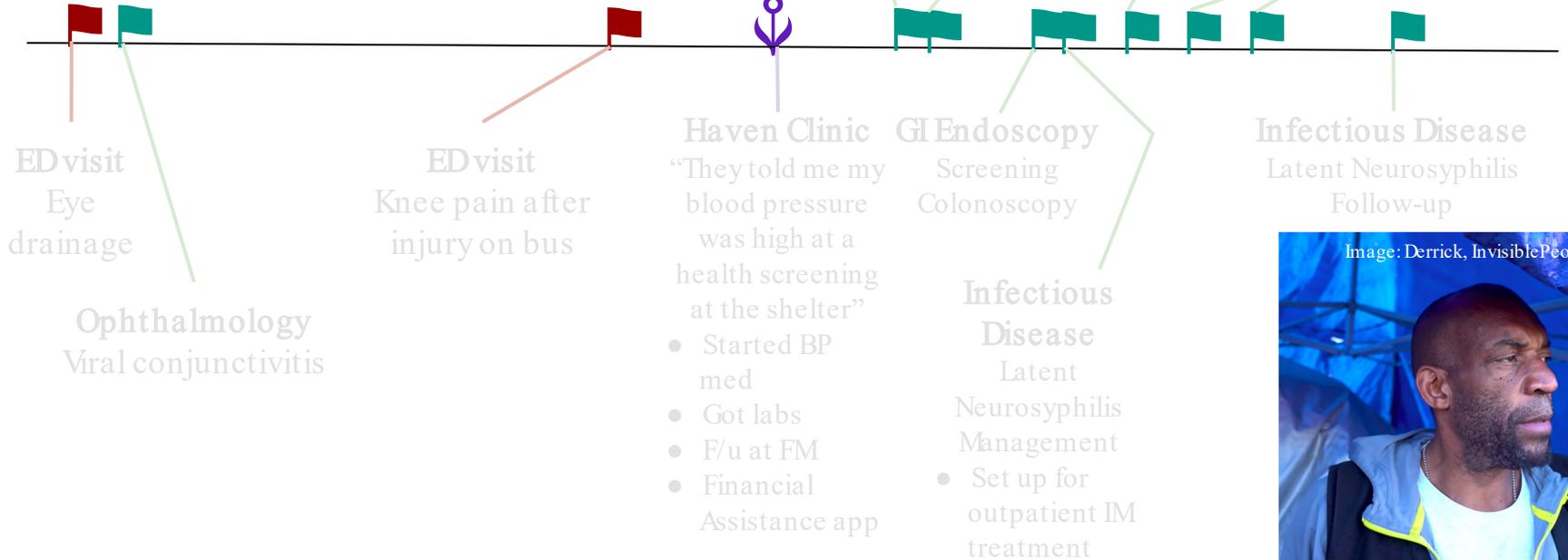
Mr. K

ED utilization for non-emergent concerns
Under-utilization / **absent primary care**

Family Med
● Reminded to pick up BP meds
● CV referral
● Invest
● E consult

Family Med
Rash after starting med

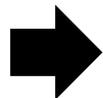
No ED utilization
Utilization of appropriate **Primary Care**
Utilization of appropriate **Specialty Care**



Discussion

Health insurance
& designated PCP
assignment alone
≠ solution

Wang et al 2015



Outreach shelter
clinic ↓
inappropriate
utilization

Holmes et al 2020

Benefits of outreach clinic model:

- Approachability
- Embedded in existing resource center
- ↑ encounter time + connection with providers

Hirst & Cuthill 2021

Medical **respite**
care = effective
intervention for
reducing
inappropriate
utilization

Biederman et al 2019

Limitations

Next Steps

SMALL SAMPLE SIZE

3 YEAR COHORT

PANDEMIC

MULTIVARIATE ANALYSIS

Control for pandemic, temporary housing, utilization status, NYU inappropriate ED utilization algorithm

UNKNOWN SHELTER STATUS

PAIR HEALTH RECORD w/ HMIS

HMIS = Homeless Management Information System, includes shelter status

LIMITED COMORBIDITIES DATA

Summary

Following index visit to Outreach Clinic:

GRAY= not statistically significant

BLACK= statistically significant

OVERALL

↑PCP

↑Specialist

↓ED

LOW-UTILIZERS

↑PCP

↑Specialist

↓ED

HIGH-UTILIZERS

↑PCP

↓Specialist

↓ED

9.6 vs 6.1 visits / 12 months

Utilization patterns are suboptimal for the majority of our patients particularly at the extremes (very low or very high utilizers)

UVA Community Outreach Clinic at the Haven
is able to re-direct care for those who need it most

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6. Biederman DJ, Gamble J, Wilson S et al. Health care utilization following a homeless medical respite pilot program. *Public Health Nursing*. 2019 May; 36(3):296-302.

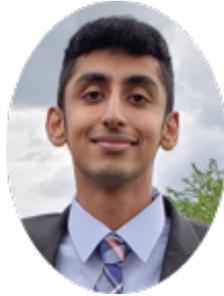
Acknowledgements



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Psychiatry



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the other schedulers
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logistically



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Liz Nyberg
Case Manager



James Mahoney
Executive Director



Leslie Fitzgerald
Shelter Director



Rebecca Ingram-Walrod
Shelter Director



Rebecca Ingram-Walrod
Women's Case Manager

