

# Health & Housing:

## Quantifying the impact of pharmacist guided in-home medication coaching on housing stability of low-income older adults



Anna M. Shields, PharmD, MBA<sup>1</sup>; Joshua L. Akers, PharmD, BCACP<sup>1</sup>; Jennifer L. Bacci, PharmD, MPH, BCACP<sup>1,2</sup>

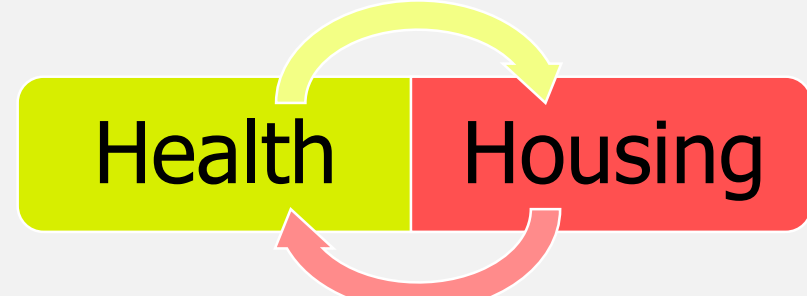
<sup>1</sup>Kelley-Ross Pharmacy Group and <sup>2</sup>University of Washington School of Pharmacy

### BACKGROUND

This study explores a solution for helping older adults age in place, by deliberately leveraging the combined capabilities of 3 community partners.

#### Health & Housing

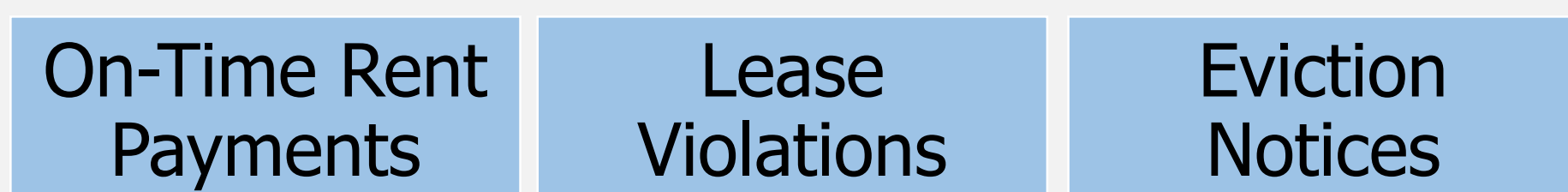
- Housing is a well-known social determinant of health, contributing twice as much to our general health and well-being than healthcare.<sup>1</sup>
- Health and medical issues often contribute to the inability to pay for housing. This is further complicated by the fact that losing a home compromises access to medical care, medications, and food.<sup>2</sup>



- Where we live is at the very core of our daily lives and, for many seniors, so is managing medications.
- While older adults are more focused on aging in place than ever, affordable housing providers are being asked to develop strategies to coordinate and deliver improved health outcomes for residents.

### OBJECTIVE

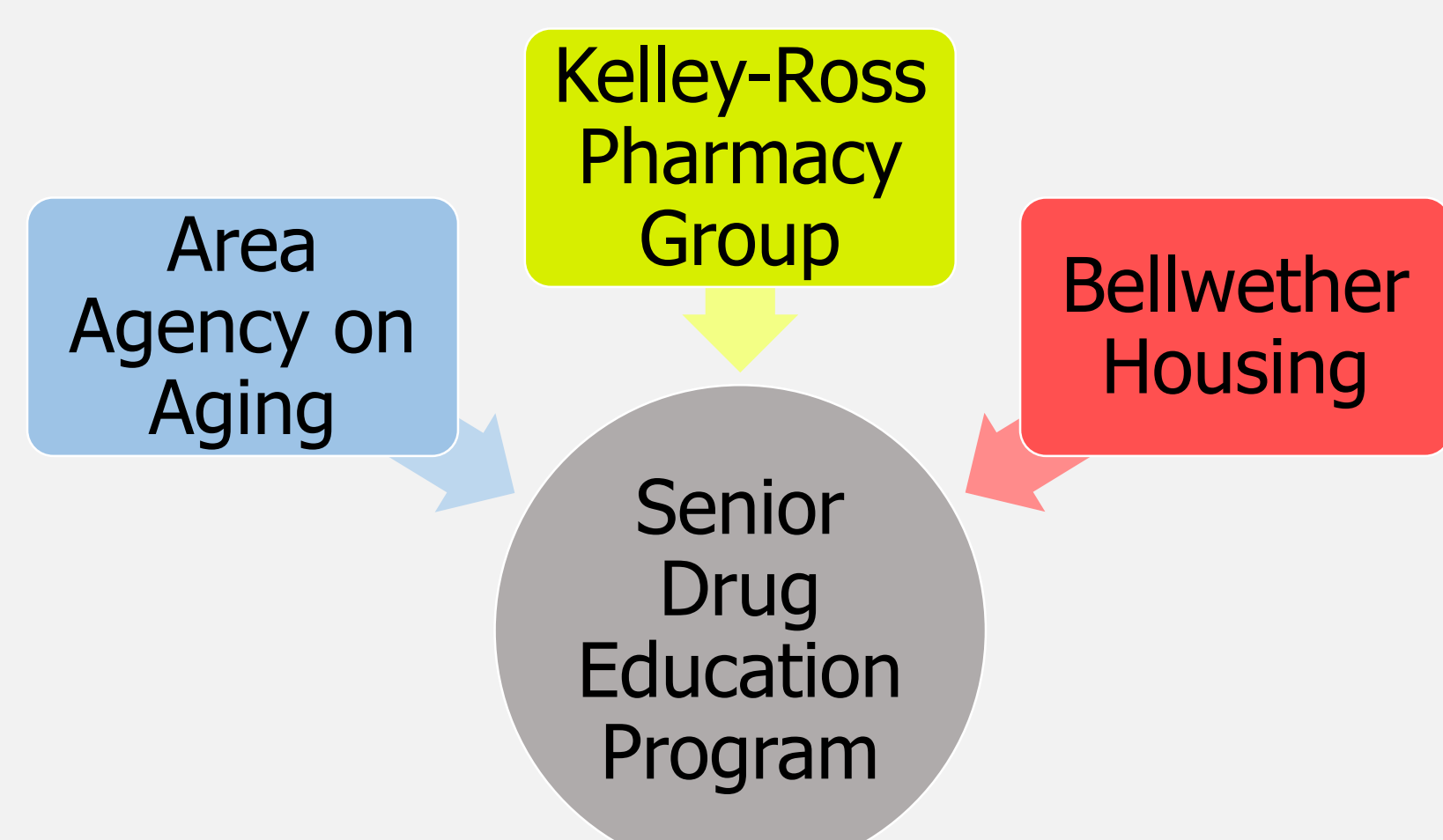
To assess the impact of pharmacist guided in-home medication coaching for adults ≥ 65 years old on housing stability metrics, specifically the number of:



### METHODS

#### The Partnership

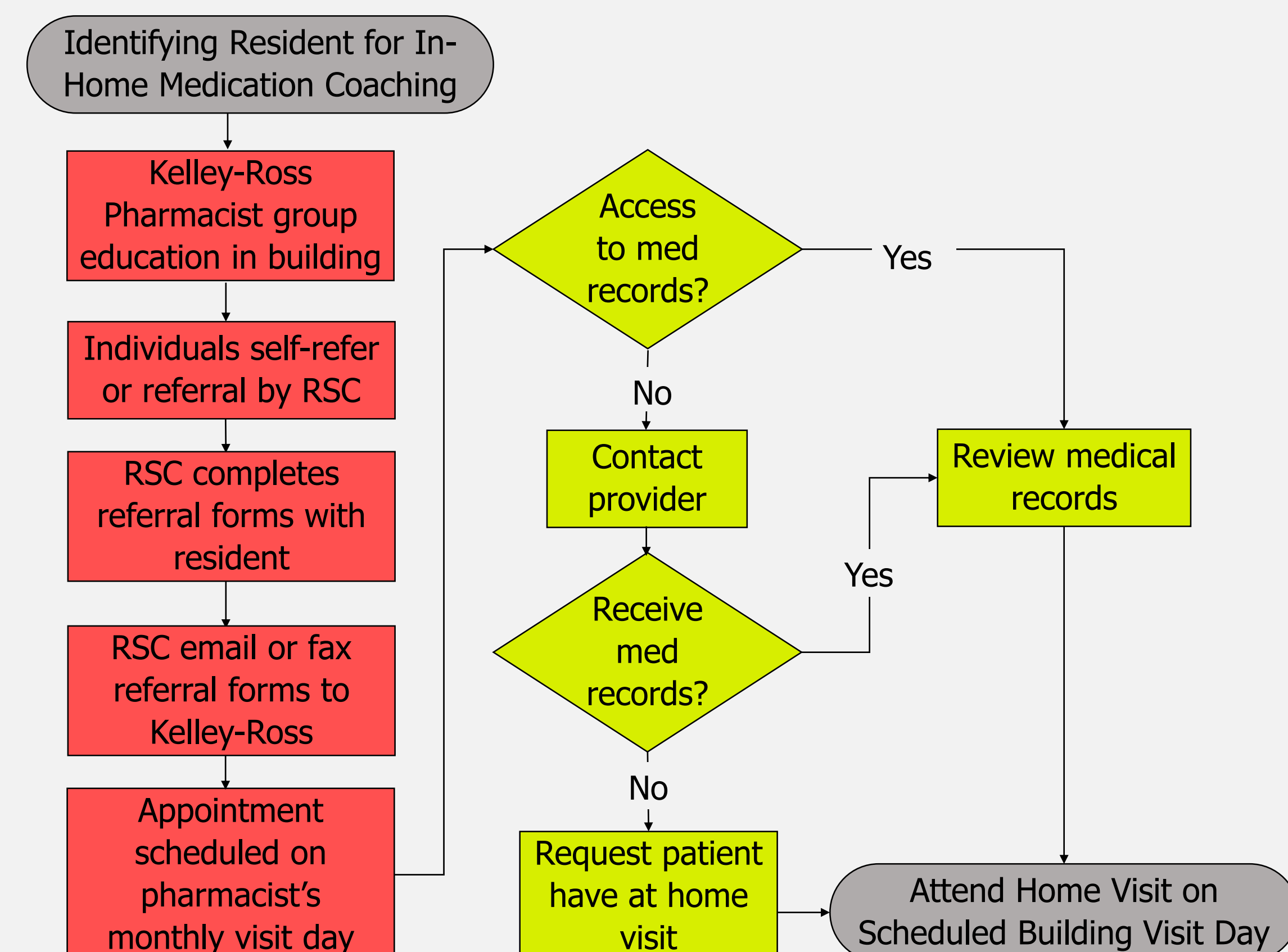
- In 2015, a partnership formed between 3 organizations in the Seattle/ King County area.



### METHODS

#### In-Home Medication Coaching

- In-home medication coaching by a pharmacist was offered to older adults within 3 low-income housing buildings in the Seattle/ King County area between October 2015 and June 2016.
- The Area Agency on Aging provided funding, Kelley-Ross Pharmacists delivered the service, and the Resident Services Coordinator (RSC) within each Bellwether building referred residents.
- The following program workflow was followed:



- During an appointment, the pharmacist provided medication and health education. They also performed medication reviews and interventions.
- The pharmacist documented encounters and coordinated care with the individuals' health care providers by phone or fax. The number of follow-up visits was individualized and based on assessment of resident needs.

#### Analysis

- A retrospective cohort study is being conducted using pharmacy and housing organization records.
- Propensity scores will be estimated for the receipt of medication coaching based on age, gender, primary language, ethnicity, and building location.
- We will then perform inverse probability weighted generalized linear models estimate the differences in the main housing stability metrics.

### RESULTS

#### Participant Demographics

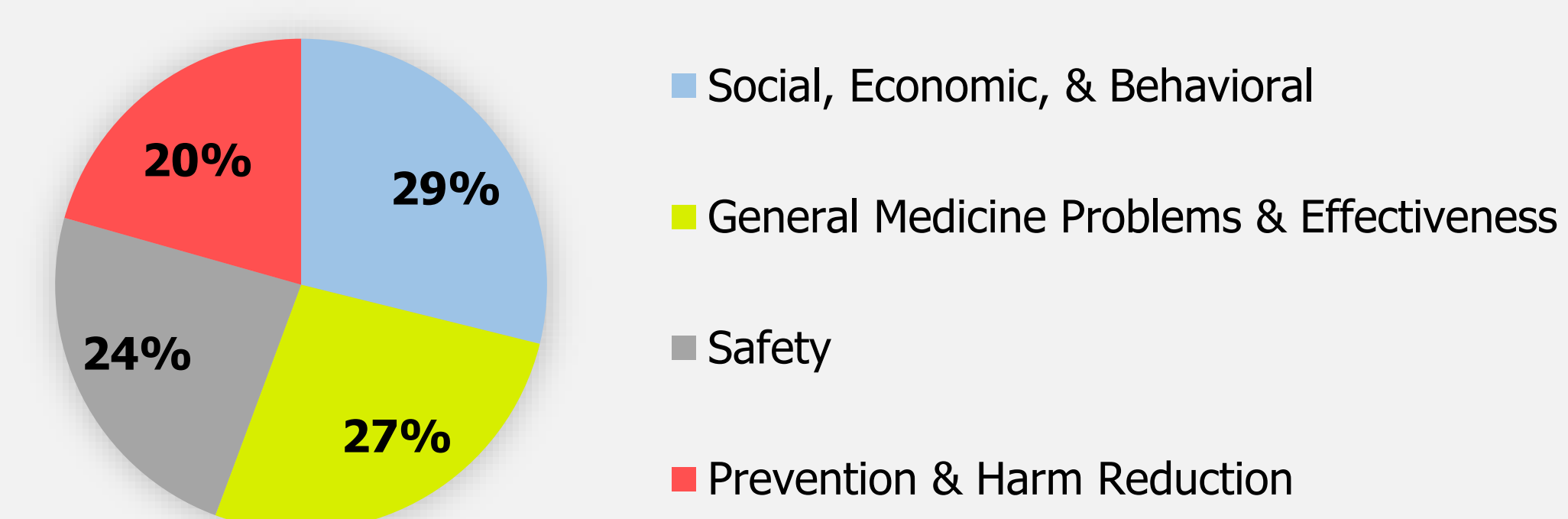
- Each affordable housing building contained 80-125 residential units.

| Patient Demographics                                  | Parameter  |
|---|------------|
| Total # of patients seen for 1:1 appointments         | 16         |
| Avg. age in years (range)                             | 80 (69-98) |
| Female  | 15 (94%)   |
| Language:   |            |
| Mandarin  | 8 (50%)    |
| English   | 6 (38%)    |
| Other   | 2 (12%)    |
| Avg. # of medicines at initial visit                  | 8.1        |
| Screened positive for fall risk                       | 12 (75%)   |
| Avg. # of falls in past year at initial visit (range) | 0.43 (0-2) |
| Service Demographics                                  | Parameter  |
| Total # of home visits                                | 31         |
| Avg. # of home visits per patient (range)             | 2 (1-7)    |

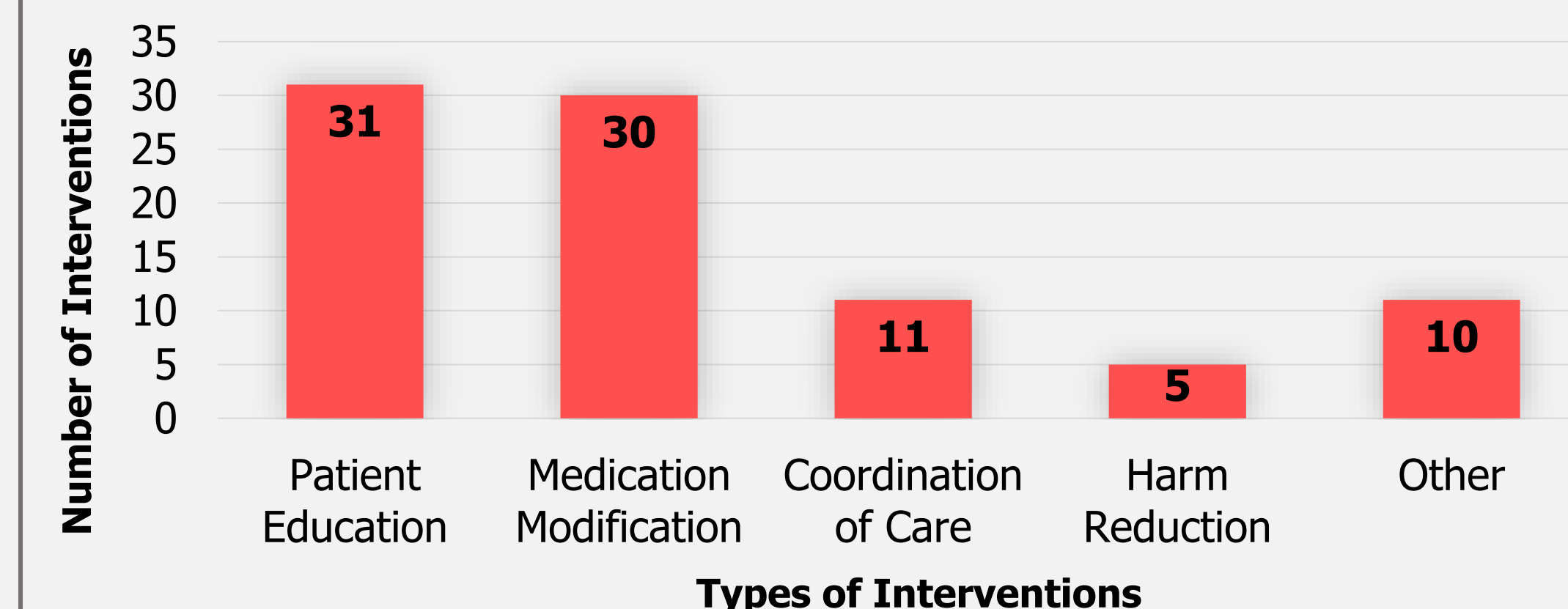
#### Pharmacy Data

| In-Home Medication Coaching Data                       | Parameter |
|--|-----------|
| Total # of Medication Therapy Related Problems (MTRPs) | 96        |
| Avg. # of MTRPs per patient                            | 6         |
| Total # of pharmacist interventions                    | 87        |
| Avg. # of interventions per patient                    | 5.4       |

#### Types Medication Therapy Related Problems Identified



#### Pharmacist Interventions Performed

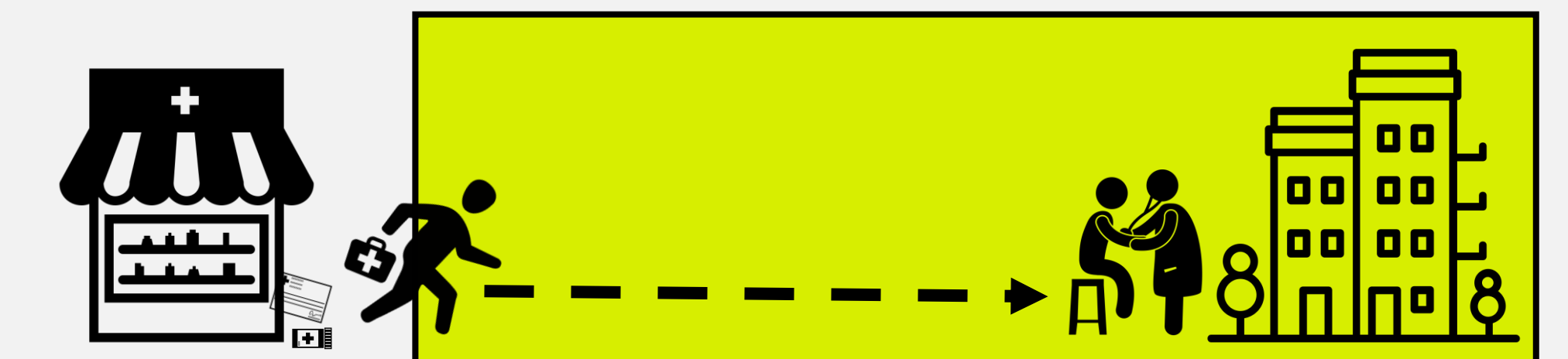


#### Housing Data

- Manual data extraction is ongoing.

### IMPLICATIONS

Many people ask, "Why is a pharmacist coming to my home?"



- Integration into housing organizations is a novel approach to the delivery of pharmacist services.
- In-home medication coaching allows us to meet patients where they are, in their safe space, and eliminate barriers to healthcare delivery. We can also more clearly observe how individuals interact with their medications to better coordinate care.
- The analysis of this partnership may support further integration of pharmacists into affordable housing organizations as it may also inform a financially sustainable model for in-home pharmacist services.

#### Challenges

- While the data from our partner was gathered, this type of collection is new to housing organizations, and was not stored in a manner that allowed easy access. Manual collection is required and in progress.

#### Next Steps

- Ongoing expansion into other housing organizations in order to demonstrate reproducibility of the model.
- Development of a tool for housing organizations and pharmacists to collect data and demonstrate the value of the model for housing organizations.



Let's go...  
Beyond The Poster.  
[kelley-ross.com/cpi/health-housing](http://kelley-ross.com/cpi/health-housing)

### ACKNOWLEDGEMENTS

#### Many Thanks

- To my research mentors for their continuous support.
- To the collaborators who formed a partnership worthy of analysis.
- To Kelley-Ross Pharmacy Group and the University of Washington School of Pharmacy for facilitating this work.

#### References

<sup>1</sup>Schroeder SA. Shattuck Lecture. We can do better--improving the health of the American people. N Engl J Med. 2007;357(12):1221-8.  
<sup>2</sup>Cutshaw CA, Woolhandler S, Himmelstein DU, Robertson C. Medical Causes and Consequences of Home Foreclosures. Int J Health Serv. 2016;46(1):36-47.  
Infographics compiled from Noun Project