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Did a physician-targeted intervention that reduced potentially inappropriate prescribing to elderly patients also reduce related hospitalizations?

Jacquelyn McRae, PharmD
*Jefferson College of Population Health, Thomas Jefferson University, Jacquelyn.McRae@jefferson.edu*

Sarah E. Hegarty, PharmD
*Department of Pharmacology and Experimental Therapeutics, Thomas Jefferson University, sarah.hegarty@jefferson.edu*

M. Alcusky
*Jefferson College of Population Health, Thomas Jefferson University*

A. Vegesna
*Jefferson College of Population Health, Thomas Jefferson University*

S. Varga
*Jefferson College of Population Health, Thomas Jefferson University*

See next page for additional authors.

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Authors
Jacquelyn McRae, PharmD; Sarah E. Hegarty, PharmD; M. Alcusky; A. Vegesna; S. Varga; S. W. Keith; S. Del Canale; M. Lombardi; and Vittorio Maio, PharmD, MSPH

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INTRODUCTION

- A potentially inappropriate medication (PIM) is a drug that may be inappropriate because the risks outweigh the potential benefits.
- PIM use in the elderly can be harmful due to less effective clearance systems, frail body, and polypharmacy.
- Maio and colleagues estimated that approximately 20% of elderly Emilia-Romagna residents were prescribed a PIM in 2006.
- A retrospective, longitudinal analysis of over 1.4 million elderly, Emilia-Romagna residents (2003-2013) demonstrated that individuals exposed to a PIM were 16% more likely to be hospitalized than persons unexposed to PIM.

OBJECTIVES

To determine whether a general practitioner focused intervention aimed at decreasing PIM prescribing in the elderly can decrease the risk of PIM-related hospitalizations.

RESULTS

PIM Exposure & Hospitalizations

- In 2005, residents of Parma and Non-Parma were exposed to approximately 8 person years (PYs) of PIM per 100 PYs follow-up time (Figure 2).
- Post-intervention, we observed a decrease in exposure to PIM, appearing a more drastic decline in Parma than Non-Parma.
- Post intervention there was a significant decrease in PIM-related hospitalizations in Parma consistent with the decline in PIM-exposure (post-intervention).

Hazard Ratios

- Compared with others in the RER during the same periods, Parma residents post-intervention had 7% less likely to have a PIM-related hospitalization than pre-intervention (Table 2).
- We estimated that approximately 411 PIM-related hospitalizations were avoided due to the intervention.

LIMITATIONS

- The RER database does not include inpatient medications (potential underestimation of PIM exposure).
- Although adjusted for available confounders, causality of hospitalizations is unknown.

CONCLUSIONS

- Approximately 411 PIM-related hospitalizations were avoided in Parma LHA and elderly residents during post-intervention at significantly lower risks of PIM-related hospitalizations than pre-intervention.
- We believe that the observed decline in PIM-hospitalizations within Parma LHA was attributed to the decreased exposure to PIMs.
- To our knowledge this is the first study to evaluate the effectiveness of a multi-year, PIM awareness program with respect to incident hospitalizations.
- We believe that the observed decreased risk of PIM-related hospitalizations in Parma LHA post-intervention was due to changes in physician behavior.
- We urge researchers to continue to evaluate the effectiveness of interventions targeted at increasing awareness of the potential harms of PIM in the elderly.