

Retrospective Evaluation of Collaborative Medication Review in High Risk Elderly Patients



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Background

- Choosing Wisely® promotes patient care that is supported by evidence, not duplicative, free from harm, and necessary
- Multidisciplinary quality improvement initiative implemented recommendation from the AGS on an Acute Care for Elders unit at VGH: "Do not prescribe a medication without conducting a drug regimen review"
 - Structured form for pharmacist to document medication review, followed by collaborative care conference
- Increase in pharmacist workload and uncertainty over the beneficial impact on clinical outcomes have prompted a need for an evaluation of this process

Objective

- To evaluate whether the implementation of medication reviews and collaborative care conferences has improved prescribing on the ACE unit at VGH when compared to prescribing for patients prior to implementation

Methods

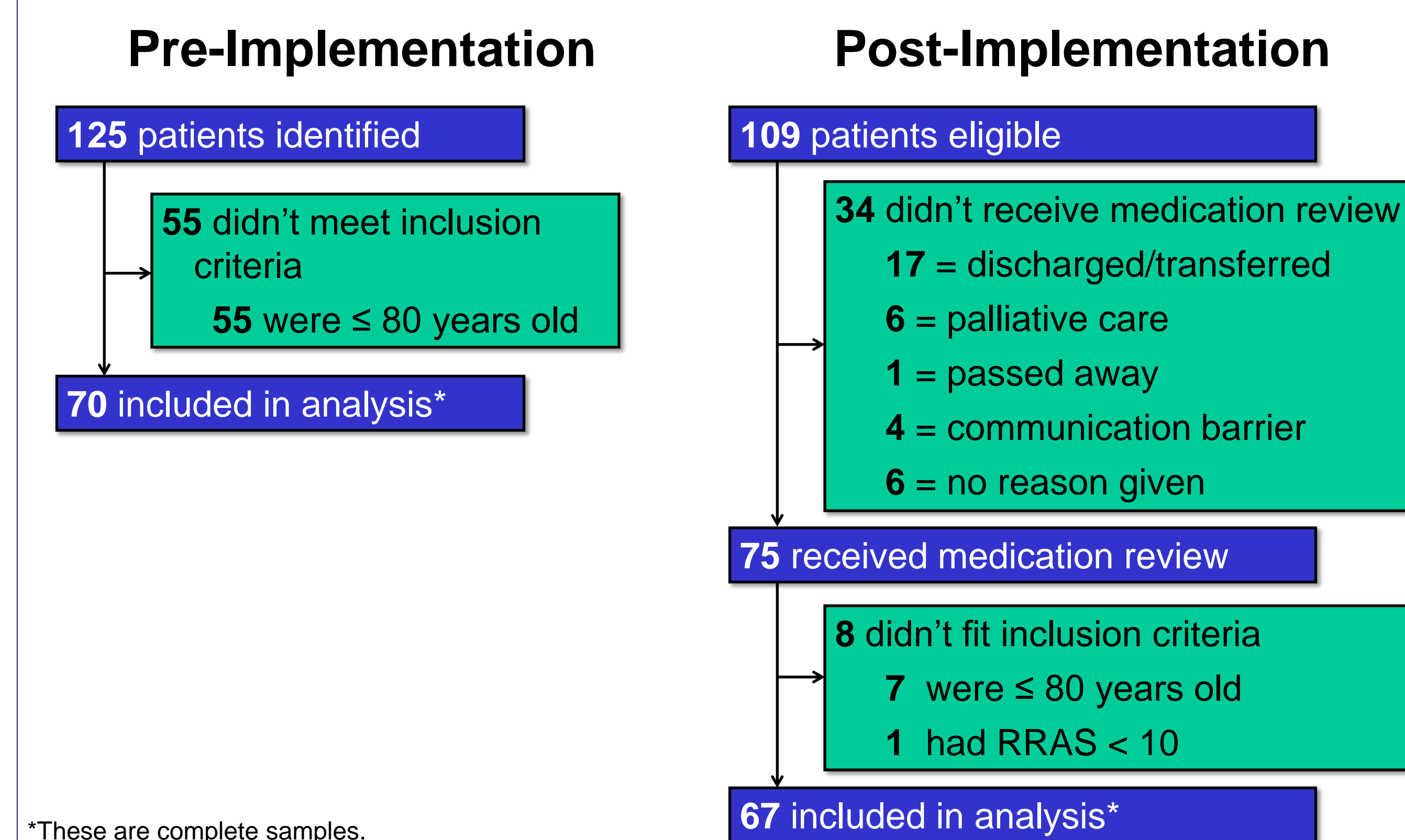
- Design:** Retrospective single-centre chart review at VGH
- Inclusion criteria:**
 - > 80 years of age, RRAS ≥ 10
- Exclusion criteria*:**
 - Medication review not possible within first 48 hours of admission
- Patient Groups:**
 - Pre-implementation:** Patients admitted to ACE from July 1, 2014 to June 30, 2015
 - Post-implementation:** Patients admitted to ACE from July 1, 2015 to July 31, 2016
- Pre-defined Outcomes:**
 - DTPs identified, clinical and compliance interventions made
- Analysis:**
 - Descriptive statistics, Independent Samples t-Test, Mann-Whitney U Test, Chi-Square Test

* For Post-Intervention group

Abbreviations & Definitions

ACE: Acute Care for Elders
DTP: Drug therapy problem
VGH: Vancouver General Hospital
AGS: American Geriatric Society
RRAS: Risk of readmission score
Beers List Medication: List of potentially inappropriate medications to be avoided or used with caution in older adults in general and in those with certain diseases

Figure 1: Selection of Study Participants



*These are complete samples.

Table 1: Baseline Characteristics

	Pre-Implementation (N=70)	Post-Implementation (N=67)
Mean Age ± SD	88.1 ± 4.3	88.4 ± 5.1
Male, n (%)	32 (45.7)	30 (44.8)
Mean RRAS ± SD	11.7 ± 1.4	11.5 ± 1.4
Mean # Comorbidities per patient ± SD	6.5 ± 2.7	6.5 ± 3.0
Mean # Medications prior to admission per patient ± SD	8.0 ± 3.5	8.3 ± 3.9
Living Arrangements, n (%)		
Home Alone	10 (14.3)	17 (25.4)
Home with Family	26 (37.1)	21 (31.3)
Care Facility	17 (24.3)	10 (14.9)
Home Care	15 (21.4)	5 (7.5)
Unknown	2 (2.9)	14 (20.9)
Medication Compliance Aid, n (%)		
Vials	7 (11)	14 (20.9)
Blister Pack	13 (18.6)	33 (49.3)
Dosette	4 (5.7)	5 (7.5)
Other/Unknown	46 (65.7)	15 (22.4)

Table 2: Total DTPs and Interventions in initial 48-hour Medication Review

	Pre-Implementation (N=70)	Post-Implementation (N=67)
Total DTP	67	139
Total Interventions	58	102
Clinical Interventions	47	64
Compliance Interventions*	11	38

* Includes medication calendar, initiation of blister pack or dosettes, medication management, patient/caregiver counseling and/or special authority application

Figure 2: Primary Outcomes: Average number of DTPs and Interventions per patient in initial 48-hour Medication Review

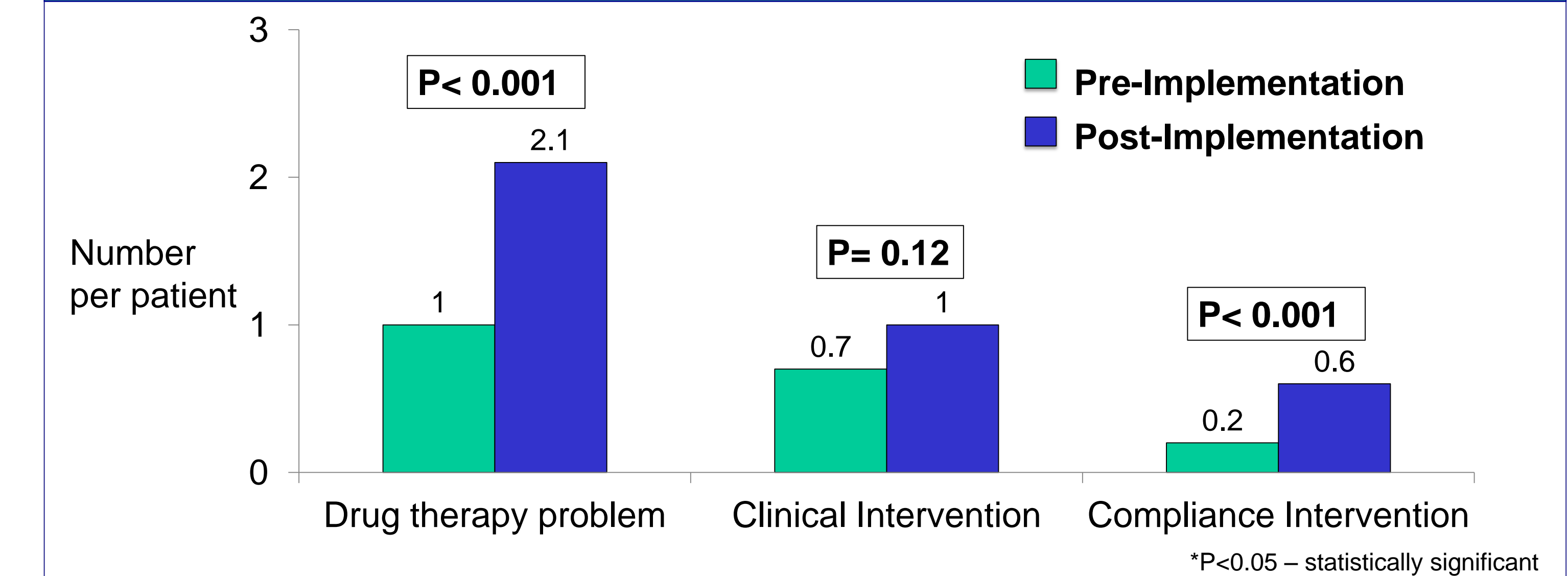


Table 3: Secondary Outcomes: Medications and Hospital Readmission

	Pre-Implementation (N=60 ^a)	Post-Implementation (N=57 ^a)	P-value
Mean # Medications at Discharge ± SD	8.7 ± 3.3	9.3 ± 3.8	0.30
Mean # of Beers List Medications at Discharge ± SD	0.8 ± 0.8	0.9 ± 0.9	0.31
Rehospitalization within 30 days	14.3 (N=62 ^b)	10.2 (N=59 ^b)	0.33
Median Length of stay, days	8 (N=70)	14 (N=66 ^c)	<0.001

a. 8 deceased, 2 missing discharge medication list
 b. 8 deceased
 c. 1 patient was still admitted when data was analyzed

*P<0.05 – statistically significant

Limitations

- Retrospective observational study with potential differences between study groups
- Inconsistent documentation in the pre-implementation group may have affected accuracy of collected data from charts
- Can only see readmission rates to Vancouver General Hospital, Richmond Hospital, and UBC Hospital

Conclusion

- More DTPs identified and compliance interventions made in the post-implementation group, possibly due to more documentation
- Significantly longer length of stay in post-implementation group
- Insufficient evidence to say whether collaborative medication reviews have improved prescribing on the ACE unit
- Comparison of the two groups have shown that the implementation of a collaborative medication review provides a more structured and consistent documentation process for pharmacists
- Also provides clearer documentation for other healthcare professionals

Acknowledgements

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