Addressing Polypharmacy in Older Adults in Primary Care

Polypharmacy in Older Adults

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The Impact – Medical Practice Transformation

Polypharmacy is defined as concurrent use of ≥5 medications[1]

Older patients (65+) are more likely to have a greater number of chronic conditions and receive care from multiple specialists, both of which can contribute to polypharmacy[1,2]

Polypharmacy is associated with increased risk of hospitalizations, negative health outcomes, higher mortality rates, lower quality of life, and increased therapeutic burden[1,2,3]

Medication reviews can facilitate:[3,4]

- Accurate documentation – providers and patients have updated medication lists
- Improved adherence – patients taking things as prescribed, with accurate dosing
- Evaluation of safety – screening for fall risk, evaluating potential side effects or drug-drug interactions
- Deprescribing – stopping unnecessary or inappropriate prescriptions, reducing medication burden

Public Health Costs

It is estimated that 40% of older adults qualify as receiving polypharmacy in the US, while up to half are taking medications that are potentially inappropriate or harmful[5]

Polypharmacy is estimated to be associated with nearly 2x the healthcare expenditure and 3x the pharmacy expenditure, averaging $19,068 for total healthcare expenditure and $1,286 for pharmacy-related expenditure per adult with polypharmacy vs $8,815 and $488 without polypharmacy[6]

Various studies have estimated that polypharmacy costs US health plans between 3 billion and 50 billion USD annually[7,8]

Other studies estimate 1.3 billion of the medical cost associated with polypharmacy is potentially avoidable[9]

Community Perspective

- Patients reported challenges remembering the names of medications, why they were taking them, and what the instructions were for administration
- Medication lists in Epic were often inaccurate, listing medications that hadn't been taken in years or missing medications that had been prescribed by other providers
- Providers had limited time at annual wellness visits to fully address medication lists, given the need to address acute concerns, chronic conditions, and preventative health maintenance measures within one visit
    - While having patients bring in their medications for review at the visit is a helpful strategy, this adds extra burden onto the provider during a busy visit, particularly when the patient has medications managed by specialists
- The clinical pharmacist at the Vergennes Primary Care clinic primarily sees patients for complex diabetes care and set-up/management of continuous glucose monitors.
- Providers felt they had a strong working relationship with the clinical pharmacist, but that they were not utilizing her services as fully as they could
- It was felt that a clinical pharmacy consult would be perceived as a positive addition to the patient's care team rather than a pass off, given the strong sense of trust and community among patients and providers

The Intervention

- I created a dot-phrase in Epic to be added to custom note templates used by each provider
- The goal of the checklist is to prompt the provider to consider whether polypharmacy or medication adverse affects might impact their patient, without increasing provider burden at a busy visit
- If providers feel their patient may benefit from a medication review, they can offer a consult with the clinical pharmacist associated with the practice, allowing the patient to have autonomy in this decision

Annual Wellness Visit Clinical Pharmacist Consult Checklist
Over the age of 65 – yes/no
On 5 or more medications – yes/no
Concerns for memory/cognitive deficits – yes/no
Concerns for recent falls, dizziness, confusion – yes/no
Clinical pharmacist consult recommended (meets 1 or more criteria) – yes/no

Results & Reflection

There are roughly 2,500 patients age 65 or older currently being cared for at the Vergennes Primary Care practice annually. Of these, 40% would qualify for medication review based on US population statistics

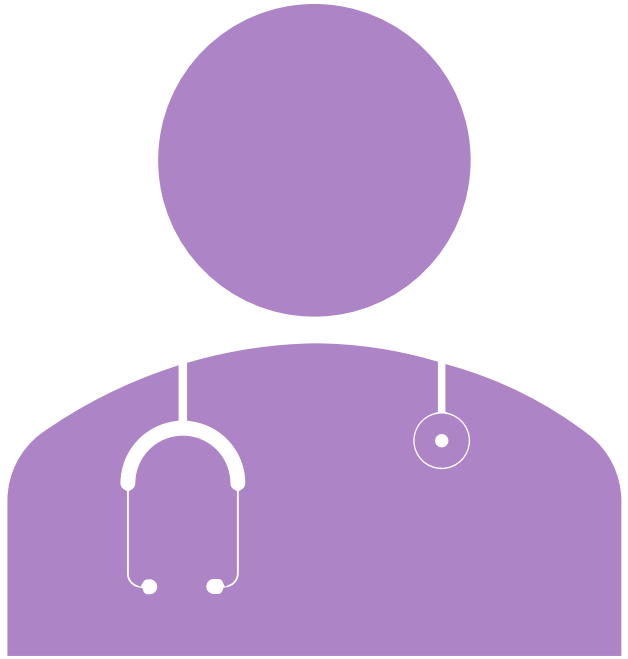
The goal of this project would be to see an increase in medication review consults with the clinical pharmacist over the next year, while hopefully reducing medication burden, side effects, and adverse event

In speaking with each of the providers at the practice, it was evident that they felt hesitant to overburden the clinical pharmacist with more patients. Sharing her willingness and interest in doing more medication consults led to an observable positive change in the providers' intent to use these services

If given the time to evaluate the project fully, I would quantify the change in number of medication consults over the next year in comparison to this past year. I would create metrics for studying changes in medication management based on the consults. I would then study medication adverse events and hospitalizations to look for any changes over the next year.

Future Directions

- I think it would be beneficial to study the impact of this intervention over the next year to assess its utility
- If successful at the Vergennes Primary Care clinic, I would be interested in implementing similar procedures at other primary care locations
- In areas where a clinical pharmacist is not available, it may be possible to complete virtual consults or for primary care providers to schedule their own medication review visits separate from annual wellness visits
- It may be useful to create patient-directed materials about what a clinical pharmacist consult is, why they are being referred, and what to expect at the visit



References

1. Remelli F, Ceresini MG, Trevisan C, Noale M, Volpato S. Prevalence and impact of polypharmacy in older patients with type 2 diabetes. *Aging Clin Exp Res*. 2022;34(9):1969-1983. doi:10.1007/s40520-022-02165-1
2. Woodford HJ. Polypharmacy in Older Patients. *Br J Hosp Med (Lond)*. 2024;85(10):1-12. doi:10.12968/hmed.2024.0388
3. Halli-Tierney AD, Scarbrough C, Carroll D. Polypharmacy: Evaluating Risks and Deprescribing. *Am Fam Physician*. 2019;100(1):32-38.
4. Ferreri SP, Blalock SJ, Robinson JM, Renfro CP, Busby-Whitehead J, Burns ER, Haddad Y. STEADI-Rx Older Adult Fall Prevention Guide for Community Pharmacists. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, 2020.
5. Radomski TR, Decker A, Khodyakov D, et al. Development of a metric to detect and decrease low-value prescribing in older adults. *JAMA Netw Open*. Published online February 15, 2022. doi:10.1001/jamanetworkopen.2021.48599
6. Kwak MJ, Chang M, Chiadika S, et al. Healthcare expenditure associated with polypharmacy in older adults with cardiovascular diseases. *Am J Cardiol*. Published online February 12, 2022. doi:10.1016/j.amjcard.2022.01.012
7. Watanabe, J. H., McInnis, T., & Hirsch, J. D. (2018). Cost of prescription drug-related morbidity and mortality. Annals of Pharmacotherapy, 52(9), 829-837. Retrieved from Annals of Pharmacotherapy
8. Wang X, Liu K, Shirai K, et al. Prevalence and trends of polypharmacy in U.S. adults, 1999-2018. *Glob Health Res Policy*. 2023;8(1):25. Published 2023 Jul 12. doi:10.1186/s41256-023-00311-4
9. *Polypharmacy and the Elderly: Reducing the Risk of Adverse Events Through Monitoring and Communication*. 2021. https://legislativeanalysis.org/wp-content/uploads/2021/01/Polypharmacy-FINAL.pdf