

# Development of a periodic health examination form for the frail elderly in long-term care

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## Abstract

**Objective** To create an evidence-based periodic health examination (PHE) form geared to long-term care (LTC) residents.

**Design** Two-phase study: literature review to develop a quantitative, cross-sectional, self-administered survey, and administration of the survey followed by a focus group. A PHE form for LTC residents was developed based on participants' recommendations.

**Setting** Hamilton, Ont.

**Participants** A total of 106 health care professionals completed the survey; 10 LTC physicians participated in the focus group.

**Main outcome measures** The items deemed most important and most likely to be performed during a PHE; themes from focus group discussions.

**Results** Respondents' top 4 most important PHE items were also the top 4 items they thought were most likely to be performed during a PHE in LTC: reviewing active health status, reviewing pain control, reviewing medications, and screening for falls. Thematic analysis from the focus group discussion generated 3 main themes: current physician perspectives on the existing annual health examination in LTC, conceptual ideas for the new PHE form, and physician perspectives on the optimization of care in LTC settings. The findings from the survey, along with the themes from the focus group, were incorporated to create a PHE form for LTC residents.

### EDITOR'S KEY POINTS

- The goal of this study was to create an updated evidence-based periodic health examination (PHE) form for the frail elderly in long-term care (LTC) to offer LTC physicians a guideline approach to preventive health for this population.

- Long-term care physicians rated several interventions (eg, immunizations, screening for falls) as more important than non-LTC physicians did; they also had some different opinions about what should be addressed during a PHE (eg, review advanced directives and influenza and pneumococcal immunization status) than other respondents did. This might be because LTC physicians have a better understanding of LTC patients and recognize that assessing items that would negatively affect the function and quality of life of an LTC resident is of top importance for the PHE in LTC.

- A focus on preventive health and reducing complications, integration of interprofessional team assessments, and use of a PHE form that provides guidance for physicians might enhance care of LTC residents.

**Conclusion** The proposed PHE form emphasizes tracking a patient's functional course over time and combines evidence-based preventive health interventions and health assessments with what is clinically important for LTC.

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# Création d'un formulaire pour l'examen périodique des personnes âgées fragiles dans les établissements de soins de longue durée

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## Résumé

**Objectif** À partir de données probantes, créer un formulaire pour un examen périodique (EP) mieux adapté aux résidents des centres de soins prolongés (CSP).

**Type d'étude** Une étude en 2 phases: une revue de la littérature en vue de créer une enquête transversale quantitative auto-administrée, et l'administration de cette enquête suivie d'un groupe de discussion. En tenant compte des recommandations des participants, un formulaire pour l'EP des résidents des CSP a été créé.

**Contexte** Hamilton, Ontario.

**Participants** Un total de 106 professionnels de la santé ont répondu à l'enquête; 10 médecins des CSP ont participé au groupe de discussion.

**Principaux paramètres à l'étude** Les sujets jugés les plus importants et les plus susceptibles d'être abordés durant l'EP; les thèmes tirés du groupe de discussion.

**Résultats** Pour les répondants, les 4 items de l'EP les plus importants étaient aussi les 4 items les plus susceptibles d'être utilisés durant l'EP dans les CSP: réviser le statut de santé active, réviser le contrôle de la douleur, réviser la médication et faire un dépistage pour les chutes. L'analyse thématique des groupes de discussion a généré 3 thèmes principaux: l'opinion actuelle des médecins sur l'examen annuel de santé dans les CSP, ce qu'ils envisagent pour le nouveau formulaire pour l'EP et leur opinion sur la façon d'améliorer les soins dans les CSP. Les observations tirées de l'enquête conjointement avec les thèmes tirés des groupes de discussion ont été utilisés pour créer un formulaire pour l'EP des résidents des CSP.

**Conclusion** Le formulaire suggéré pour l'EP cherche surtout à vérifier l'évolution fonctionnelle progressive du patient; il associe des interventions fondées sur des preuves touchant la prévention et l'évaluation de la santé avec ce qui est cliniquement important pour les soins de longue durée.

## POINTS DE REPÈRE DU RÉDACTEUR

- Cette étude avait pour but de créer un formulaire basé sur des données probantes pour l'examen périodique (EP) des personnes âgées fragiles dans les centres de soins prolongés (CSP) afin de fournir aux médecins de ces établissements un guide pour favoriser la prévention chez ce type de patients.
- Par rapport aux médecins qui ne travaillaient pas dans les CSP, ceux des CSP jugeaient plus importantes des interventions comme la vaccination ou le dépistage des chutes; ils différaient aussi des autres médecins sur les sujets à discuter lors des EP (p. ex. réviser les directives anticipées et le statut des vaccinations contre l'influenza et le pneumocoque). Cela pourrait être dû au fait que les médecins des CSP connaissent mieux les patients des CSP et estiment qu'une évaluation des items susceptibles d'avoir un effet négatif sur le fonctionnement et la qualité de vie des résidents des CSP est d'une importance cruciale lors de l'EP.
- On pourrait améliorer les soins aux résidents des CSP en insistant sur la prévention et sur la diminution des complications, en tenant compte des évaluations d'une équipe interprofessionnelle et en utilisant un formulaire pour l'EP comme guide pour les médecins.

Cet article a fait l'objet d'une révision par des pairs.  
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The development of the periodic health examination (PHE) in 1979 reflected a paradigm shift in how family physicians approached managing health.<sup>1</sup> Since then, family physicians have placed considerable emphasis on preventive health interventions in an effort to diminish health complications. Despite the evidence that exists for preventive health care for adults between the ages of 18 and 65 years,<sup>2</sup> there is limited guidance and evidence surrounding preventive health interventions and assessments for the elderly and specifically the frail elderly populations that reside in long-term care (LTC) facilities.<sup>3</sup> *Frail elderly* describes those who are older than 65 years of age, dependent on others for their activities of daily living, and often reside in institutional care settings.<sup>4</sup> They also typically have multiple chronic diseases and an increased medication burden.<sup>4</sup> Because of this, it is a challenge for LTC physicians to adopt a traditional evidence-based, disease-specific guideline approach to preventive health care in this population.

Currently, the Ontario Ministry of Health and Long-Term Care requires that physicians perform an annual physical examination for all LTC residents; however, there is very little guidance from the Ministry of Health and Long-Term Care, as well as the current literature, on what needs to be done and how best to prioritize different components of the annual physical examination for particular patients. Age- and sex-specific evidence-based PHE forms are currently being used to help clinicians offer high-quality evidence-based care in routine practice. Examples include the Rourke Baby Record,<sup>5</sup> as well as the Preventive Care Checklist Form for well adults.<sup>2</sup> In particular, the well-adult preventive health checklist has been shown to improve health service delivery during periodic health reviews of well adults in an evidence-based manner.<sup>6</sup> A PHE form for LTC residents has been developed; however, its structure is similar to the previously mentioned forms and is focused on those LTC residents that have a life expectancy of 2 to 5 years.<sup>7</sup>

The goal of this study was to create an updated evidence-based PHE form for LTC residents that was not restricted by life expectancy and that was adaptable to the heterogeneous LTC population.

## METHODS

### Ethics approval

This study received approval from the Hamilton Integrated Research Ethics Board.

### Study design

This study involved 2 phases: a literature review and survey development, then survey testing and a focus group.

**Phase 1: literature review and survey development.** All authors contributed to a literature review to determine evidence-based health assessments for elderly patients using PubMed, the Cochrane database, the Assessing Care of Vulnerable Elderly indicators, and existing US and Canadian task force recommendations. The MeSH search terms that were used included *long-term care*, *periodic health exam*, *annual review*, *elderly*, *nursing home*, *chronic care*, *skilled nursing facility*, and *health maintenance*. The results of the literature review for preventive health interventions were reviewed in depth by several investigators (H.Y.S., J.W., M.S., A.E.M.).

A comprehensive list of preventive health interventions and assessments was compiled from the papers reviewed and approved by consensus among the co-investigator team. Items were grouped into 6 categories (history, counseling, physical examinations, investigations, immunizations, and treatments), and all were included in a 58-item cross-sectional, quantitative, self-administered survey. The survey asked respondents to rank a PHE item's importance on a 4-point Likert scale (1 = not important, 4 = most important) and indicate (yes or no) the feasibility of performing the evidence-based intervention in LTC settings. These 2 questions were used to determine the concordance between perceived importance and the likelihood of performing a particular PHE item, which affirms the relevance of the item on a PHE form for LTC physicians.

**Phase 2: survey testing and focus group.** A sequential mixed-methods approach was used with a convenience sampling strategy by engaging clinicians attending a care of the elderly continuing medical education (CME) event. Participants were invited to complete the distributed surveys during the CME event. A total of 250 clinicians attended the CME event.

Survey results were analyzed using standard statistical analysis techniques, specifically mean rating scores, standard deviations, Student *t* scores, and yes and no frequencies. The results were also analyzed based on sex, number of years in practice, and profession.

Next, the results from the survey were presented to practising LTC physicians in Hamilton, Ont, in a focus group using a semistructured interview guide. Long-term care physicians were shown the survey results and asked for their opinions on the results and for their opinions on why respondents selected the responses they did.

Members of Hamilton's LTC Physician Interest Group were invited to the focus group during one of their meetings. Ten LTC physicians were in attendance for the focus group, which was facilitated by 3 members of the research team (H.Y.S., J.W., A.E.M.).

**Data collection:** The focus group was audiotaped and transcribed for thematic analysis.

**Analysis:** Conventional thematic analysis was performed on the transcript independently by 4 investigators (H.Y.S., J.W., M.S., A.E.M.) to identify the main themes from the focus group discussion. The investigators then worked in pairs to assign the entire text to the main themes. Disagreements regarding coding were resolved through discussion between the 4 investigators. Our fifth investigator (C.P.) served as the final decision maker if disagreements could not be resolved. Once the entire text was coded, summaries with representative quotes were generated.

## RESULTS

### Literature review

We found 88 citations with our search strategy. A total of 26 abstracts were reviewed and 8 papers were chosen for full paper review.<sup>8-15</sup> The *Canadian Immunization Guide*, and pertinent guidelines published by the Canadian Task Force for Preventive Health were also reviewed.<sup>16,17</sup> A total of 58 preventive health interventions or assessments were identified and grouped into 6 categories (history [n=16], counseling [n=5], physical examinations [n=19], investigations [n=11], immunizations [n=4], and treatments [n=3]).

### Survey results

A total of 106 completed surveys were received (response rate of 42%). Respondent demographic characteristics are shown in **Table 1** and indicate that about half of respondents have worked in LTC and most of them were registered nurses or registered practical nurses.

Survey results showed that among the 5 most important PHE items and the most likely to be performed PHE items there was an overlap of 4 items: reviewing active health status, reviewing pain control, reviewing medications, and screening for falls (**Table 2**). Although the order in which they were rated varied slightly, there is good concordance between what clinicians deemed most important and most likely to be performed.

Similarly, the 4 least important items were also deemed to be the 4 least likely items to be performed during a PHE in LTC. These items were prostate-specific antigen testing, mammography, digital rectal examinations, and abdominal aortic aneurysm screening. Like the top 5 items, there was a slight variation in rating order; however, there was good concordance between what clinicians deemed unimportant and least likely to be performed during a PHE in LTC. The overall 5 most important preventive health interventions and 5 least important preventive interventions were not significantly influenced by professional designation, years in practice, or whether or not a clinician worked in an LTC setting.

Long-term care physicians' ratings of preventive health interventions were compared with non-LTC physicians' ratings of preventive health interventions (**Table 3**). The common preventive health interventions and assessment items between LTC physicians

**Table 1. Characteristics of survey participants**

CHARACTERISTICS	WORKING IN LTC (N = 49), N (%)	NOT WORKING IN LTC (N = 57), N (%)*
Sex		
• Male	11 (22)	7 (12)
• Female	38 (78)	45 (79)
Profession		
• Medical doctor	16 (33)	14 (25)
• Nurse practitioner	4 (8)	8 (14)
• Registered nurse or registered practical nurse	22 (45)	22 (39)
• Rehabilitation professional	0 (0)	3 (5)
• Other	7 (14)	10 (18)
No. of y in practice		
• <5	11 (23)	12 (21)
• 6-10	7 (14)	8 (14)
• 11-20	7 (14)	12 (21)
• >20	24 (49)	21 (37)

LTC—long-term care.

\*Owing to missing data, not all percentages add to 100%.

**Table 2. Periodic health examination items: A) Top 5 items, in order, that participants deemed to be most important and most likely to be performed. B) Top 5 items, in order, that participants deemed to be least important and least likely to be performed.**

A) MOST IMPORTANT PHE ITEMS	MOST LIKELY TO BE PERFORMED ITEMS
<ul style="list-style-type: none"> <li>• Review medications</li> <li>• Review of active health issues</li> <li>• Review pain control</li> <li>• Screen for falls</li> <li>• Measure blood pressure</li> </ul>	<ul style="list-style-type: none"> <li>• Review of active health issues</li> <li>• Review pain control</li> <li>• Review medications</li> <li>• Screen for falls</li> <li>• Encourage physical activity</li> </ul>
B) LEAST IMPORTANT PHE ITEMS	LEAST LIKELY TO BE PERFORMED ITEMS
<ul style="list-style-type: none"> <li>• PSA testing</li> <li>• AAA screening</li> <li>• Mammography</li> <li>• DRE</li> <li>• TB status review</li> </ul>	<ul style="list-style-type: none"> <li>• PSA testing</li> <li>• Mammography</li> <li>• DRE</li> <li>• AAA screening</li> <li>• HIV screening</li> </ul>

AAA—abdominal aortic aneurysm, DRE—digital rectal examination, PHE—periodic health examination, PSA—prostate-specific antigen, TB—tuberculosis.

and non-LTC physicians were review of medications and review of advanced directives. Otherwise, LTC physicians rated immunizations and screening for falls as more important interventions, whereas non-LTC physicians rated reviewing active health issues, encouraging physical activity, and monitoring blood pressure as more important interventions. Other statistically significant differences between LTC and non-LTC physicians included non-LTC physicians rating screening for urinary incontinence, performing the Mini-Mental State Examination, screening for alcohol misuse, counseling for alcohol misuse, screening for lipid levels, and screening for HIV as more important, and LTC physicians rating reviewing pneumococcal vaccination status as more important.

Differences in the importance rating of items between LTC physicians and all other respondents were also examined. In general, LTC physicians considered reviewing advanced directives, as well as influenza and pneumococcal immunization status, more important than all other respondents did. Long-term care physicians also rated certain evidence-based preventive health interventions and assessments for the elderly such as vision and hearing screening as less important than all other respondents did. Performing the Mini-Mental State Examination and screening for anemia in the LTC population was also deemed less important by LTC physicians when compared with all respondents.

### Focus group findings

Ten practising LTC physicians from the Hamilton area attended the focus group. Most of the participants were male, with at least 15 years in general practice and LTC, and medical directors of their respective LTC facility.

The intent of the focus group was to provide expert opinion and content validation of the survey results. There was a consensus among most of the focus group participants that the results shown in **Table 2** were appropriate in the context of LTC. The focus group also clarified that the difference of opinion between physicians who work in LTC and those who do not (**Table 3**) was likely related to knowing whether performing an intervention in LTC would result in actionable results. Another reason given by focus group participants was that the risks of performing certain interventions, such as screening interventions, generally outweigh benefits in this population.

In the nursing home ... they need 24/7 care ... [consider] risk versus benefit ... are they going to be alive in a year? (P3)

[Q]uestions you have to address would be ... is there a high burden of illness, is there a very precise screening tool, and is there an effective treatment? (P7)

**Table 3. Comparison of most important preventive health interventions, in order, according to LTC physicians with the most important preventive health interventions according to non-LTC physicians**

LTC PHYSICIANS	NON-LTC PHYSICIANS
<ul style="list-style-type: none"> <li>• Review flu shot status</li> <li>• Review advanced directives</li> <li>• Review pneumococcal vaccine status</li> <li>• Screen for falls</li> <li>• Review medications</li> </ul>	<ul style="list-style-type: none"> <li>• Review medications</li> <li>• Review of active health issues</li> <li>• Encourage physical activity</li> <li>• Measure blood pressure</li> <li>• Review advanced directives</li> </ul>

LTC—long-term care.

Aside from providing expert opinion and validation, a conventional thematic analysis of the entire transcript was performed to understand the perspective of current LTC physicians on care within LTC. After analysis, 3 main themes that evolved from the focus groups data were examined: current physician perspectives on the existing annual health examination in LTC, conceptual ideas for the new PHE form for LTC, and physician perspectives on the optimization of care in LTC.

**Current physician perspectives on the existing annual health examination in LTC.** The current provincial requirement for LTC physicians to perform an annual physical examination on all residents residing in LTC facilities was a source of strong frustration for the focus group participants. They expressed that this was a redundant process with limited effectiveness, as patients in LTC are regularly examined and assessed.

I've always had a big issue with this so-called annual physical exam mandated by the Ministry when ... I'm reviewing it [on an] everyday basis, monthly basis ... I'm doing a regular review. Why ... do I have to have a separate day right where I have to do an annual ...? It is such a waste of time ... I know what's required by ... the Ministry, [but] I'm just interested in what is effective. (P3)

**Conceptual ideas for the new PHE form for LTC.** When discussing a new PHE form, participants agreed that the biggest problem to overcome was integration of documentation. Documentation occurs on a daily basis by the entire interprofessional team, but typically occurs at different times and in different sections of the patient's chart resulting in siloed care with no integration. This leads to redundancy and increased paperwork. "It seems like there are more and more people doing what needs to be done ... And we're just ... duplicating things ...." (P8)



One solution was to develop a PHE form that incorporated interdisciplinary assessments that could improve the overall care of the patient in LTC.

I'm wondering if ... you can have it filled out ahead of time ... get input from different people [nursing, physiotherapists, social workers] and ... start using that data ... so when you walk in for your physical you have a third of the form already filled out with a lot of those issues. (P9)

As well, it was noted by many participants that the new PHE form should primarily document a patient's change in function over time, and should include assessments for falls, pain, and depression. "The document should give a picture of a resident. You should be able to read it and picture this resident, how they walk ... how they interact. What their quality of life is, how cognitively [impaired they are]." (P2)

**Physician perspectives on the optimization of care in LTC.** Optimizing care for residents in LTC was seen as related to increasing physician capacity to practise in LTC. One LTC physician believed that having an evidence-based PHE form would benefit physicians who were currently not familiar with working in LTC. "A form like this may help doctors who aren't doing a lot of long-term care [or] that have 1 or 2 patients. It would help them annually to say these are suggestions." (P8)

Also, allied health care was recognized as crucial in delivering high-quality care in LTC, and several participants suggested good allied staff such as personal support workers, social workers, and recreational therapists.

## The PHE form

Two versions of the PHE form were created to be used in LTC: a short form and a long form. The short form is outlined in **Figure 1**, and the ARMOR (assess, review, minimize, optimize, reassess) tool that both versions suggest using for medication review is presented in **Table 4**.<sup>18</sup> The original versions of both forms are available at **CFPlus**.\*

## DISCUSSION

This 2-phase study was completed to develop an updated evidence-based PHE form for LTC residents. The form's aim is to provide guidance on key evidence-based preventive health interventions and assessments

while offering physicians flexibility to address the context of each individual patient. The top 4 preventive health items and health assessments that clinicians thought were important to include in a PHE for LTC residents include reviewing medications, reviewing active health issues, reviewing pain control, and screening for falls. This correlated well with the top 4 items clinicians believed were practical to perform during a PHE in LTC, and did not significantly vary based on respondents' demographic information. However, LTC physicians did have some difference of opinion about what should be addressed during a PHE for LTC residents than all the other respondents did. This might be owing to the fact that LTC physicians have a better understanding of the patient population within LTC. Long-term care physicians might also recognize that monitoring function and assessing items that would negatively affect the function and quality of life of an LTC resident are of top importance for the PHE in LTC.

The initial intent of the focus group was to understand the meaning of the survey responses from the perspective of the LTC physician. Interestingly, the discussion revealed instead the intense frustration experienced by practising LTC physicians with respect to the current "annual physical" in LTC. Citing reasons such as lack of perceived effectiveness, siloed documentation, and poor work flow, LTC physicians were clear that the current provincial requirement does not equate to better quality of care.

One important theme that was brought up in the focus group was the lack of integration of documentation and assessments among different LTC clinicians. This lack of integration was due to the lack of standardization of charting methods (ie, paper vs electronic), as well as the lack of efficient access to previously recorded nursing and interprofessional health assessments. Recent work in the palliative care setting has shown that integrated documentation can improve quality of care and reduce workload.<sup>19,20</sup> Similarly, a systematic review of integrated care pathways in stroke care has also shown these pathways improve the documentation of patient care goals, as well as communication between providers.<sup>21</sup> As a result, the siloed documentation in LTC, as observed by practising LTC physicians in our focus group, poses a considerable barrier to presenting a single PHE form that can be completed through interprofessional collaboration. The ideal vision for such a PHE form is that it could be prepopulated with information from the entire patient chart, including information like recent vital sign measurements, bloodwork values, and other interprofessional assessments.

Our findings add to the evidence and work done by others regarding specific elements of preventive interventions and assessments that should be performed in LTC. A focus on preventive health and reducing complications,

\*Easy-to-print versions of the short form and long form of the periodic health examination are available at [www.cfp.ca](http://www.cfp.ca). Go the full-text version of the article online and click on **CFPlus** in the menu at the top right-hand side of the page.

**Figure 1. Short form version of the periodic health examination for frail elderly patients in LTC**

LTC physician: POA personal care: Date:		Patient Bradma
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CURRENT SUMMARY OF ACTIVE ISSUES	ADVANCED DIRECTIVES	MEDICATIONS
<input type="checkbox"/> Reviewed annual care conference issues	<input type="checkbox"/> Transfer to hospital; full code <input type="checkbox"/> Transfer to hospital; no CPR <input type="checkbox"/> Active treatment; remain at the home <input type="checkbox"/> Comfort measures; remain at the home  <b>Changes in health status require a review of advanced directives</b>	Medication review (ARMOR tool*) in past 3 months: <input type="checkbox"/> Yes <input type="checkbox"/> No  Allergies:
	CLINICIAN NARRATIVE OF PATIENT	
	Please use this space to document the functional change of the patient over the past year. This can be updated throughout the year as status changes	
PAST MEDICAL HISTORY		
<input type="checkbox"/> Reviewed pertinent family history		

FUNCTIONAL STATUS	PERTINENT LABORATORY VALUES	IMMUNIZATIONS
Cognition:  Mobility:  Skin/ulcers:  Mood/behaviour:  Pain:  <input type="checkbox"/> Reviewed functional inquiry	Albumin:  CBC:  eGFR/CrCl:  HbA <sub>1c</sub> (aim between 8%-9%):  Therapeutic monitoring (eg, digoxin, anti-seizure medications, lithium):	Influenza (date):  Pneumococcal (1 > 65 y of age):    Yes      No  Td (every 10 y):                                 Yes      No

PERTINENT PHYSICAL EXAMINATION FINDINGS	SUMMARY OF PROPOSED PLAN
Use this space to document a full physical examination that highlights pertinent findings relevant to the patient  BP: _____      Weight: _____	<div>Signature_____</div>

BP—blood pressure, CBC—complete blood count, CPR—cardiopulmonary resuscitation, CrCl—creatinine clearance, eGFR—estimated glomerular filtration rate, HbA<sub>1c</sub>—hemoglobin A<sub>1c</sub>, LTC—long-term care, POA—power of attorney, Td—tetanus and diphtheria.

\*Use the ARMOR tool described in Table 4 to evaluate polypharmacy in elderly patients.

**Table 4. The ARMOR tool**

ARMOR	EXPLANATION
A: Assess	<ul style="list-style-type: none"> <li>• Use the Beers criteria or the START and STOPP criteria</li> <li>• Consider rationale for using <math>\beta</math>-blockers, antidepressants, antipsychotics, pain medications, and vitamins or supplements</li> </ul>
R: Review	<ul style="list-style-type: none"> <li>• Drug-disease interactions (eg, NSAIDs and HTN or renal disease)</li> <li>• Drug-drug interactions (eg, trimethoprim-sulfamethoxazole and warfarin)</li> <li>• Adverse drug reactions (eg, skin rashes)</li> <li>• Weigh medication benefits vs effects on primary body function</li> </ul>
M: Minimize	• No. of medications according to <i>functional status</i> rather than <i>evidence-based medicine</i>
O: Optimize	<ul style="list-style-type: none"> <li>• For renal or hepatic clearance</li> <li>• Therapeutic drug monitoring</li> <li>• Remove duplication or redundant or unnecessary medications</li> <li>• Consider titration of antidepressants</li> </ul>
R: Reassess	<ul style="list-style-type: none"> <li>• Functional or cognitive status after initiation</li> <li>• Indications as functional and clinical status changes</li> </ul>
HTN—hypertension, NSAID—nonsteroidal anti-inflammatory drug, START—Screening Tool to Alert Doctors to the Right Treatment, STOPP—Screening Tool of Older Persons' Potentially Inappropriate Prescriptions. Reproduced with permission from Haque. <sup>18</sup>	

integration of interprofessional team assessments, and use of a flexible form that provides guidance for physicians could enhance care to LTC residents.

We propose that LTC physicians use the short form version (**Figure 1**) in their annual PHE of LTC residents. The long form version includes not only the interventions presented in the short form, but also interventions that have been deemed to be of lesser value for LTC in this study. We recognize that there will be patients in LTC who are completely dependent for their activities of daily living and instrumental activities of daily living, but who are much younger than the typical LTC population (eg, patients with developmental delays or acute brain injuries). In this population, it might still be relevant for clinicians to consider screening interventions presented in the long form version of the PHE that might not be applicable to most other patients in an LTC setting. Also, the long form version gives clinicians the flexibility and freedom to see which other interventions might be incorporated appropriately into their annual reviews. Therefore, clinicians would choose to use either the short form or the long form version based on their clinical practice.

The short form version has been intentionally designed with more blank spaces to give freedom and flexibility to alter and include pertinent physical examination findings for a particular patient being assessed. While there are no specific organ systems headings in the short form version, it is important for clinicians to realize a complete and relevant physical examination still needs to be completed.

## Limitations

There are several limitations that should be acknowledged. First, the pool of interventions used in the survey

was derived from literature that was not specific to the LTC population; most studies were completed in elderly patients who were still living in the community. Because of the lack of high-quality evidence specific to elderly patients in LTC, we chose to be more inclusive in order to generate a more substantial list for the survey.

Also, we opted to run only one focus group with all 10 participants rather than multiple groups. We believed that the cumulative experience of the LTC physicians in the focus group was sufficient to be a good representation of opinions of LTC physicians in Hamilton. As a result, the opinions of the physicians might not be reflective of practice issues and implications in other cities or provinces.

## Conclusion

This study introduced a PHE form that can be used by LTC physicians. This first iteration of the form does not address some of the key issues brought up by practising LTC physicians—specifically, the idea of integration of work done by the interprofessional team. Providing solutions to this issue was beyond the scope of this study. Currently, the usability and the formatting of this PHE form is being investigated; this is being done in LTC facilities outside of Hamilton that have not been exposed to the developmental process of this form. Other research being conducted will be to address how best to integrate the work done by the interprofessional team into this form. Finally, pilot studies in several different LTC facilities to determine feasibility, clinician uptake, and barriers and facilitators of implementation are planned. Future collaborations with electronic medical record companies to incorporate this form into their electronic medical record product for LTC are being considered; this would lay the groundwork for a larger observational study to



determine the effects of this form on patient-centric clinical outcomes and care provided in LTC.

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#### Contributors

All authors contributed to the creation of the survey, the analysis of the survey results, the qualitative thematic analysis of the focus group transcript, the development of the final proposed physical health examination form, and preparing the manuscript for submission.

#### Competing interests

None declared

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