



Palliative and Therapeutic Harmonization (PATH):

A new Model for Decision-making in Frail Older Adults

Abstract

As the population ages, advances in medical technology paradoxically result in the accumulation of multiple chronic health conditions—known as frailty. Despite increasing numbers of frail older adults, healthcare systems have not been designed to meet the challenges associated with caring for this patient population. This article describes the characteristics of health systems that exacerbate the complex issues associated with caring for those who are frail and reviews one possible model, known as PATH—Palliative and Therapeutic Harmonization, as a way to respond to these system challenges.

Keywords: *frailty, care planning, dementia, knowledge translation, health program*



 **Pre-test CME Quiz**

Clinical Vignette:

Mrs. Boutlier is an 83 year-old retired nurse and widow, who lives alone in her own three storey condominium. By her own account, she is independent at home, and requires assistance from her daughter for heavy housework (vacuuming, scrubbing the tub) and transportation to and from

the grocery store. She is known to have renal insufficiency (estimated creatinine clearance (CrCl) of 35 mL/min), chronic obstructive pulmonary disease (COPD), osteoarthritis, hypertension, hypothyroidism, and an abdominal aortic aneurysm (AAA). She was admitted to a community hospital with an exacerbation of her COPD, but an updated CT scan of the abdomen

About the authors

Paige Moorhouse, MD MPH FRCPC, and Laurie Mallory MD FRCPC, Division of Geriatric Medicine, Dalhousie University, Halifax Nova Scotia
www.pathclinic.ca

showed that in the last 12 months, her aneurysm had increased in size from 5 cm to 6.5 cm. Open repair is indicated. Upon comple-

tion of antibiotics and steroids for her COPD exacerbation, Mrs. Boutlier is transferred from her community hospital to a tertiary care center for further evaluation by the vascular surgery service.

Mrs. Boutlier undergoes open repair of her

aneurysm one week later. Her post-operative course is complicated by prolonged intubation (5 days), acute kidney injury (with a decrease in her CrCl to 15 mL/min, and the development of hyperactive delirium with decreased oral intake. She is slow to mobilize, requires ongoing oxygen by nasal prongs, and is transferred to the geriatric medicine rehabilitation unit in her community hospital. Her agitation improves with haloperidol and lorazepam, but her daughter notes worsening orientation and short term memory, especially at night. After a 6-week stay on the rehabilitation unit, Mrs. Boutlier continues to require oxygen, assistance with transfers in and out of the tub, cuing for personal care, and is unable

to negotiate the stairs, although she is independent for ambulation and transfer from a chair with a wheeled walker. She is eventually transferred to a long-term care facility, where she dies 10 months later in hospital from pneumonia complicated by acute coronary syndrome.

This kind of story is so familiar to any practitioner involved in the care of older adults that the tragedy of it ceases to alarm. We are at the beginning of a new age in health care. Over the next 30 years, we will experience unprecedented levels of consumer demand, and cracks in our health care system are already beginning to show. Our emergency departments are overflowing with frail older patients waiting for inpatient beds that are already full of frail older patients waiting for long term care. To conceptualize the issue as primarily one of volume and demand is to miss the opportunity to rise to this challenge. How did we get here? How can we move forward? There are several factors to consider.

System Challenge #1: Our Healthcare System Creates Frailty

Paradoxically, Mrs. Boutlier's first problem is that she has survived every health problem that she's encountered to date. Our health-care system is set up to deal with one health issue at once, but we're reluctant to admit that part of "suc-

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Key Point

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successful treatment” is that patients are left with an accumulating list of diseases that require ongoing management, either through medication, lifestyle changes, or procedures. This accumulation of illness is the basis for frailty,¹ which has become the ubiquitous byproduct of specialized medicine. The last 10 years have seen significant advances

in how we understand the physiologic underpinnings and predictive validity of the frailty construct,^{2,3,4,5} but these discoveries have yet to make their way into routine clinical care.

System Challenge #2: Limitations to application of evidence-based clinical guidelines

Mrs. Boutlier’s second problem is that she’s understudied. Although frail older adults will shape the successes or failures of medical care over the next 30 years, this population is perhaps most lacking in evidence-based guidelines to direct their care.⁶ Frail older adults are more likely to be excluded from the large-scale randomized clinical trials (RCTs) that form the basis of clinical practice guide-

lines (CPGs) because their inclusion would require larger sample sizes to account for confounding factors, drop outs, and deaths.⁷ Further, although mortality is an easily measured primary outcome used in many large scale RCTs, other important indicators of morbidity, such as permanent loss of cognition, mobility, or function, or the need for long term care, are not captured in outcome data. Finally, although frail older adults are known to be at greater risk of sustaining immediate and serious adverse events with treatments and interventions, CPGs do not provide guidance about the possibility that a frail person will not live long enough to experience the benefits that preventative therapies, such as antihypertensives or statins⁸, have to offer.

System Challenge #3: Patient-centered assessment has become the endpoint

Mrs. Boutlier’s third problem is that although she will undergo multiple assessments by physicians, nurses and allied health professionals over the course of her hospital admission, the “big picture” of her health is unlikely to be central in her care plan. For example, although Mrs. Boutlier reports independence in her function, collateral history from her daughter would have revealed a history of cognitive impairment

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Key Point

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over the last 18 months, and a 9 month history of progressive weight loss. In fact, her daughter had moved in with her mother and has needed to assist her with bathing and meal preparation.

In our current approach to history-taking, health information is routinely collected from frail older adults without appreciating the prevalence of cognitive impairment⁹ in frailty. Notably, loss of insight is an early, characteristic feature of dementia. As such, individuals with dementia often deny that they have a problem with memory and tend to overestimate their functional abilities. Reluctance to routinely seek and record information from a reliable collateral historian when evaluating frail older adults leads health care providers to create care plans based on inaccurate information without understanding the full cognitive, physical and social context of health. This fatal flaw of assessment is often committed under the guise of “patient-centered care.” Unfortunately, our inability or unwillingness to widen the lens of assessment often means missing out on the information that is needed to assemble the “big picture” and create feasible and appropriate care plans.

Similarly, the time and resources expended on “assessment” are often at the cost of coordinating the results of team members’ efforts into a cohesive and broad prioritization of those issues most in need of thought

and intervention.¹⁰ Currently, no single member of the health care team is responsible for contextualizing each specialized treatment plan within a broader perspective of goals of care. For example, the big picture of Mrs. Boutlier’s health indicates a protracted and progressive decline, consistent with increasing frailty unrelated to the AAA; the picture further suggests that she may not re-establish her baseline function after the AAA repair, including the ability to navigate stairs, and consequently, return to her previous living arrangement.¹¹ This big picture is contingent upon the accurate information about function and cognition from her daughter, and consideration of the trajectory of health in the months leading up to her present state.

System Challenge # 4: How we measure and incentivize health care institutions and the professionals who work there

Mrs. Boutlier’s final problem is that although immensely fulfilling on a personal level, there are few system-based incentives to step back, view her health from a broad perspective, and measure each intervention against the meterstick of frailty. Instead, surgical repair is considered to be the standard of care for AAAs of her size and rate of enlargement;¹¹ volume and wait times for surgical interventions are indicators



Key Point

Team-based care is an expensive resource, which must demonstrate value by improving the appropriateness of the care received by those who use it

of service quality;¹² and transfer to a rehabilitation facility in the post-surgical period could be counted as a successful surgical outcome. Once at the rehabilitation facility, assessment by a team of professionals is the standard of care, and transfer to acute care for management of acute coronary syndrome is routine. Such standards ignore the importance of individualized care planning for frail older adults to consider the possibility that some interventions may result in worsening of quality of life, especially at the end of life, when most health care utilization occurs.¹³

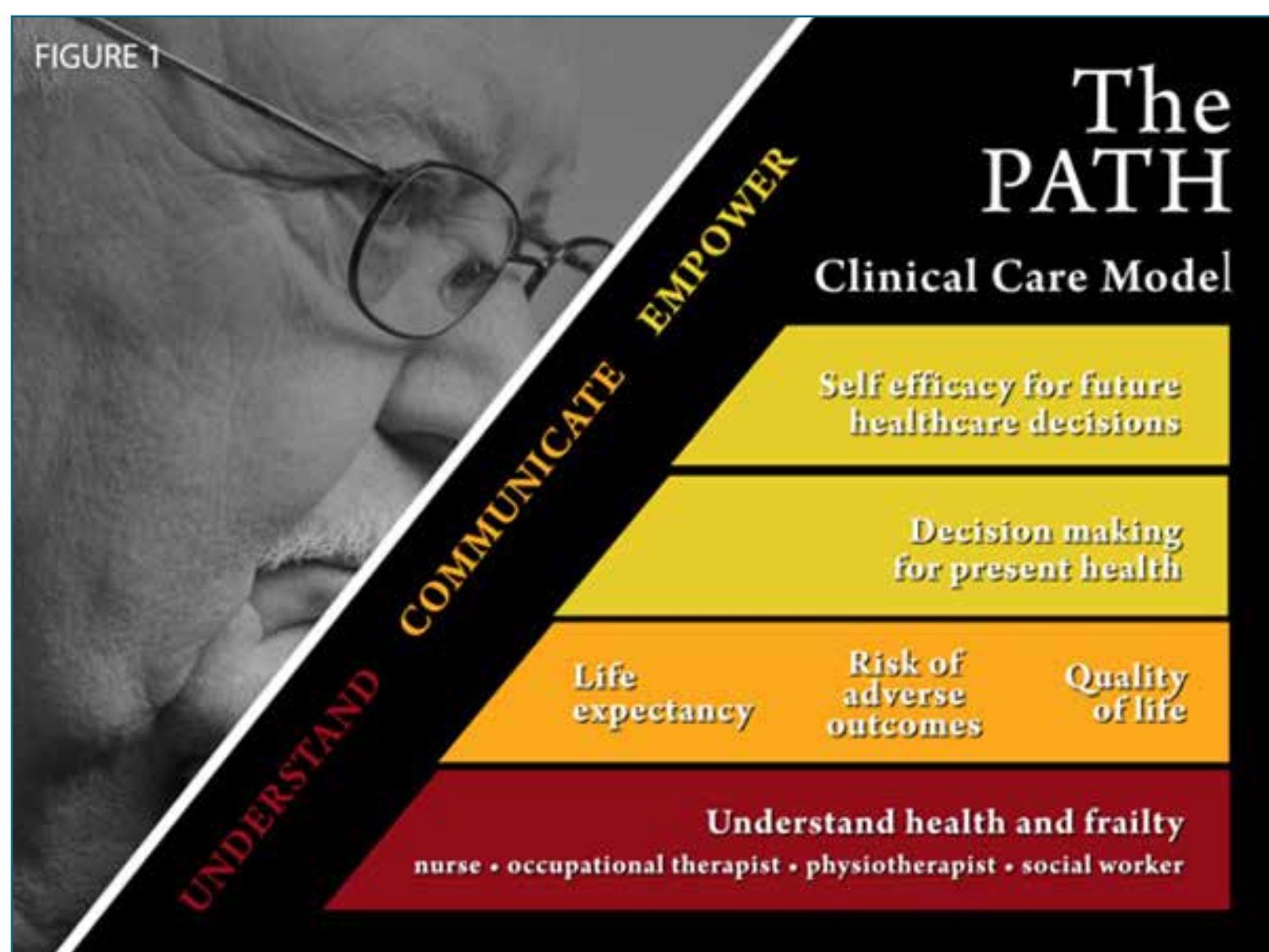
How can we stop the runaway train of medical interventions

that characterize the end of life in frail older adults? The Palliative and Therapeutic Harmonization (PATH) model addresses the system-wide challenges to appropriate care in frailty through three primary avenues:

1. Clinical Care Planning:

The PATH Clinical Care model includes inpatient and outpatient programs for frail older adults and their caregiver/substitute decision makers who may be facing a particular health care decision or are seeking general guidance around prognosis and care planning. The model is characterized by three clinical tasks (Figure 1). The process begins by achieving

FIGURE 1



Key Point

The PATH provides one model for addressing care planning decisions in frail older adults

an understanding health status (with particular attention to cognition and frailty), carried out by a trained health professional (nurse, occupational therapist, physiotherapist, social worker) under the supervision of a nurse practitioner or physician. Once the “big picture” of health and frailty is assembled, the second step of PATH communicates this information to the patient and/or their caregiver using a semi-structured interview. The third step builds upon the first two by empowering decision makers to use their understanding of frailty, health status, and prognosis acquired through the PATH process to make specific upcoming health interventions. New skills in decision-making help patients and/or their families learn how to optimally manage the recurrent health crises that characterize frailty at the end of life using ‘PATH Framework Questions for Decision-making’ (Table 1). As well, all participants are encouraged to contact the PATH program for decision support during future health crises. The program has expanded to community and long-term care teams within Nova Scotia and in Ontario. Knowledge transfer materials are central to the process, and a qualitative analysis of participant experience is currently in the analysis phase. Although the program was not developed with improved healthcare utilization as the primary goal, experience in the first

2 years of PATH indicates a 76% reduction in the composite endpoint of proceeding with scheduled services including surgery, dialysis, and diagnostic investigations. Many patients and decision makers express relief at the clarity that comes with understanding frailty and its relationship with prognosis, and their new insight that not all offers for aggressive interventions must be accepted.

2. Encouraging a culture shift through training: Successful implementation of the PATH model requires care providers to

Table 1: PATH Framework questions for decision-making

1. Which health conditions are easily treatable and which are not?
2. How will frailty make treatment risky?
3. How can symptoms be safely and effectively managed?
4. Will the proposed treatment improve or worsen function or memory?
5. Will the proposed treatment require time in hospital? If so, for how long?
6. Will the treatment allow more good quality years, especially at home?
7. What can we do to promote comfort and dignity in the time left?

Table 2: Common barriers to care planning that prevent focusing on the “big picture”

Domain	Common questions or concerns arising	Remedy
Role identity	“What does the assessment of cognition have to do with my role as a social worker?”	A new appreciation of the prevalence and pervasiveness of cognitive impairment and its relationship to prognosis and frailty increases the scope of assessment
Job security	“If I don’t assess every client/patient, or spend less time assessing clients/patients, how will I demonstrate value and productivity?”	By learning a common language and assessment, team members’ specialized skill sets can be triaged to those patients who most need them
Discipline-based standards	“I am not licensed to ask clients’/ patients’ families about their function at home unless the patient specifically requests it.”	Reframe patient-centered care in frailty to focus on the wellbeing of the patient/ caregiver dyad
Inertia	“We already have a team-based assessment.”	Systematic evaluation of the degree to which the existing assessment holds frailty and appropriateness as central considerations inherent in care planning decisions

challenge their assumptions and behaviors when it comes to care planning and collaboration. The PATH program therefore includes training modules for individuals and teams interested in implementing the program, as well as protocols for identifying administrative leadership and overcoming common barriers to change (Table 2). Training modules focus heavily on creating a common language

and skill set between disciplines so that care plans are not lists of tasks divided along discipline lines. This most often requires retraining of existing skillsets and expansion of assessment scope.

3. Development and dissemination of treatment guidelines: Delivery of optimal appropriate care in frail older adults is hampered by the lack of clinical practice guidelines

SUMMARY OF KEY POINTS

The byproduct of advances in medical technology and therapy is that older adults survive to accumulate multiple chronic co-morbid diseases (frailty)

Frail older adults are not well-served by a medical system designed to fix one thing at a time

Team-based care is an expensive resource, which must demonstrate value by improving the appropriateness of the care received by those who use it

The PATH provides one model for addressing care planning decisions in frail older adults

for pharmacotherapy of common chronic conditions in frail older adults. The PATH model has therefore partnered with the Drug Evaluation Alliance of Nova Scotia (DEANS) and the Dalhousie University Academic Detailing Service to synthesize the existing evidence and clinical practice guidelines for common conditions in frail older adults, including hypertension, diabetes, hyperlipidemia, osteoarthritis, depression, and other chronic diseases. The goal is to examine the limitations of applying the existing evidence in frailty, and where possible, assemble treatment guidelines that take frailty (and its unique challenges for pharmacotherapy) into consideration. To date, guidelines for diabetes and hypertension are complete. An evaluation of the implementation of such guidelines in a long-term care facility is currently underway.

An alternate ending for Mrs. Boutilier

Mrs. Boutilier was assessed by the PATH nurse practitioner. The assessment revealed the presence of mild dementia (consistent with Vascular Cognitive Impairment), severe COPD, (FEV₁ 47% of predicted, and FEV₁/FVC < 50%), stage 3 chronic kidney disease,¹⁴ a 20 lb weight loss over 4 months, and moderate baseline frailty.³ It was recognized that frailty made her current living arrangement precarious, and her daughter endorsed symptoms of moderate caregiver stress.¹⁵ The risks of undergoing open repair of her aneurysm were reviewed, including the risk of intra-operative death or myocardial infarction, prolonged intubation, delirium (including the risk of permanent decline in cognition associated with delirium,¹⁶ decline in mobility related to baseline frailty, and inability to return to her current living arrangements.¹¹ The patient

Clinical Pearls

The assessment of frailty is easily and accurately accomplished using the Clinical Frailty Scale [Rockwood, 2005]

In frailty, the collateral historian is central to accurate and efficient assessment

When older adults present with acute decline in cognition, mobility or function, this is a sign of underlying medical disease in a frail substrate

was in favor of forgoing surgery, “I wish they’d just leave [it] be,” and her daughter was in agreement. Home care supports for meal preparation and medication administration were set up and the patient was discharged to her home 3 days later. The annual risk of rupture (10%) was reviewed and an action plan of what to expect in the event of aneurysmal rupture was provided to the patient and her daughter. She died suddenly in her own home 10 months later in the presence of her daughter.

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Post-test CME Quiz

Members of the College of Family Physicians of Canada may claim MAINPRO-M2 Credits for this unaccredited educational program.

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