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Brief Report

Brain health navigation in a large integrated healthcare system

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ABSTRACT

Alzheimer's Disease is a complex, chronic illness of increasing prevalence in the US and worldwide. The complexity of this illness, and its impact on caregivers make it an ideal candidate for navigation services. The development of billable navigation codes now make it possible to create a financially sustainable navigation program. We describe our initial experience with a brain health navigator program, partnering between primary and specialty memory care, in a large integrated healthcare system. While a number of challenges exist, and careful planning was required, we have successfully implemented a navigation program, enrolling greater than 100 patients in the initial 6 months. Patient and caregiver feedback has been highly positive. We have experienced no significant barriers to reimbursement and when accounting for incremental downstream revenue generation (e.g. MRI, labs), we are forecasting long-term financial sustainability and the opportunity for continued scaling over time.

1. Introduction

Alzheimer's disease and related disorders are a leading cause of death and disability across the globe. In 2021 an estimated 57 million people worldwide suffered from dementia[1]. In the Unites States alone, 6.9 million Americans aged 65 and older have Alzheimer's disease (AD), and this is estimated to increase to 13.8 million by 2060[2]. AD is the 5th leading cause of death in the US and a leading cause of disability worldwide[2]. The economic cost is also great, with an estimated $360 billion in Medicare and Medicaid payments in 2024 for this group, along with an estimated $346.6 billion of unpaid caregiving provided in 2023 [2]. As these numbers continue to increase with the growing population, the need for better models of care is clear. Patient navigation is one potential solution to the many unmet needs.

The concept of patient navigation was pioneered in oncology. Dr. Harold P. Freeman developed a program at Harlem Hospital in 1990, focusing on strategies to reduce late-stage cancer diagnoses in underserved populations through free screenings and guidance. As a result of this program, 5-year survival rates for breast cancer patients at Harlem Hospital increased from 39 % to 70 %[3]. As navigation programs have developed across the United States, they have sought to improve access, reduce time to diagnosis and treatment, and decrease the fragmentation of care.

The success of oncology navigation led to adoption within neurology, perhaps most notably in the field of stroke beginning in the late 2000′s[4]. Over time navigation services have been increasingly developed to serve patients with conditions such as multiple sclerosis, epilepsy[5] and various neurodegenerative conditions[6]. Navigation is particularly suitable for a complex condition like dementia, in which various disparate services require coordination within often fragmented medical services[7], with family often serving as unpaid caregivers.

Recognizing the need for improved pre-diagnostic experience for patients and providers, the Davos Alzheimer's Collaborative Healthcare System Preparedness (DAC-SP) program launched the Brain Health Navigator (BHN) Program in early 2025[8] to provide resources and coordination between patients and providers along the brain-health pathway. Six pilot sites were selected across the United States, including Norton Healthcare, to develop materials and best practices for early detection, efficient diagnostic evaluation, and treatment and support for patients and caregivers that are scalable and financially sustainable. The learnings and practical resources from the BHN program are provided online and are open access[9].

2. Methods

The Brain Health Navigator program at Norton Healthcare is located within the Norton Neuroscience Institute (NNI), as a partnership between the Memory Center within the NNI and Norton's Preston Primary Care Practice. Norton Healthcare is an integrated healthcare system headquartered in Louisville, Kentucky, with 4 adult hospitals in

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Louisville, 3 additional hospitals in southern Indiana, and over 400 care locations, with a catchment area encompassing the state of Kentucky and southern Indiana. Preston Primary Care Practice serves a diverse population in southern Louisville.

A registered nurse with significant neurology specific research experience was chosen as our inaugural Brain Health Navigator. Our core planning team initially consisted of our primary care lead physician, the physician director of our memory center, memory center coordinator, NNI operations lead and our brain health navigator. Over time, additional administrative members from the primary care practice and clinical members from the memory center were added to this core team. This group met initially on a weekly basis to discuss programmatic goals, development, and implementation of the program. Over time the cadence of meetings was able to be reduced to biweekly and later to monthly.

Designated navigator roles included care coordination, education and support, facilitation of interdisciplinary collaboration, advanced care planning, and referral to internal and external resources (e.g. anti-amyloid therapies, Alzheimer's Association).

Aiming to maintain flexibility, referrals could be made into the program by clinical providers in both primary care and specialty care. Fig. 1 provides an overview of the process for the brain health navigation program.

We focused on Principal Illness Navigation (PIN) and Principal Care Management (PCM) codes. Both utilize time-based billing following an initial qualifying visit with a physician or advanced practice provider and subsequent consent, with charges dropped monthly on behalf of the provider.

Patients with a single confirmed or suspected serious, high-risk condition expected to last at least 3 months, such as dementia, qualify for PIN services. PIN codes include G0023 (first 60 min per month) and G0024 (each additional 30 min per month).

To qualify for Principal Care Management (PCM) patients require a confirmed diagnosis (e.g. Alzheimer's Disease) that is expected to last at least 3 months or places them at significant risk of death, acute exacerbation/decompensation, or functional decline. PCM codes include 99426 (first 30 min per month) and 99427 (each additional 30 min per month). These codes are submitted monthly for up to 12 months after a qualifying visit. The qualifying visit can be repeated yearly, to allow for continuing navigation services.

A referral mechanism was created within the electronic health record with a limited number of referrals initially accepted from the clinics of our primary and specialty care lead physicians. After further refinement of the referral process over the first 1–2 months, the program was opened more broadly across the single primary care pilot site and the memory center within NNI. The brain health navigator program at Norton Healthcare was launched in April 2025. In the development of our brain health navigation program, we identified three overarching priorities: value creation, flexibility, and financial sustainability. To address the first priority of value creation we identified existing gaps and opportunities to elevate care and create value for patients and their caregivers. This led to the delineation of navigator roles including care coordination, education and support, facilitation of interdisciplinary collaboration (e.g. between primary and specialty care, and with ancillary services), advanced care planning, and as a connector to other support services within and outside of our organization (e.g. primary care navigation, anti-amyloid therapy navigation, Alzheimer's Association, etc.). For example, care coordination can involve facilitation of communication between various specialties, diagnostic scheduling, connection with ancillary services or resources, connection with additional social services and assistance with arranging transportation. Interdisciplinary collaboration, likewise, means more effective communication between the various clinics and services involved in a patient's care. As a routine part of the initial navigation assessment, various tools have been employed for data collection including social determinants of health (SDOH), FAQ, IADL, safety assessment and behavioral assessment. The navigator in practice becomes a single point of contact who then facilitates communication across the spectrum of the care team. Caregiver feedback has been strongly positive thus far.

In terms of flexibility, we allowed for referral into the program at any

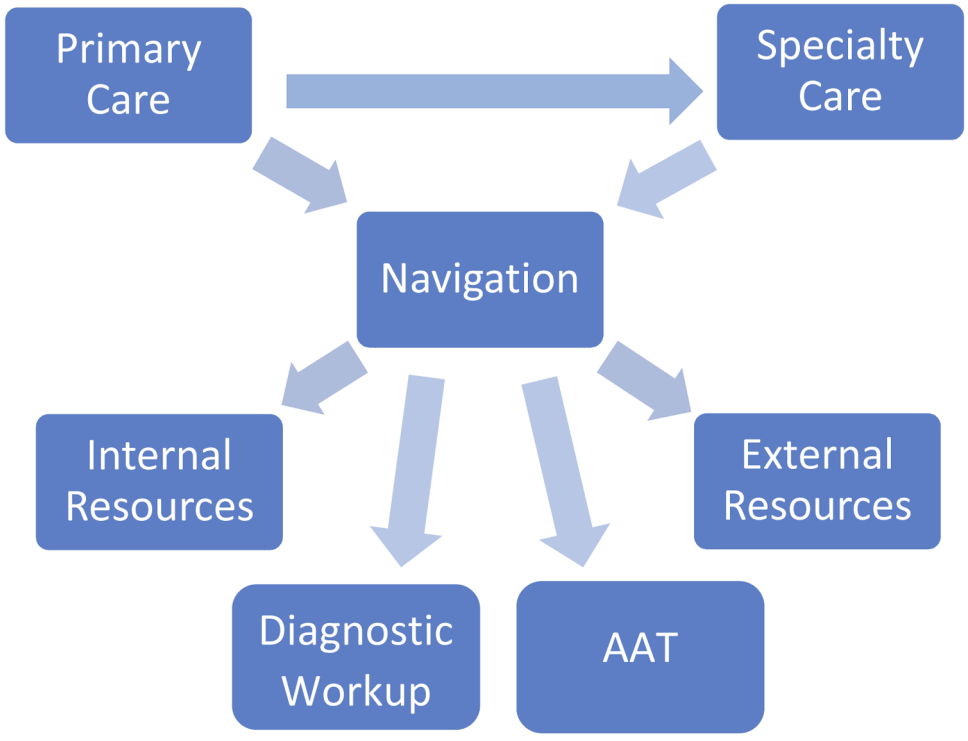

Fig. 1. Brain health navigation process map. Patients can be referred to BHN services from either primary or specialty care. Navigation can lead to referrals to internal and external resources, facilitation of the diagnostic work-up and to anti-amyloid therapies when appropriate. AAT=anti-amyloid therapies.

point within the patient journey. We wanted referral to be as easy as possible, and to allow for varying practice patterns both within primary and specialty care. For example, a primary care provider can refer a patient with a new or a long-standing diagnosis to navigation services, and can continue to manage that patient or refer to specialty care, according to their own practice style and preference. Or, within specialty care, navigation services can be implemented at the point of initial presentation, facilitating the diagnostic journey, or at any subsequent point depending on needs, such as disease education, behavioral symptom management and connection with other resources, both internal and external. For example, the navigator routinely performs a behavioral symptom evaluation, and can offer education in behavioral management strategies for caregivers, or refer to our psychiatric nurse practitioner when appropriate. This will allow for easier scalability over time, and has likely contributed to the rapid ramping up of our current program over a short time period.

This work was deemed exempt for IRB review. Only de-identified data at a group level, and no identifiable individual data is reported.

3. Results

After gaining initial experience, we solicited referrals from both of our pilot sites in primary care and specialty memory care. Through September 2025 (6 months), we generated 123 referrals. Twenty patients declined navigation services, leading to a total of 103 active patients in our navigation program. Of those referrals, the mean patient age was 75 years, with a range of 54–102. Sixty-eight percent were female. Eighty-five percent were Non-Hispanic White, with 13 % Black and 2 % Asian. Twenty-six patients ultimately went on to initiate anti-amyloid therapy. (Table) Anecdotally, caregivers expressed strong satisfaction with the program and services made available. While patient and caregiver satisfaction was not systematically measured, anecdotally only a single caregiver reported a lack of currently perceived benefit, while acknowledging a potential need for navigation services in the future. Comments from caregivers have included "having someone who is available to help me when I have questions or concerns give me reassurance and peace of mind" and "as a caregiver I know I'm not alone and that support means a great deal to me." Providers noted more efficient and timelier referral and diagnostic processes, with time to see a specialist after primary care referral cut by approximately 50 %.

To allow for continuation and growth of the program, we understand that financial sustainability is critical. Though there are more numerous potential navigation codes that can be utilized, we chose to focus on Principal Illness Navigation (PIN) and Principal Care Management (PCM) codes. Both utilize time-based billing, after an initial qualifying visit by a physician or advanced practice provider. At the qualifying visit the provider documents a diagnosis (or suspected diagnosis), and the need for navigation services, then placing a referral to the brain health navigator. The navigator then contacts the patient and caregiver, obtains consent and initiates services. The navigator then tracks time and with the appropriate physician or advanced practice provider submits claims at the end of the month. We have been routinely reimbursed for these codes.

PIN services are billed using codes G0023 (1st 60 min) and G0024 (additional 30 min), and are reimbursed by traditional Medicare on average at $79.25 and $48.52 per unit. This can vary slightly by region, and these codes might be better reimbursed by other payors. PCM services are billed using codes 99246 (1st 30 min) and 99247 (additional 30 min) and reimbursed by Medicare on average at $61.87 and $50.46 respectively. Conservatively, these could couple be expected to generate approximately $80,000, making an assumption of 30 h per week is devoted to provision of navigation services. Depending on the type and cost of navigator employed, this may not cover all costs. However, when downstream revenues from additional studies or services such as magnetic resonance imaging, labs and referrals for anti-amyloid therapies are accounted we anticipate surpassing break-even status and financial sustainability.

Though limited numbers of claims were submitted in April and May, these significantly increased as anticipated in June and beyond, with low rates of initial denials.

Table 1
Patient characteristics.

Total BHN Referrals	123
Declined Navigation	20
Mean age (range)	75 years (54–102 years)
% Female	68 %
% Non-Hispanic White	85 %
% Black	16 %
% Asian	2 %
Number referred for Anti-amyloid therapy	26

4. Discussion

We describe here the development of and initial experience with a brain health navigator program in the field of dementia. From the outset we focused on the creation of value for patient, caregivers and clinicians, as well as flexibility and financial sustainability to allow future scalability. We sought to address unmet needs broadly across the spectrum of dementia, ranging from initial evaluation to initiation of treatment to subsequent care in more advanced disease. We allowed for referral both from primary and specialty care, which likely allowed for our rapid initial growth.

Our program is distinct from previous Brain Health Navigation programs, such as one described at Indiana University (IU) by Brosch et al.[10]. At IU, the Brain Health Navigator (BHN) is located within primary care, with a primary goal of early detection of cognitive impairment. In addition to facilitation of early detection, and the diagnostic process, the BHN in this setting provided additional education on community resources, as well as engaged in discussions such as power of attorney, elder care law services and available community resources. The IU BHN program also allowed for triaging of patients based on the results of their diagnostic workup. The authors felt that this program led to better health outcomes, improved healthcare utilization, and importantly reduced burden on Primary Care Providers (PCP's). A potential limitation of their program, however, was financial. While billing codes were identified, it was not expected that they would fully fund the cost of the service provided.

We believe that our iteration of the Brain Health Navigator (BHN) builds upon the model of Brosch et al.[10], spanning across both primary and specialty care, while continuing to facilitate the diagnostic process and speed time to initiation of treatment. However, our focus extends beyond early detection, leaning more heavily into navigation services broadly. These services are currently an insufficiently met need. In this way, we believe that we have created a model that is flexible and can address a number of needs across medical settings and patient/-caregiver needs. And the utilization of navigation codes allows for future financial sustainability.

We chose a Registered Nurse as our initial BHN. This is consistent with the general practice within our broader healthcare system and within our own neuroscience institute. However, other models could be considered. For example, a social worker, medical assistant or lay navigator, with appropriate support, could potentially fulfill this role, particularly given the varied health and social support needs in this population, consistent with models of navigation developed for other complex diseases described previously[11]. As the navigator is the primary expense in the program, the choice of qualifications required for this role needs to be carefully considered and can impact financial sustainability significantly.

A potential challenge of this approach is the need for an upfront investment, including both time and money, allowing time for development and ramping-up before financial sustainability can be reached.

Downstream revenues from services such as Magnetic Resonance Imaging, laboratory studies and advanced anti-amyloid therapies should also be considered in financial planning. Brosch et al.[10], for example, showed a significant increase in MRI orders obtained between those receiving navigation and those not (25 % vs 3.4 %). The combination of direct billing of navigation codes and downstream revenues are capable of leading to sustainability, if not profitability of navigation programs.

Importantly, the value of our navigation program extends well beyond the financial. The ability to coordinate across specialties and services with a single point of contact is invaluable to patients and their caregivers. We are confident that in addition to raising overall satisfaction among providers, patients and caregivers alike, that this will also improve overall patient safety and quality of care.

A number of challenges and potential weakness of this program continue to exist. First, adequately defining the roles of the navigator has proven difficult, and we anticipate the roles will continue to evolve over time with experience and ongoing discussions. Ongoing communication between primary and specialty care teams have been critical in mitigating silos within our healthcare system, but have not eliminated this challenge. Second, it is difficult to build and maintain awareness of this program, particularly among busy clinicians with relatively short appointment times during which many topics must be covered. We will have to continue to develop better ways of communicating the availability and value of this program without encroaching unduly on the limited time providers have with their patients. Third, it is difficult to accurately forecast anticipated revenue and the number of patients needed to break-even. For example, initially enrolled patients and their caregivers may have a high need for services of 1–2+ hours in the first month. However, over time they may need little or no navigation services. Our ability to forecast should improve with time and experience.

An additional weakness of this report is the lack of reported objective data. While we solicited feedback from clinicians, patients and caregivers, this was done informally and qualitatively. This program was not devised as a prospective study, though implementing a survey instrument for participants would have added valuable information.

5. Conclusion

Norton Healthcare has successfully developed and implemented a brain health navigation (BHN) program. Strengths of the program are high satisfaction among patients and caregivers, the perception of elevated care, and improved coordination among disparate services. Early experience suggests that financial sustainability will be achieved in the near term. However, it is difficult to forecast the number of patient enrollment that will be needed to reach break-even as the needs of patients will vary significantly between individuals and from month to month. Further evaluation of downstream revenues, such as increased number of imaging studies (e.g., MRI) and referrals to other services generated from this program will also help justify continued growth. Additionally, this program will likely improve identification and evaluation of patients with memory complaints, leading ultimately to more timely diagnosis and initiation of appropriate treatments and support, which will have positive impacts at the population health level.

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CRediT authorship contribution statement

G.E. Cooper: Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **S. Patton:** Writing – review & editing, Project administration, Methodology, Conceptualization. **D. Lockridge:** Writing – review & editing, Project administration, Methodology, Investigation. **S.W. Freeman:** Writing – review & editing, Methodology, Conceptualization. **D. Drexler:** Writing – review & editing, Project administration, Methodology. **K. Wasz:** Writing – review & editing, Methodology.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests

Greg Cooper reports financial support was provided by Davos Alzheimer's Collaborative. Greg Cooper reports a relationship with Eli Lilly and Company that includes: funding grants. Greg Cooper reports a relationship with Eisai Inc that includes: funding grants. Greg Cooper reports a relationship with Novartis that includes: funding grants. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Statement regarding Artificial Intelligence

Artificial Intelligence (AI) was not used in the preparation of this manuscript or the work described.

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