Welcome to AutonomyAid

where YOU make the decisions by YOURSELF - with us by YOUR side

- My Dashboard
- Medical Resources
- Legal Resources
- Ethical Case Studies
- Podcasts
- Book Club
- Music Library
- Resources
- Contact Us

In the journey of life, everyone deserves dignity, understanding, and autonomy, especially during the golden years. At AutonomyAid, we believe in empowering our elderly community with seamless, accessible healthcare solutions tailored for end-of-life care.

Our web-based application is crafted with simplicity and ease of use in mind, making it perfect for those who may not have a smartphone but can access computers. With AutonomyAid, you can confidently manage your healthcare decisions directly from your fingertips.

Key Features:

- **Direct DNR Management:** Securely set up appointments with healthcare providers to sign a Do Not Resuscitate (DNR) order, Advanced Directive for Healthcare or Last Will and Testament. Your forms will be automatically uploaded to your electronic health record, ensuring your wishes are respected without relying on intermediaries.
- **Intuitive Health Chatbot:** Our friendly chatbot is here to listen to your health concerns. It gently guides you through questions about your ailments and suggests occupational therapy interventions to alleviate symptoms and improve your quality of life.
- **Ethical Guidance** for Tough Decisions: Life's hardest choices shouldn't be faced alone. Our platform provides clear, compassionate answers to complex medical ethics questions beyond DNR directives, like considerations for surgeries that could impact motor function or sensory abilities.

At AutonomyAid, your peace of mind is our priority. We're here to support you in making informed, autonomous decisions about your healthcare, ensuring your voice is heard and your choices are respected. Join us in embracing a future where end-of-life care is defined by dignity and empowerment.

AutonomyAid: A Web-Based Platform for Restoring Decision-Making Autonomy in End-of-Life Care

Summer Olivia Royal
summer.royal@example.edu

September 14, 2026

Abstract

Adults over the age of 65 now number roughly 58 million in the United States and are projected to exceed 73 million by 2030 and to constitute approximately 22% of the population by 2040. Despite the scale of this demographic shift, a large share of older adults reach the final stage of life without an advance directive, a durable power of attorney for health care, a do-not-resuscitate (DNR) order, or a will. The resulting documentation gap displaces decision-making authority from the patient to surrogates, courts, and institutional ethics committees, and it reliably produces outcomes that conflict with the patient's own stated preferences. This paper presents **AutonomyAid**, a web-based platform designed to close that gap by combining three things that are ordinarily separated: (i) direct execution and electronic-health-record (EHR) filing of medical and legal directives, (ii) plain-language ethical and legal education anchored in real cases, and (iii) an ancillary layer of social and cognitive engagement intended to address social isolation, an independently established risk factor for cognitive decline. We describe the motivating cases, the design rationale for a browser-first rather than mobile-first architecture, the system's functional architecture, its accessibility and cultural-inclusion commitments, and the limitations and open ethical questions the design raises. We argue that the platform's central contribution is architectural rather than technical: advance-care planning fails less often for lack of forms than for lack of an accessible venue in which the conversation can plausibly begin.

Keywords: advance care planning; end-of-life care; patient autonomy; surrogate decision-making; digital health accessibility; social isolation; gerontechnology.

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1 Introduction

The ethical principle of autonomy holds that a competent person is entitled to determine what happens to their own body. In practice, that entitlement is contingent on documentation. A preference that was stated once at a kitchen table, and never written down, has almost no standing once the person who stated it can no longer speak. What remains is a contest among surrogates, each of whom may sincerely believe they are representing the patient, and none of whom can produce evidence.

This failure mode is not rare and it is not primarily a failure of willingness. Older adults are, in our experience and in the literature, often more willing to discuss end-of-life preferences than their families and clinicians are to raise the subject. The obstacles are distributed across several domains at once: the legal instruments are perceived as expensive, the medical vocabulary is opaque, the cultural scripts governing how death may be discussed vary sharply across communities, and the digital tools that might otherwise help are disproportionately built for smartphones that many members of the target population do not own or cannot comfortably operate.

AutonomyAid is our response. The name joins the two ideas at the center of the project: we want to *aid* seniors in maintaining and regaining the *autonomy* to live the last stage of their lives in the manner they themselves judge best. That autonomy spans three areas: expressing and recording health-care preferences; designating who will represent their interests if they become incapacitated; and directing the distribution of their assets. Each area carries ethical difficulty that makes it hard to discuss openly, and that difficulty has produced a conspicuous void in ordinary vernacular.

Contributions. This paper makes four contributions.

(i) We document three formative cases, drawn from a retirement community and from a biomedical ethics curriculum, that isolate distinct mechanisms by which autonomy is lost at the end of life (Section 2).

(ii) We argue for a deliberately browser-first, accessibility-first design and give the rationale for rejecting the default mobile-app architecture (Section 3).

(iii) We describe a system that co-locates directive execution, legal templates, case-based ethical education, and social engagement in a single portal, and explain why the co-location is the design rather than an accident of scope (Sections 4–6).

(iv) We state the limitations and unresolved ethical risks of the approach candidly, including those introduced by the platform's own chatbot and engagement-telemetry features (Section 7).

2 Background and Motivation

2.1 The demographic case

The population of interest is large and growing. Approximately 58 million U.S. residents are currently over the age of 65. Census Bureau and CDC projections place that figure above 73 million by 2030, and at roughly 22% of the total population—about one in five people—by 2040. The platform's intended audience, however, is broader than that group alone: family members and care providers make or execute a substantial fraction of end-of-life decisions, and they are frequently the parties who most need the vocabulary the platform supplies.

2.2 Three formative cases

Three cases motivated this work. They differ in setting and in outcome, but each turns on the same underlying failure: a decision about a person's body or estate was made without adequate access to that person's own expressed wishes.

Case 1: A communication and advocacy failure across borders. A colleague, whom we will call Ben, learned that his mother's cancer had metastasized. Ben's family, living in the Philippines, appeared unaware both of the gravity of the diagnosis and of the practical difficulties of managing care abroad. In conversation it emerged that the family did not understand what *metastasized*, *palliative care*, and *hospice* implied; they had told relatives cheerfully that the cancer was gone, reasoning from the fact that the physicians had stopped treatment. We faced a genuine dilemma about whether it was our place to correct this. We chose to intervene, and the deciding consideration was cultural: among the deeply religious Catholic population of the Philippines, burial in the homeland—rather than cremation or burial away from the home village—carries strong normative weight, and the window for acting on that preference was closing. We were able to act as advocates in conversations with the oncologist, and once the family understood the prognosis, they arranged to fly Ben's mother home immediately. The case establishes the need for an advocacy and translation layer for people navigating a health system that is not their own.

Case 2: A surrogate appointed against a cultural norm. A case presented in our biomedical ethics course concerned a Japanese tourist who sustained a sudden injury resulting in brain death. Following hospital policy, the family was consulted, and organ donation and withdrawal of life support were strongly recommended—with pressure to decide immediately, given post-pandemic scarcity of bed space. The hospital's ethics committee was unaware that under prevailing Japanese cultural norms, patients declared brain dead may be maintained on life support, and that actively ending a life, including by withdrawal of support, is regarded as sacrilegious. A surrogate was appointed from the ethics committee and support was withdrawn abruptly, in front of a grieving family that had not been prepared for the intervention, causing severe mental anguish. Here the mechanism of failure is different: not absence of documentation but institutional misreading of the values a surrogate was meant to represent.

Case 3: An estate decided by a note on a registration form. When an elderly resident of the retirement community died, the police had no next-of-kin information on file—an unremarkable occurrence. The on-site manager had, over two decades, developed a habit of gently drawing out such information from residents with no evident relatives. In this instance the resident had mentioned an estranged nephew in Texas, and the manager had him write the nephew's name and number on his Resident Registration Form with a note identifying him as next of kin. That handwritten note, together with the manager's testimony, became the central evidence in the ensuing probate trial—for an estate worth in excess of $10,000,000. That a person of such means had regarded drafting legal documents as a waste of money crystallized the project's premise: free, accessible legal forms should categorically be preferable to a scribble on a registration form.

2.3 The doctrinal case: surrogacy without a directive

The most widely known instance of this failure remains the Terri Schiavo case. Schiavo suffered extensive brain damage in 1990 at age 26, resulting in a persistent vegetative state. On the surface, the dispute concerned whether to remove her feeding tube. The deeper issue—and the one the

platform is built around—was *who is entitled to act as surrogate decision-maker in the absence of a living will, durable power of attorney, or advance directive for health care*. Schiavo had executed none of these. Her husband maintained that she had verbally expressed a wish not to be sustained by artificial means; her parents disputed this and argued she might recover. After seven years of litigation and intense public attention, the feeding tube was removed in 2005. The case remains the canonical illustration of how thoroughly a documentation gap can transfer authority away from the patient. Figure 1 shows how the platform presents this case to users: not as a legal abstract, but as an argument for completing a directive on the Medical Resources page that same day.

3 Design Rationale

3.1 Why a web application rather than a mobile application

We built AutonomyAid as a browser-based application deliberately, and against the prevailing default. Three considerations drove the decision. First, many older adults have reliable access to a public or shared computer—at a library, a senior center, or a community room—but do not own a smartphone. Second, among those who do, degenerative vision conditions make small screens a poor medium. Third, arthritis and other declines in manual dexterity make precise touch targets on a handheld device a real barrier. A large-viewport, keyboard-and-mouse interface is not a fallback for this population; it is the better primary target.

3.2 Accessibility commitments

Accessibility is treated as a functional requirement rather than a compliance afterthought. The platform commits to: a simple, shallow navigation structure; enlarged type and high-contrast presentation; plain terminology in place of clinical and legal jargon; closed captioning on all video content; narration and screen-reader support; voice-to-text input for users who find typing painful or slow; and translation into the languages spoken by the largest non-native-speaking communities in the service area.

3.3 Cultural and linguistic inclusion

There is an active national debate about extending services to non-citizens. We take a position: we extend services to elderly immigrants and actively tailor the platform to the needs of members of other nations and cultures. The marginal cost of translation and of surfacing differing cultural perspectives on health care is nominal, and in our judgment it cannot be weighed against the duty owed to the elderly in our society. Cases 1 and 2 above are the empirical argument for this position: in both, the harm traced directly to a cultural or linguistic mismatch that better materials would have caught.

4 System Overview

The portal is organized around a persistent left-hand navigation rail with nine destinations: My Dashboard, Medical Resources, Legal Resources, Ethical Case Studies, Podcasts, Book Club, Music Library, Resources, and Contact Us. Functionally these fall into two tiers, described below.

Figure 1: The *Ethical Case Studies* page. Cases are presented in plain language, with the operative ethical question set in bold, and each case closes with a concrete action—here, a link to the Medical Resources page to complete an advance directive. The design intent is to convert a familiar news story into a personally actionable step.

4.1 Tier 1: Directive execution and legal instruments

Direct DNR management. Users schedule appointments with health care providers to properly execute a Do Not Resuscitate order, an advance directive for health care, or a last will and testament. Executed forms are uploaded automatically to the user's electronic health record. The automatic-upload step is the substantive one: it removes the dependency on a family member to submit—or withhold—the document at the moment it matters.

Legal templates. The portal provides customizable templates for the instruments every adult should hold regardless of age: a power of attorney for health care, a DNR, organ donation directives, and a last will and testament. Case 3 is the argument for making these free and immediate.

Ethical guidance. The platform addresses questions a DNR does not reach—for example, whether a patient wishes to undergo a surgery likely to cost them motor function, sight, or hearing. These are precisely the preferences that surrogates are least able to reconstruct and most likely to get wrong.

Health chatbot. A conversational agent prompts users about current symptoms and suggests occupational-therapy interventions intended to relieve them. Its limitations are discussed in Section 7.

4.2 Tier 2: Engagement surfaces

The second tier comprises podcasts, a book club with weekly video meetings, a music library indexing hits of the 1960s through the 1980s, and games and puzzles. These pages appear ancillary. They are not; their rationale is given in Section 6. Figure 2 shows the Podcasts page as implemented.

5 Three Domains of Impact

5.1 Psychological impact

Aging is difficult and confronting one's own mortality is among the hardest concepts to come to terms with. The platform's primary purpose is to give seniors the opportunity to take back control over end-of-life decisions and over the decisions that shape the quality of the final stage of life. The core psychological benefit is therefore empowerment, self-realization, and self-regulation—the restoration of agency to people accustomed to exercising it.

5.2 Legal impact

The second benefit is concrete: legal protection for the individual and for their survivors. The portal both confronts the user with the case for preparing basic instruments and supplies editable templates for doing so. The beneficiaries here are dual. The individual gains the assurance that their directives will govern; survivors are spared the probate exposure illustrated by Case 3.

5.3 Medical impact

The medical benefit follows from the EHR integration described above. Executing a DNR is useless if the document is not where clinicians look during a crisis. By scheduling the execution appointment and filing the resulting document automatically, the platform closes the gap between a directive that exists and a directive that is operative.

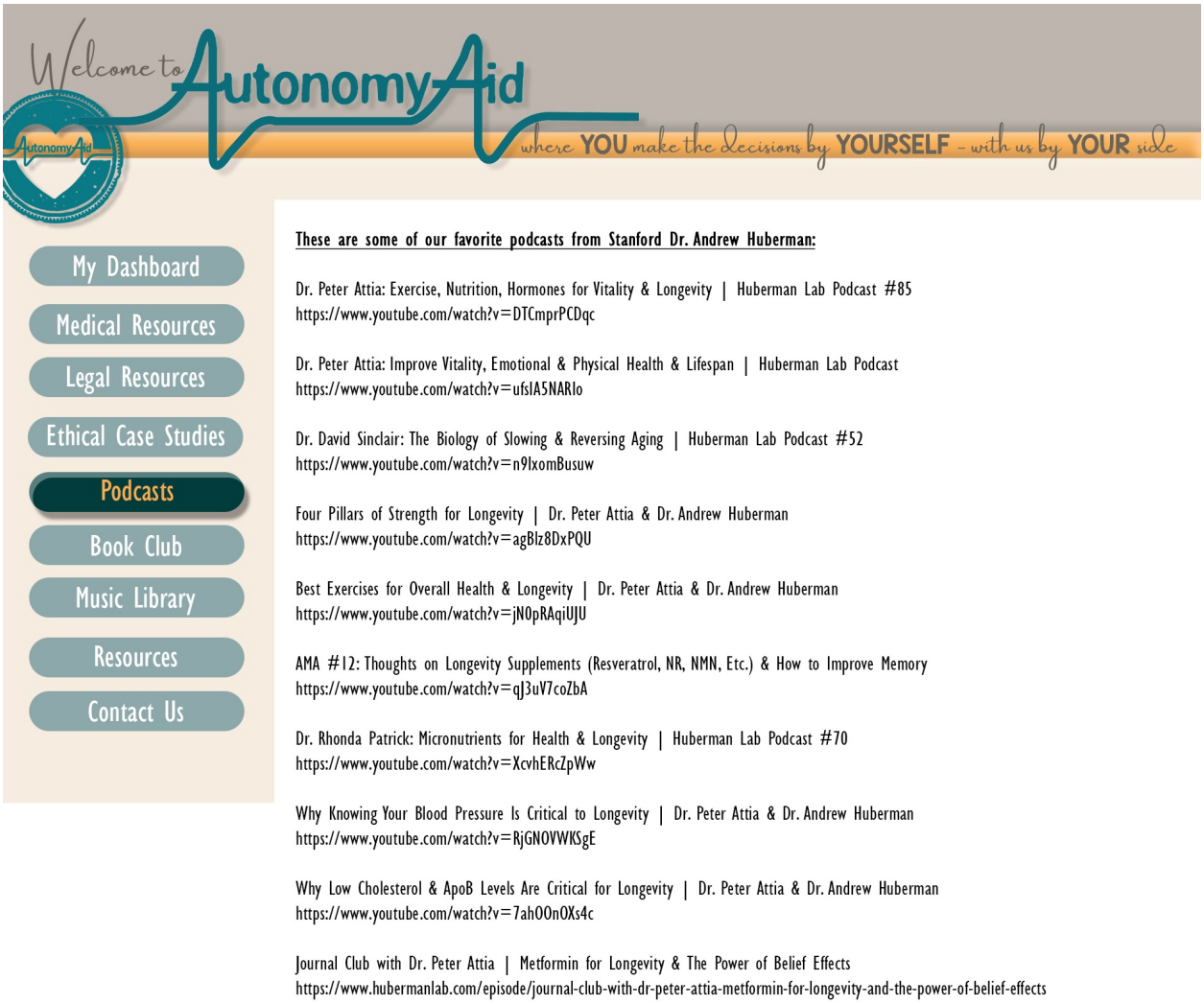

Figure 2: The *Podcasts* page. Programming is curated around longevity, nutrition, exercise, and cognitive health—subjects with intrinsic interest for the target demographic—and serves as the recurring draw that brings users back to a site whose primary purpose is otherwise a one-time task.

6 Social Engagement as a Clinical Intervention

The engagement tier is the least obvious part of the design and, we argue, among the most defensible. Research increasingly points to a marked association between social isolation and cognitive decline, and among the most commonly recommended interventions for mental decline is sustained social and mental engagement.

We therefore designed for recurring, dynamic engagement rather than single-visit task completion: weekly podcasts, weekly book club meetings, bingo, crossword puzzles, and music tied to the years users most fondly remember. The forum activity we anticipate—and have begun to see—is of a particular kind: users recounting where they were when a particular Earth, Wind & Fire record came out, or when everyone wanted Elvis's bell bottoms or Elton John's rose-colored glasses, or how they learned to shout R-E-S-P-E-C-T loudly enough to trouble the downstairs neighbor.

The design message is deliberately two-layered: users arrive for the tangible, no-frills legal resources, and leave with something they did not know they needed—social engagement, and the

attendant neurochemical benefits, as a hedge against dementia.

6.1 Engagement telemetry as a longitudinal signal

A further, more speculative benefit deserves mention. Because the platform logs time spent on puzzles, games, podcasts, and classes, it could in principle support a feedback loop for clinicians, who might benchmark a patient's progression or decline against changes in the character and quality of their online engagement over time. We regard this as a hypothesis to be tested rather than a validated capability, and we note its privacy implications in Section 7.

6.2 Precedent: a pandemic-era check-in system

The idea has precedent in our own prior work. During the pandemic we built an application for a senior condominium association through which residents checked in daily and reported health concerns or needs, including requests for groceries that neighbors could volunteer to fill. A post-pandemic version of that system survived and remains in use among residents with mobility or health limitations. Several residents reported that the daily check-in itself was reassuring: if no activity was logged, someone would perform a physical welfare check. That system is the existence proof that low-friction, habitual engagement can carry a safety function without being framed as surveillance.

7 Limitations and Open Ethical Questions

An honest account of this system requires stating what it does not resolve and what new risks it introduces.

The chatbot's scope. A conversational agent that elicits symptoms and proposes occupational-therapy interventions sits uncomfortably close to unlicensed clinical advice. The agent must be bounded to non-diagnostic suggestions, must escalate rather than reassure on red-flag symptoms, and must be evaluated on its behavior in the tail cases rather than on average helpfulness.

Templates are not counsel. Estate and directive law varies by jurisdiction, and an editable template does not constitute legal advice. The platform reduces the cost of a first draft; it does not substitute for review where an estate is complex or contested.

Telemetry and consent. Engagement data useful to a clinician is also data that could be used adversely—by insurers, by family members contesting capacity, or by the platform itself. Any clinical feedback loop must be opt-in, legible to the user, and narrowly scoped.

Documentation does not settle culture. Case 2 involved a family whose objection was not to a missing form but to the act being contemplated. Better documentation would have helped; it would not have been sufficient. Cultural competence in the institutions, not only in the tool, is the actual requirement.

Selection effects. The users most likely to find and adopt the platform are the ones already inclined to plan. The population that most needs it—isolated, without family, without an on-site manager who pries gently—is the population least likely to arrive unassisted. Distribution partnerships, not product features, are the likely remedy.

No evaluation yet. This paper describes a design and its rationale. We have not yet measured directive completion rates, retention, or any downstream clinical or legal outcome. Those measurements are the necessary next step.

8 Roadmap

Immediate. Deliver the core medical and legal resources to users and establish the directive-execution pathway end to end.

Intermediate. Reach a fully functioning site with daily posts sustaining continuous social engagement, including podcast programming on aging, longevity, estate planning, photo and videotape preservation, family-tree services through genetic testing, novel medical discoveries, research opportunities, and emerging ethical questions such as water burial, composting burial, and assisted dying. These are subjects people avoid; the intent is to lower the emotional barrier gently enough that a conversation becomes possible.

Long-term. Two directions. The first is an intergenerational program developed with the national Girl Scout and Boy Scout councils—an inversion of the Big Brother/Big Sister model, in which troops are paired with elderly neighbors. Scouts have historically sought such opportunities, and the exchange is genuinely mutual: older neighbors have a great deal to teach, and younger participants can offer companionship to people who have none. The second is a short-form learning library in the spirit of MasterClass—sessions of ten to twenty minutes across cooking, yoga, photography, creative writing, music, social studies, and finance—whose brevity suits the audience well.

The end goal is unchanged: to let the elderly regain their autonomy as nearly in full as possible. There is no clean way to price a restored sense of self-actualization and self-governance for people who lived productively and contributed to society for decades with pride in their *modus vivendi*. With these resources, our users can reclaim both that pride and that autonomy.

9 Conclusion

AutonomyAid targets a failure that is procedural rather than medical. People lose control of their final years not because their preferences are unknowable but because the instruments that would record those preferences are perceived as expensive, the vocabulary surrounding them is forbidding, and the venues for completing them are inaccessible to the population that needs them most. The platform's response is to co-locate the forms, the explanation, and a reason to return, in an interface built for a shared desktop computer and a user with arthritic hands and failing vision. The engagement tier is not decoration around a forms library; it is the mechanism by which a one-time task acquires a standing audience. Whether the approach works is an empirical question we have not yet answered, and answering it—through completion rates, retention, and downstream outcomes—is the work that follows this paper.

Acknowledgments

We thank the residents and staff of the retirement community whose experiences shaped this project, and whose willingness to discuss difficult subjects made the design possible.

References

[1] U.S. Census Bureau. *2017 National Population Projections Tables: Main Series*. Washington, DC, 2017.

[2] National Academies of Sciences, Engineering, and Medicine. *Social Isolation and Loneliness in Older Adults: Opportunities for the Health Care System*. National Academies Press, Washington, DC, 2020.

[3] T. E. Quill. Terri Schiavo—a tragedy compounded. *New England Journal of Medicine*, 352(16):1630–1633, 2005.

[4] *Cruzan v. Director, Missouri Department of Health*, 497 U.S. 261 (1990).

[5] M. J. Silveira, S. Y. H. Kim, and K. M. Langa. Advance directives and outcomes of surrogate decision making before death. *New England Journal of Medicine*, 362(13):1211–1218, 2010.

[6] K. M. Detering, A. D. Hancock, M. C. Reade, and W. Silvester. The impact of advance care planning on end of life care in elderly patients: randomised controlled trial. *BMJ*, 340:c1345, 2010.

[7] World Wide Web Consortium (W3C). *Web Content Accessibility Guidelines (WCAG) 2.1*. W3C Recommendation, 2018.