DIRECT CARE WORKFORCE
STRATEGIES CENTER

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A New Era of Care:

Understanding Artificial Intelligence and Implications for the Direct Care Workforce

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This report is one of three from the National Council on Aging's Direct Care Workforce Strategies Center examining the role of AI in home care. The first report introduces AI and its relevance to home- and community-based services, grounded in the realities of the direct care workforce. The second maps current AI use cases across 40 core responsibilities spanning both frontline workers and agencies. The third brings forward stakeholder perspectives, including direct support professionals, to assess current impacts and identify needed guardrails for the future.

A Note on Word Choice and Consistency

We've aimed to use clear and consistent language throughout this report so that key ideas are easy to follow. At the same time, we recognize that terminology in the long-term care and workforce fields is deeply felt and often debated. Where appropriate, we introduce alternative terms with corresponding definitions to reflect this range of perspectives. Our hope is that the core ideas remain clear, while honoring the distinct voices and sensitivities that shape how this work is described. In this report, and throughout the series, the term "home care worker" refers to members of the direct care workforce — including personal care aides, home health aides, and direct support professionals — who provide support in home- and community-based settings.

INTRODUCTION

While artificial intelligence (AI) has been evolving for decades, recent years have brought rapid and far-reaching technological change across industries. The home and community-based services (HCBS) sector (or "home care")—one of the fastest-growing fields that touches millions of families—faces a range of opportunities for how AI can support both workers and care consumers. Already, technology innovators and home care agencies have been introducing AI tools to strengthen services, improve outcomes, and stabilize the workforce. However, these innovations are emerging rapidly and unevenly across the sector, with decisions about design and implementation often made without meaningful input from the workers and agencies who will use them daily.

In this context, AI presents an extraordinary opportunity to improve the system of care for all Americans. Achieving this potential demands true collaboration among direct care workers, care recipients, policymakers, advocates, employers, and payers to thoughtfully inform and shape the decisions that will define our path forward.

Across the country, nearly 3.2 million home care workers—personal care aides, home health aides, and direct support professionals working in home and community settings—provide daily support to millions of older adults and people with disabilities, while also aiding families and contributing significantly to our economy.[1] These workers are part of the broader long-term care sector, which encompasses home care, nursing homes, assisted living facilities, and other residential care settings. Together, this workforce provides hands-on care across the long-term care sector—the full spectrum of services supporting people who need ongoing assistance.

When adopted thoughtfully and at scale, AI holds real promise to optimize these jobs and improve how care is delivered. However, this potential will only be realized if the home care sector leans into the moment, supporting a thoughtful, sector-wide AI adoption that amplifies and balances the needs of workers and care consumers (described as "clients" throughout this report, which include older adults and people with disabilities). This conversation must be grounded in an across-the-sector approach that leverages the experience and capacity of providers inclusive of type, size, and geographic location.

AI draws on data, machines, and systems to perform tasks that typically require human intelligence. As seen across health care and long-term care, AI has been extending the reach of existing technologies—from smart home devices and communication platforms to predictive tools and robotics. Assistive technologies already support many people with disabilities, laying the groundwork for broader AI integration. For home care workers, AI can function as a workforce multiplier, enabling home care workers to focus their limited time on the human side of care. AI can also streamline administrative and repetititve tasks for agencies, promote autonomy for older adults and people with disabilities receiving long-term care, and improve jobs for direct care workers.

These benefits underscore the possibilities AI holds for our surging home care sector: greater efficiency and stronger support for the workforce and their clients. Yet its widespread adoption must also grapple with risks such as bias (when AI produces unfair or inaccurate results for certain groups), data privacy, job displacement, and other ethical concerns. While early research suggests that AI will not likely displace home care workers, the goal must remain to not replace these workers but to amplify their capacity and improve job quality and increase access to person-centered models of care. As many experts emphasize, successful adoption will require

transparency, human-centered design, input from workers and clients, and a shared understanding that, when implemented responsibly, AI can benefit everyone in the long-term care ecosystem.

This issue report is the first installment in a larger exploration of AI and the home care workforce. Additional publications will examine how the home care sector is adopting AI, how technologies are reshaping the responsibilities of workers and employers, how both workers and clients envision AI's role in their lives, and other topics. The future of home care work and technology is still being written, and together we can ensure the full narrative embraces the realities of workers, clients, and agencies at its center. As part of this effort, the Direct Care Workforce Strategies Center will continue to explore these and other emerging issues at the intersection of AI and the home care workforce.

UNDERSTANDING AI: ESSENTIAL CONTEXT

AI refers to machines and systems designed to perform tasks that require human intelligence—such as learning from data, reorganizing patterns, making predictions, and understanding language.[2] AI technologies combine automation (executing fixed processes), with adaptivity and prediction (learning from data and adjusting over time).[3]

From Early Dreams to the Present

Although AI has existed for decades, the introduction of generative AI in recent years represents one of the most significant leaps in technology's history. Since the early 1940s, thinkers and innovators established the foundation for AI, which progressed over the decades, as shown in the timeline on page 6. Due to recent developments in AI and its heightened public visibility, the policy implications and legal landscape for AI have multiplied, though they remain relatively nascient with government understanding and regulations also still emerging.

AI Toolbox in Practice

A smartphone is a good example of AI at work.

When the camera recognizes a face, that's computer vision.

When a user says, "text my daughter," natural language processing interprets their words.

When photos are grouped by people or places, machine learning finds the patterns.

When GPS provides directions to a user's home, it uses autonomous-system planning.

When an app creates an image or drafts a message from a prompt, that's generative AI.

Source[4,5]

HOW AI EVOLVED:
Major Historical Milestones

While AI experts cite the coining of the term "artificial intelligence" in 1956 at the Dartmouth Conference, some of the advances that formed AI took place before then. Here are key milestones in AI's history.

1940s

1943:
McCulloch and Pitts publish the first mathematical model of artificial neurons.[6]

1950s

1950:
Alan Turing introduces the Turing Test to measure machine intelligence.[7]

1960s

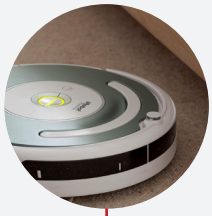
1960s to Mid-1970s:
Early programs, systems, and optimism advance.[8]

1970s

Late 1970s:
Early promise dissipates, marking the first "AI winter."[9]

1980s

1980:
Japan launches the Fifth Generation Computer Project, which sparks global AI investment.[10]



1990s

1997:
IBM's Deep Blue system defeats world chess champion Garry Kasparov.[11]

2000

Early 2000s:
Mass market release of the AI-powered Roomba robot vacuum[12], and experts begin reviving deep learning.[13]

2010

Late 2010s:
Generative AI experiences a surge.[14]

2020

2022-2023:
OpenAI's ChatGPT gains mainstream popularity,[15] sparking a global adoption of large language models, widespread adoption, and discussions about AI possibilities and risks.

2025

2025:
U.S. federal leaders issue executive orders that remove regulatory barriers to AI development, fast-track data-center projects, establish some standards for federal use of AI, and advance a national strategy to secure U.S. leadership in the field.[16]

Why the Recent Boom?

Deloitte, one of the world's largest professional services firms, has proposed that AI surged recently for four major reasons.[17]

1. **The first is related to Moore's Law**, which contends that computing power consistently evolves, and the exponential growth in hardware power has enabled AI systems to run faster, at a larger scale.
2. **The second is that AI has been fueled by the large volumes of data** and the "big data" being captured through online platforms, sensors, digital records, apps, financial transactions, and other routine digital interactions by virtually all parts of society.
3. **The third is the ubiquity of internet** and cloud services, which form a global platform for collecting, sharing, and distributing data.
4. **The fourth is algorithms**, or advances in machine learning, which has helped make GPT (Generative Pre-trained Transformer) and other large language models possible.

Other factors for the AI boom cited in the field include intense collaboration and competition among researchers globally, an increase in economic investments, an AI-skilled workforce created by the rise of data science and AI as fields of study, and market demands, among others.[18]

The Governance Puzzle

For AI to fulfill its promise and mitigate harm, experts urge paying careful attention to its many risks, from keeping data safe and confidential to ensuring that the outputs AI generates are accurate and reliable. Without clear AI safeguards, home care workers, clients, and businesses could experience the mishandling of sensitive information, and agencies will spend already stretched time correcting AI-generated errors.

> "Data privacy is a key risk. As organizations move from consumer-facing AI tools to integrating them with internal data, they must ensure proper safeguards."
>
> **Scott Code**
>
> Vice President, Center for Aging Services Technologies, LeadingAge

Just as critically, agencies must balance AI's efficiency gains with the vital need for human connection, ensuring these tools support rather than replace the interpersonal care—or "human touch"—that is central to quality home care work. The use of AI also raises critical concerns about privacy, security, and surveillance that should be considered and weighed appropriately. The United States is poised to lead in the field of AI and can also learn from international peers to establish shared standards for its use among the direct care workforce.[19]

Other publications in NCOA's resource series on AI and the home care workforce will examine how government and business leaders are balancing federal action, growing state experimentation, intensive industry advocacy, and emerging international standards—all shaping the context for AI use in long-term care settings.

Humans at the Center

Today's version of AI focuses on augmenting human capabilities and substituting tasks, not replacing humans entirely. While AI use has the significant potential to displace workers and eliminate jobs for specific occupations, "artificial general intelligence" does not currently exist, which would have the ability to generate human-like reasoning.[20] As noted throughout this report, as AI gains steady adoption, policy and practice leaders should ensure that home and community-based services delivery does not lose the human touch central to person-centered care and good jobs in home care.

TODAY'S HOME CARE WORKFORCE

At 3.2 million people and growing, the home care workforce remains one of the largest and most vital job sectors in our country, providing critical services to millions of older adults and people with disabilities in their homes and communities. When including nursing assistants and direct care workers employed in other residential care settings, the total direct care workforce comprises 5.4 million workers—compared to 4.7 million registered nurses and nearly 934,000 physicians nationwide.[21]

Key Facts

- **Home care jobs are often characterized by poverty-level wages**, despite home care workers' critical importance and growing numbers. These jobs often have part-time hours, limited benefits and other supportive services, insufficient career paths, high injury rates, poor supervision, and a general lack of respect and support.[22]
- **The home care workforce is overwhelmingly female and increasingly older**.[23] Faced with economic insecurity, caregiving demands, transportation obstacles, limited training options, and strenuous work, they often struggle in both their professional and personal lives.
- **Home care workers perform complex and essential roles**—supporting people with activities of daily living, providing emotional and physical care, and managing increasingly high-acuity needs that require substantial training and expertise. Far from "low-skilled," their work sustains families, strengthens the economy, and allows many older adults and people with disabilities to live safely at home.
- **As a result of poor job quality in home care, more than 1 in 3 workers (36%) live in or near poverty and 1 in 2 (49%) must access public benefits to ensure basic well-being.**[24] Modestly better-paying jobs in other sectors also pull many workers away from home care and into industries such as retail and fast food, which exacerbates the workforce shortage in HCBS.[25]

3.2M people work as home care workers in the U.S., making home care the largest segment of the paid long-term care workforce.	**9.7M** job openings in direct care are projected over the next decade, driven by rapid growth and extraordinarily high turnover.
17% growth is expected in home health and personal care aide jobs by 2034 — far faster than the average U.S. occupation.	**40%+** of home care workers rely on some form of public assistance (such as Medicaid, SNAP, or housing support), despite working in paid jobs.
$34,900 is the median annual wage for home health and personal care aides, well below the national median for all workers (about $51,370 per year for all workers aged 15 and over)	**19%** (or nearly 1 in 5) of home care workers live below the federal poverty line — a rate several times higher than for U.S. workers overall.

Source: Direct Care Workers in the United States: Key Facts (Bronx, NY: PHI, 2024); Occupational Outlook Handbook: Home Health Aides and Personal Care Aides, U.S. Department of Labor, Washington, DC, 2024–2025 edition; and American Community Survey (ACS), 5-Year Estimates, 2018–2022 (released December 2023), Washington, DC.

- **Research shows that between 2024 and 2034, the long-term care sector will need to fill nearly 9.7 million direct care job openings**, including 6.1 million openings in home care alone.[26] Why? Many U.S. workers are retiring and leaving the workforce, and many home care workers today cannot afford to stay in these low-wage roles.

How AI is Shaping the Workforce

- **Early evidence suggests AI will likely augment, rather than replace, home care jobs.**[27] As with many jobs in health care, because the tasks of home care are primarily physical, interpersonal, and context-specific, early evidence shows that these workers face very low automation risk compared to other occupations.[28] However, more research is needed on this topic.
- **AI has begun to transform home care**, streamlining administrative tasks, enhancing safety through tools like falls detection and monitoring, and supporting workers with training and predictive analytics.[29] Yet, realizing its full potential will require pairing technology with long-overdue workforce investments—better pay, training, and career advancement, for starters—to ensure quality jobs and quality care advance together.[30] An upcoming publication in this series will feature a range of examples illustrating how AI-based tools are affecting how workers deliver care.

> "AI can take on routine tasks, such as monitoring vitals, tracking patterns, and doing charting or paperwork. That could free workers to focus more on relationship-building and human-centered skills. Physical care tasks remain irreplaceable for now."
>
> **Tiffany Hsieh**
>
> Director, Center for AI and the Future of Work, Jobs for the Future

AI IN CONTEXT: WORKFORCE, DISABILITY, AGING AND LONGEVITY

AI has been advancing in sectors closely connected to home care for years.

Workforce

AI could drive more than 12 million job transitions by 2030, making large-scale upskilling and job redesign essential to help workers adapt and thrive in new roles.[31] Yet, with 88% of workers lacking trust that employers will support their AI adaptation, the challenge ahead is not only technological, but human—requiring investment in training, retention, and confidence-building across the workforce.[32]

Disability

AI-powered tools such as real-time captions, virtual assistants, prosthetics, speech recognition, smart homes, sensors, and robotics are expanding independence and accessibility for people with disabilities.[33] When co-designed with individuals with disabilities and implemented with proper safeguards, these innovations can enhance autonomy and inclusion while minimizing risks of bias or paternalism.[34]

> "If organizations use AI tools, they must take deliberate steps to ensure their data inputs are inclusive. Otherwise, the outputs can be inaccurate—or even harmful."
>
> **Henry Claypool**
>
> Policy Director, Community Living Policy Center, Expert in AI Policy and Disability Inclusion

Aging and Longevity

AI is affecting aging and longevity through ambient sensors, smart home systems, ADL recognition, and medication adherence tracking that help older adults live safely and independently.[36] Emerging companion robots can also reduce loneliness and support cognitive health, though ongoing evaluation and human oversight remain essential to ensure these tools truly enhance well-being.[37]

Dementia Care

Caregivers increasingly want AI tools that reduce stress, provide guidance, and support decision-making, while chatbots and monitoring systems help ease isolation and offer real-time assistance.[38] In dementia care, AI can detect wandering, monitor symptoms, and predict disease progression, allowing families and clinicians to intervene earlier and improve care outcomes.

Family Caregiving

AI is transforming caregiving by offering chatbots that 88% of users in one study found helpful for mental health, providing stress relief and emotional support.[39] For family caregivers and home care workers, AI can deliver personalized learning, predict burnout, and automate scheduling and care coordination, helping them balance workloads and deliver high-quality care.[40]

From Assistive Technologies to AI Applications in Home Care

In home care, AI has evolved from traditional assistive technologies that support person-centered services, to AI-enabled tools and, more recently, to broader AI applications that personalize care, improve job quality, and transform how human-centered services are delivered.[35] Together, the following framework and approaches to AI technologies can be harnessed to strengthen jobs for home care workers and the care experience for older adults and people with disabilities.

Approach	Assistive Technology	AI-Enabled Assistive Technology	General AI Applications
Description	Human-centered tools designed to help individuals perform Activities of Daily Living (ADLs) and maintain independence	Hybrid systems combining assistive tools with AI features that learn, predict, and personalize support	Broader AI systems not designed primarily for disability or aging but with implications for the home care workforce
Examples	Mobility aids, hearing devices, medication reminders, screen readers, and basic smart-home features	Smart homes detecting ADLs, wearables monitoring health and mobility, sensors alerting caregivers, companion robots, and digital assistants	Predictive analytics for staffing, language translation tools, and generative AI for documentation and workflow automation
Core Principles	For users, accessibility, independence, choice, and control For caregivers and providers, simplicity and reliability	Transparency, co-design with users, explainability, consent, privacy, and human oversight	Governance, fairness, accountability, and continuous evaluation
Primary Role in Home Care	Supports individual autonomy and self-direction	Augments human caregiving and enables early intervention	Improves system capacity, workforce supports, and administrative efficiency
Workforce Implications	Reduces physical strain and supports client independence	Enhances job quality through better information, reduced risk, and proactive support	Reduces administrative burden and supports workforce planning

CONCLUSION

The AI transformation has begun in home care, creating incredible opportunities for improving jobs, care delivery, and how agencies operate. However, as with any technological advancement, attention must also be paid to its potential risks and the need for guardrails to ensure that its benefits are optimized and its harms minimized. As this publication demonstrates, the first step for the home care sector is to familiarize itself with the foundations of AI—its origins and components, its applications, and its implications for policy and industry alike.

The two additional reports in this series will highlight real-world AI applications that are reshaping worker responsibilities and agency practices, and share insights from experts and stakeholders on the opportunities, risks, and policy implications that AI poses for the home care field. Through the Direct Care Workforce Strategies Center's special exploration of AI and the home care workforce, this series will also take a closer look at how AI is reshaping day-to-day responsibilities for workers and administrators through a series of companion resources—ranging from worker-focused guides on automation fears, safety technologies, and rights and privacy to agency-level tools that support responsible adoption, vendor evaluation, and decision-making—and much more.

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ABOUT US

The National Council on Aging (NCOA) is the national voice for every person's right to age well. Working with thousands of national and local partners, we provide resources, best practices, and advocacy to create the conditions for everyone to age with health and economic well-being. Founded in 1950, we are the oldest national organization focused on older adults.

DIRECT CARE WORKFORCE STRATEGIES CENTER

Created by the Administration for Community Living in 2022, the Direct Care Workforce Strategies Center provides technical assistance to states and service providers and facilitates collaboration with stakeholders to improve the recruitment, retention, training, and professional development of members of the direct care workforce.

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APPENDIX

Understanding AI: Technical Details

This appendix provides comprehensive AI terminology and history for readers seeking deeper technical understanding.

Section I: Essential Terms

Algorithms. The rules and instructions that machines follow to create outputs, such as recommendations and content, based on input data.

Artificial Intelligence or AI. Machines or computer systems designed to perform tasks typically performed by human intelligence. AI typically involves the simulation of intelligent behavior, problem-solving, and learning from data. As defined by U.S. law in the National Defense Authorization Act, AI refers to artificial systems that can perceive, learn, plan, act, or reason.

Assistive Technologies. Devices and tools that support or enhance functional abilities and independence, such as mobility aids, communication devices, adaptive software, and home safety equipment.

Data Science. A field that combines statistical methods, programming, and analysis to draw insights from often large and complex data sets.

Generative AI. A form of artificial intelligence that generates text, images, and audio by learning from patterns in data. Two prominent examples are ChatGPT from OpenAI for text and Midjourney for visuals.

Home and Community-Based Services (HCBS) or Home Care. An extensive range of services that support older adults and people with disabilities in their homes with activities of daily living and instrumental activities of daily living. HCBS comprises a range of community-based services such as case management, transportation, adult day care programs, and more. With federal guidance and drawing on standardized assessments and scoring systems, states largely determine eligibility for home and community-based services based on functional limitations and—because Medicaid funds the majority of HCBS—on income and asset factors. This report uses "home care" and "HCBS" interchangeably.

Home Care Workers. Home health aides, personal care aides, and direct support professionals who take on a range of daily living responsibilities to support older adults and people with disabilities to live and thrive independently in their homes. Depending on the worker's occupation, responsibilities, and their client's needs and preferences, these tasks could include dressing, bathing, eating, meal preparation, medical visits, errands, employment, social engagement, and much more.

Machine Learning. A branch of artificial intelligence where computers learn patterns from data and improve their tasks without explicit programming.

Natural Language Processing. A subfield of artificial intelligence focused on how computers understand, interpret, and generate human language.

Neural Networks. Computer networks inspired by the human brain that process information so that machines can recognize complex patterns and offer predictions.

Section III: How AI Works: Technical Foundations

The backbone of AI is computer science, which is composed of and implemented across algorithms, data structures, programming languages, software engineering, mathematics, theory of computation, machine learning, data management, human–computer interaction (HCI), hardware, and systems.[41] AI depends on computer and data science because these fields determine how data is organized, processed, and converted into patterns that AI systems can use.

Building Blocks

AI can improve performance over time as it learns from more data (learning and adaptability), generates recommendations and predictions to inform human choices (decision-making), and works in the context of probability. All these steps are prone to errors, biases, and ethical concerns (uncertainty and risk).[42]

Data science provides the methods to collect, clean, analyze, and interpret that data, while **algorithms** offer the step-by-step instructions for machines to process data and make decisions.[43] **Neural networks** are mathematical models inspired by the brain that help AI learn complex patterns. **Deep learning** is a subset of neural networks that unpack layers or "deep" architectures by handling large amounts of data and complex tasks at a human or superhuman level.[44]

In other words, neural networks operate by running information through many small decision points—loosely modeled on how neurons fire—so the system can improve its ability to recognize patterns.

The AI Toolbox

To simulate an aspect of human intelligence—learning, reasoning, perception, communication, or action—AI uses a range of standard tools, methods, and applications.[45] These include:

- **Machine learning**, where algorithms learn patterns from data and make predictions or suggest decisions autonomously.
- **Natural language processing**, such as OpenAI's GPT, where programmers can teach computers to understand, interpret, and generate human language.
- **Computer vision**, where machines analyze and interpret images and video.
- **Robotics**, which applies AI to control physical machines that interact with and adapt to real-world environments.
- **Autonomous systems**, such as self-driving vehicles, which can sense, plan, and act independently in the real world.
- **Expert systems and knowledge representation**, such as medical diagnosis aids, where rules encoded into a system help with problem solving in a specific domain.
- **Generative AI**, which creates new content—text, images, audio, or code—based on learned patterns.

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