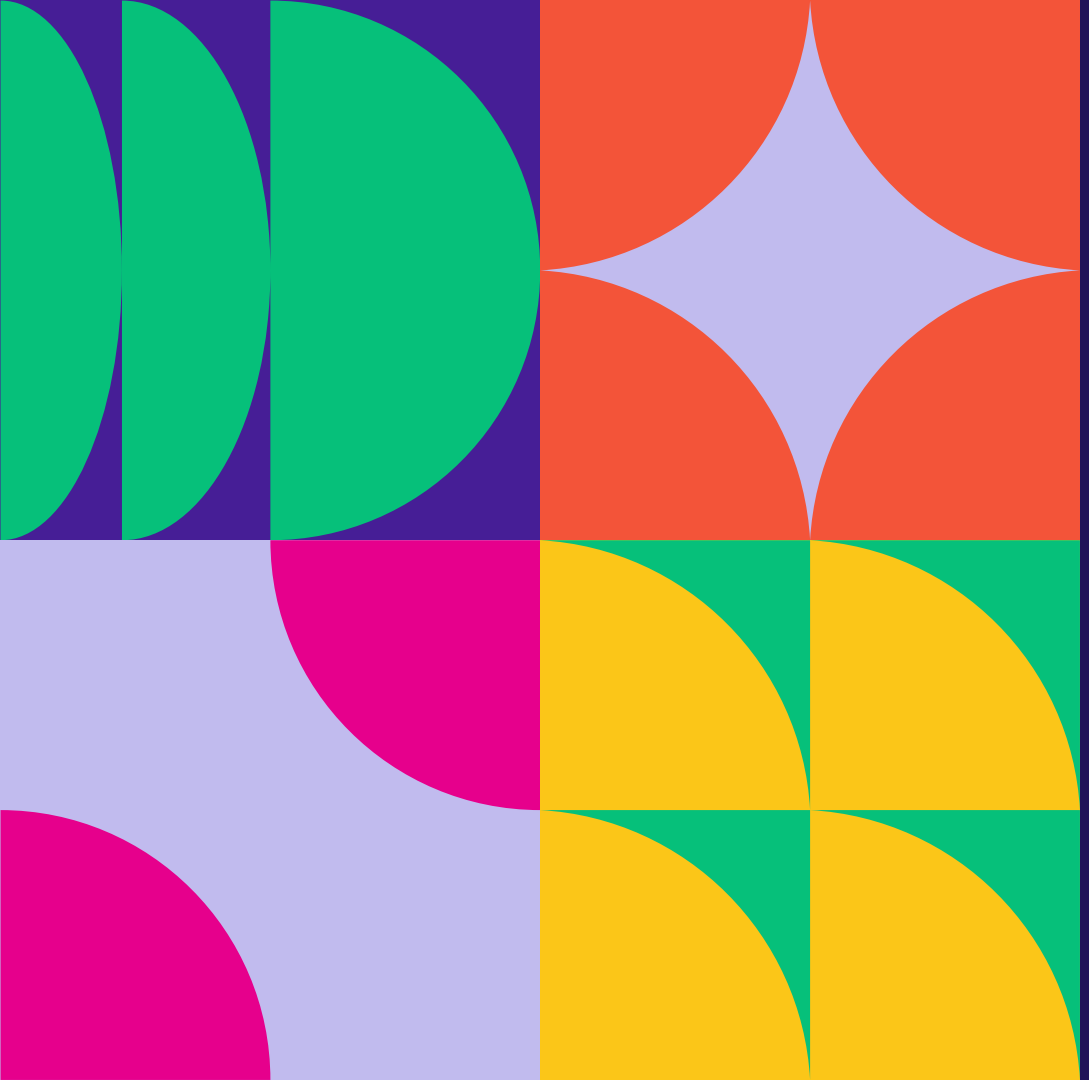


ThoughtSpot

The Digital Rx: AI & Tech Solutions for Modern Pharmacy

Timothy Aungst, PharmD

Professor of Pharmacy Practice, MCPHS

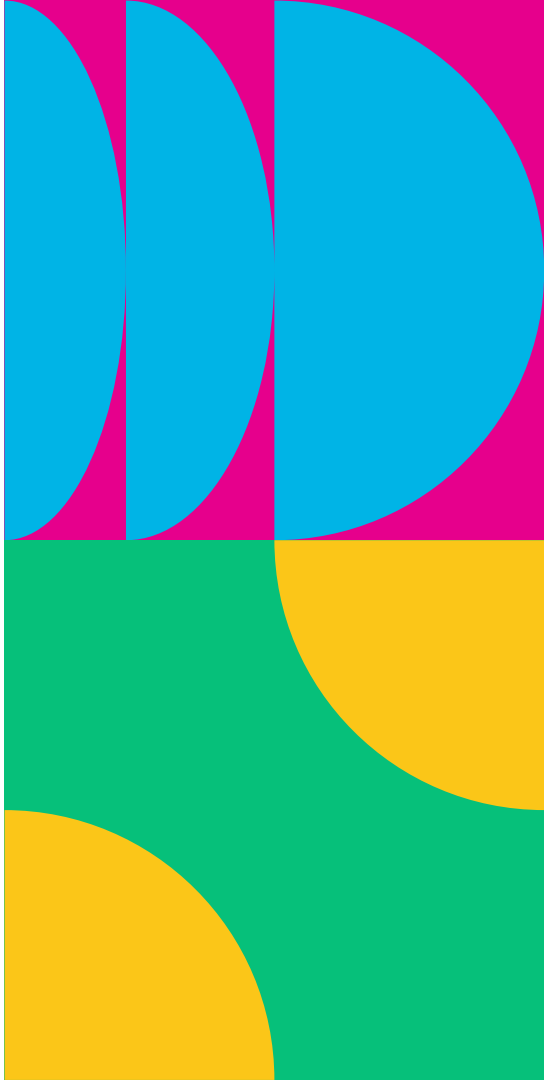
Disclosure Statement

Timothy Aungst has a financial interest with Otsuka Pharmaceuticals and the relationship has been mitigated through peer review of this presentation. There are no relevant financial relationships with ACPE defined commercial interests for anyone else in control of the content of the activity.

This presentation contains product names and images for educational purposes only. It is not meant to be an endorsement or advertisement of any particular product or product categories.

Learning Objectives

1. Identify key emerging technologies that are transforming community pharmacy practice.
2. Outline the benefits and limitations of the latest technology and AI tools available for community pharmacy.
3. Discuss strategies for integrating AI and digital health solutions into operational workflows.

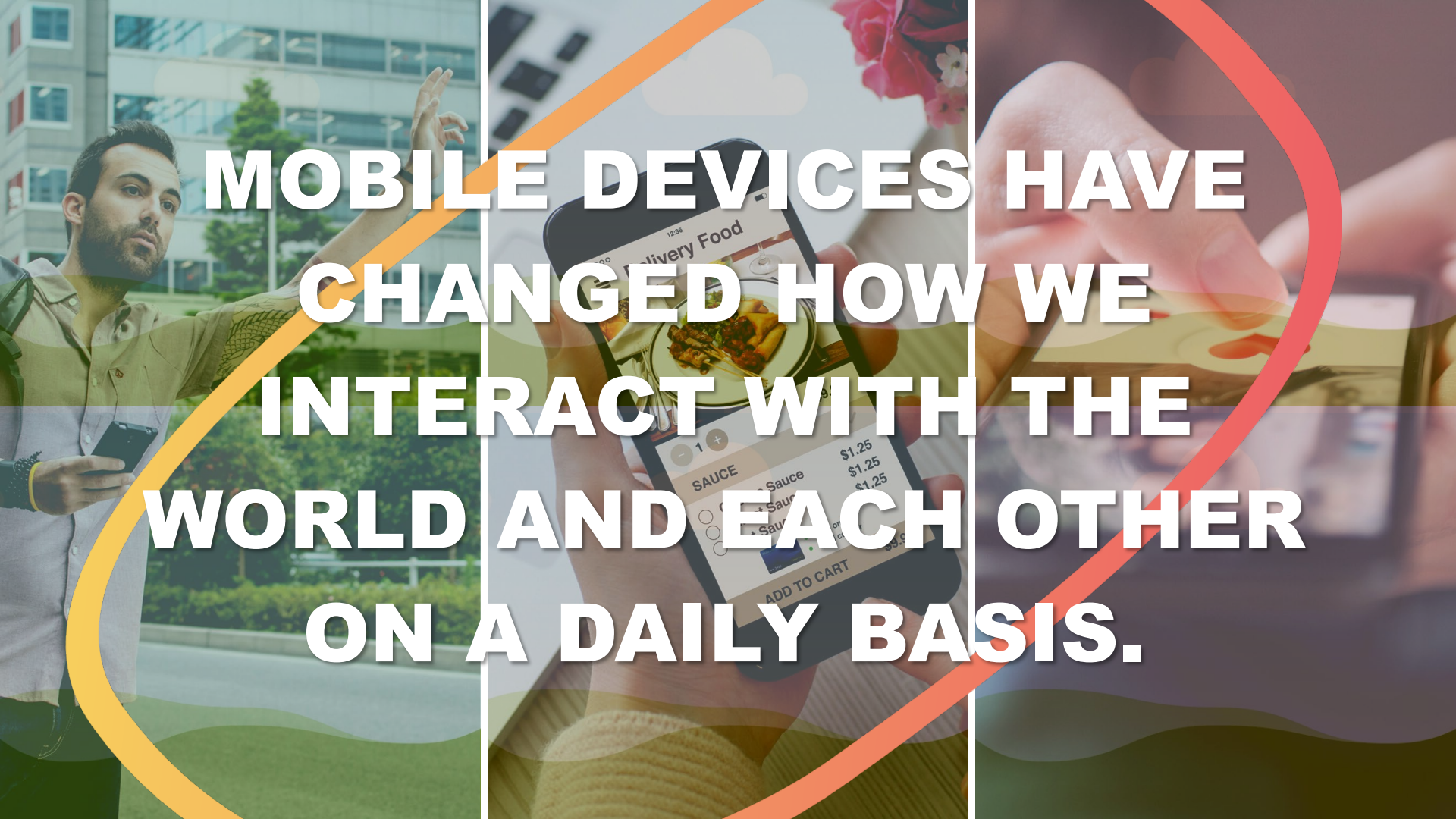


Speaker

Timothy Aungst, PharmD

Professor of Pharmacy Practice

MCPHS


MOBILE DEVICES HAVE CHANGED HOW WE INTERACT WITH THE WORLD AND EACH OTHER ON A DAILY BASIS.

OUR DAILY LIVES HAVE CHANGED…

When was the last time you went to the bank?

Do you balance a checkbook?

How many times this week have you shopped online?

Do you you like going to the store still?

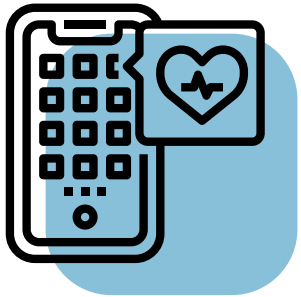
Would you rather a robot vacuum clean up for you?

Uber or drive? Or Food?

Have you used telehealth?

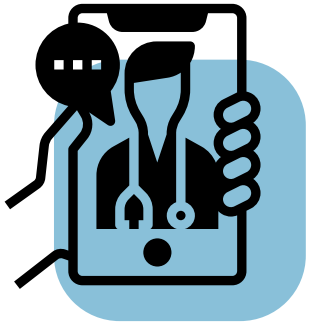
How many times do you look at your smartphone during a meeting?

AND SO HAS HEALTHCARE



Patients have adopted a consumer mentality towards engaging in their health seeking to meet their needs on demand.

Home as the center of health is a quickly growing area of focus in medicine including the 'Hospital at Home' model



Meeting patients where they are at is a growing healthcare business structure across multiple care modalities.

WHERE DOES THE MODERN PHARMACY FIT INTO CARE

- **7 in 10** prefer pharmacies for their healthcare needs because of convenient locations with evening and weekend hours with 90% living within 5 miles of a local pharmacy.
- **1 in 3** Americans visit their pharmacy at least once per week.
- **81%** of consumers say they use digital technology to interact with their pharmacy, through websites, mobile apps and text messages.
- *But is that enough?*

https://www.mediapost.com/publications/article/393724/are-local-pharmacies-the-new-doctors-offices.html?

THE DIGITAL EVOLUTION

DIGITIZATION

When we go from analog to a digital format.

Examples:

- Letters to Email
- Day planner to online calendar
- Physical media (photo) to digital photo
- Paper to electronic health records

DIGITALIZATION

When we leverage technology to improve processes and operations.

Examples:

- Storing data on cloud networks
- CDSS in EHRs to guide care processes

DIGITAL TRANSFORMATION

When we leverage technology to comprehensively change business strategies and operations.

Examples:

- Self-driving cars

PHARMACY EXAMPLES

DIGITIZATION

- **Digital Prescription Scanning:** Scanning and storing images of handwritten prescriptions in a digital database.
  - *Impact: Facilitates easy retrieval and reduces the risk of lost or misplaced prescriptions.*
- **Barcode Labeling of Medications:** Assigning barcodes to medication packages for digital tracking.
  - *Impact: Enhances inventory management and reduces dispensing errors.*

DIGITALIZATION

- **E-Prescribing Systems:** Transitioning from paper-based prescriptions to electronic prescribing.
  - *Impact: Reduces errors associated with illegible handwriting, expedites the prescribing process, and enhances medication safety.*
- **Pharmacy Management Software:** Utilizing software solutions to automate inventory management, billing, and reporting.
  - *Impact: Streamlines operations, reduces manual workload for staff, and improves accuracy in inventory and financial management.*

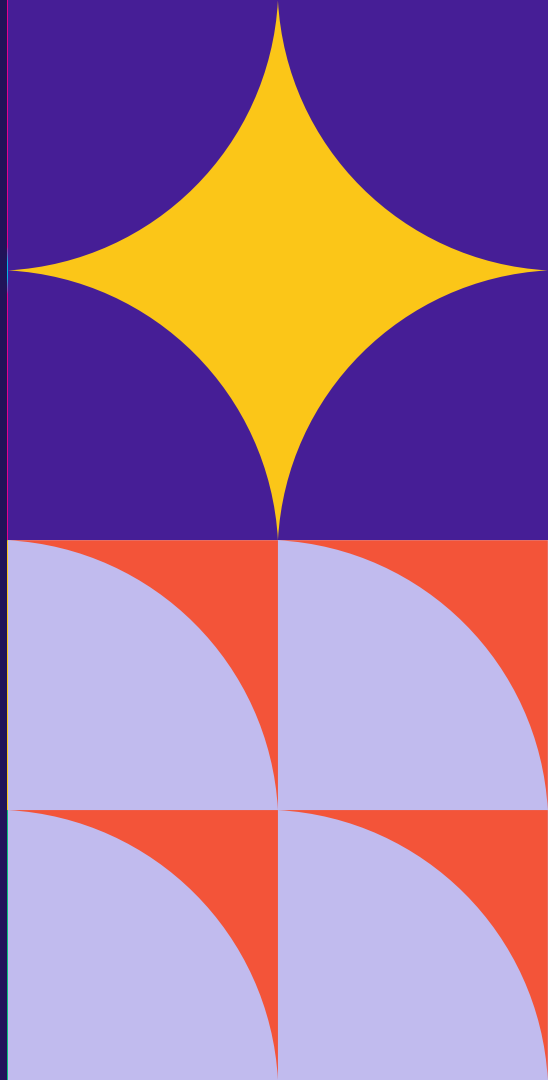
DIGITAL TRANSFORMATION

- **Robotic Dispensing Systems:** Utilizing automation and robotics for the dispensing and packaging of medications.
  - *Impact: Increases efficiency, reduces dispensing errors, and allows staff to focus more on patient-centered services.*

WHY EMBRACE CHANGE?

- **Enhance Operational Efficiency**: Automate routine tasks and streamline workflows.
- **Improve Patient Care**: Offer personalized services and improve medication safety.
- **Expand Service Offerings**: Introduce new revenue streams through clinical services, optimized pharmacy benefits, telehealth and more.
- **Stay Competitive**: Meet the evolving expectations of patients in a digitally enabled consumer age.

WHAT TECHNOLOGIES AND ADVANCEMENTS ARE IMPACTING PHARMACY?



TECHNOLOGIES OF RISING INTEREST IN PHARMACY

Emerging Technology	Percentage
Online patient appointment scheduling	25%
Medication compliance packaging (robot)	21%
e-Commerce site	14%
Exchanging clinical data via a health information network	9%
Videoconferencing for pharmacist-patient telehealth visits	2%
Remote monitoring (wearable monitoring)	4%
Digital therapeutics	1%

NCPA Digest, 2024.https://www.ncpa.co/pdf/digest/2024/digest-2024.pdf

INCREASING CONSUMER ENGAGEMENT

Digital Marketing Channel	2021	2022	2023
Text notifications	N/A	N/A	83%
Facebook	90%	91%	82%
Mobile app	73%	72%	71%
Email	N/A	N/A	59%
Geofencing or digital retargeting	N/A	N/A	21%

Digital Marketing, NCPA, 2024

SUBSCRIBER MODELS OF PHARMACY

Growing push for member exclusive deals and perks to engage customers and drive more revenue options

- In January 2023, Amazon Pharmacy introduced **RxPass**, a $5 monthly subscription for Prime members, offering unlimited access to over 50 generic medications for common conditions.
- Cost-Plus Models have also adopted service passes for members to encourage business to increase fill rates for discounted medications.

Using CRM and other software, pharmacies are adopting tools to create member + options

- Communication with the pharmacy team regarding specials and outreach
- Discounts on pharmacy related services
- Concierge options

https://www.aboutamazon.com/news/retail/introducing-rxpass-from-amazon-pharmacy-a-5-prescription-subscription-that-helps-prime-members-who-take-multiple-medications-save-time-and-money

EXAMPLE COMPANIES AND SERVICES

PioneerRx updated its mobile app to include features like secure messaging, refill requests, and medication reminders, aimed at strengthening the pharmacist-patient relationship.

FlipRx introduced an app that allows patients to compare prescription prices at local pharmacies, including independent ones, and place orders directly through the platform.

ScriptPro launched **SP Central**, an integrated pharmacy management system that combines robotics, workflow management, and patient communication tools tailored for community pharmacies.

I WANT IT NOW – DELIVERY 2.0

- Growing interest in same day delivery and providing patient convenience to medication access
- March 2023, Uber Health expanded its platform to include same-day prescription delivery from pharmacies to patients' homes.
  - Opening up partnership with independent pharmacies to leverage such service
- Pharmacies are experimenting with drone deliveries of medications in certain parts of the US

EXPANDING CLINICAL SERVICES

- States have expanded the roles of pharmacists for certain low-acuity conditions
  - OBC, test-to-treat
- Influx of SaaS platforms for pharmacy to offer clinical services
  - Appointment scheduler and intake
  - Identify patients for vaccination reminders or clinical services
  - Patient documentation of service
  - Billing of service
  - Treatment algorithms
  - Patient outreach (e.g., messaging, newsletter)
  - Virtual care platform
  - Records and analytics

RISE IN CONNECTED CARE

- Healthcare has moved towards meeting the patient where they are at, and pharmacy is exploring similar options
- Patients engaging in telehealth and telepharmacy solutions
- Health systems adopting care models to compete with increased costs associated with traditional health care delivery models
- Movement of increased data on patients' habits in their homes:
  - Medication adherence, real time vitals, disease characteristics
- Post-D/C and TOC models building upon data

RISE OF CGM TECHNOLOGIES

1970s

Insulin pumps come to market

1980s

Smart insulin pump development

1990s

Insulin pens come to market

Rise of medication adherence apps

2000s

Smart insulin pens widely available

GLP-1 Agonist autoinjectors come to market

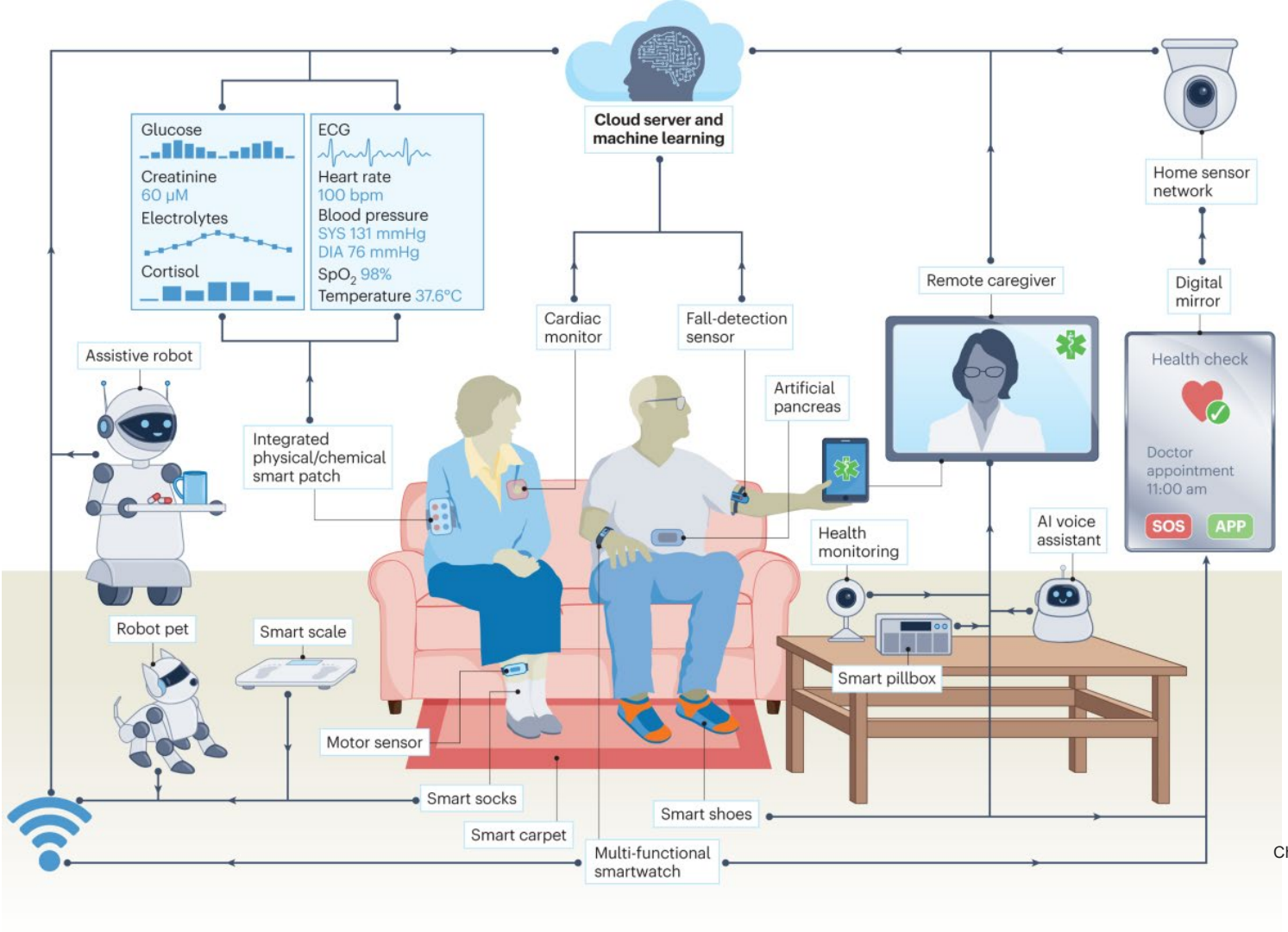
2010s

First insulin dosing DTx cleared

2020s

Rise of connected CGM devices

First BlueTooth connected BGM approved



Chen C, Ding S, Wang J. Digital health for aging populations. *Nat Med*. 2023;29(7):1623-1630.

CLINICAL SERVICES

DIABETES MANAGEMENT

- Pharmacists and health coaches, utilizing mobile health (mHealth) tools like telehealth and text messaging, have the potential to enhance blood glucose levels among individuals from African American and Latinx communities diagnosed with type 2 diabetes.
- Rise of connected diabetes management tools like CGM, foot sensors, and more allow pharmacists to provide further care.

Gerber BS, et al. JAMA Netw Open. 2023 Sep 5;6(9):e2333629.

CHF MANAGEMENT

- Pharmacists can remotely monitor and provide guideline-directed medical therapy (GDMT) through telehealth and remote diagnostic measurement of patients' vitals.

Lynch KA, et al. BMJ Open Qual. 2022 Jul;11(3):e001901.

ASTHMA MANAGEMENT

- Pharmacists can monitor inhaler use through sensors attached to inhalers and determine if use or technique is an issue preventing optimization of disease management.

O'Dwyer S, et al. J Allergy Clin Immunol Pract. 2020 Feb;8(2):635-644.

PROGRAM IMPLEMENTATION CONSIDERATIONS

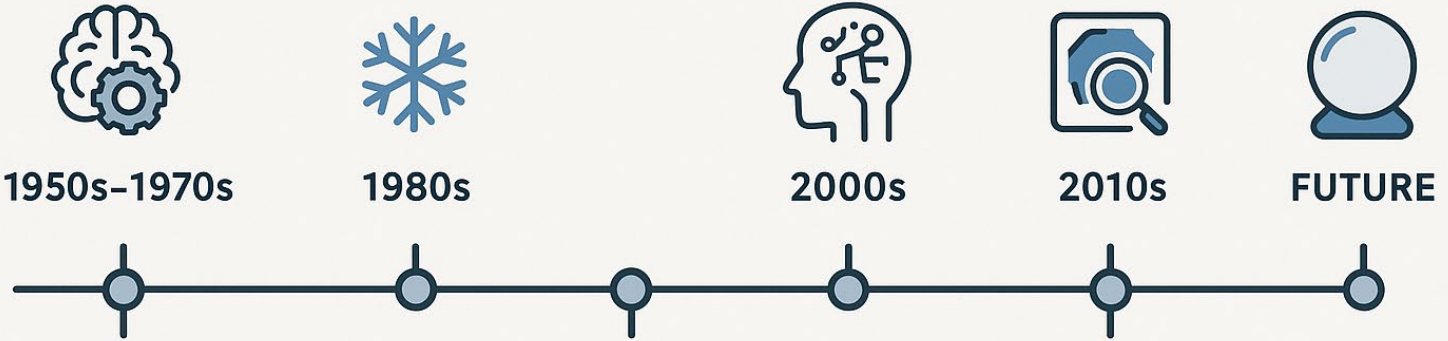
- Education amongst multiple sites to have a cohesive approach to patient care
- Leadership buy-in beyond the idea but providing logistical and staff support to allow the programs to develop (upfront investment)
- Time-and-training for staff (turnover) that had no prior exposure to RPM/virtual care
  - As education evolves, it should diminish
- Leveraging ancillary staff (CDEs, Pharmacists) can help alleviate cognitive loads and expand workload
- Launching RPM/Virtual services requires an initial evaluation, on-site needs, and implementation considerations

Kirkland EB et al. Telemed Rep. 2023 Mar 20;4(1):30-43.

AUTOMATION ADVANCEMENTS

- **Widespread Adoption of Automation Technologies:** According to the 2024 NCPA Digest, 67% of independent pharmacies utilize automated pill counters, and 35% have implemented robotic dispensing systems, highlighting a significant shift towards automation in the sector.
- **Enhanced Efficiency and Accuracy:** Companies like ScriptPro, RxSafe, and Parata Systems offer robotic dispensing solutions that streamline pharmacy workflows, reduce manual errors, and allow pharmacists to focus more on patient care.
- **AI-Driven Inventory and Pricing Management:** AI tools are increasingly being used to optimize inventory levels and pricing strategies, enabling pharmacies to respond dynamically to market changes and patient needs.
- **Operational Efficiency and Cost Savings:** Automated systems streamline pharmacy operations, leading to time savings and reduced labor costs, which can be redirected towards patient-centered services.

HISTORY OF VISION AI



1957

Frank Rosenblatt introduces the *Perceptron*, an early neural network model for pattern recognition

1999

David Lowe introduces the SIFT algorithm for object recognition

2020

AlexNet, a deep convolutional neural network, wins the Imag-Net competition

2020

Introduction of the Vision Transformer model for image classification

IMPACT OF AI ON AUTOMATION

- **Visual AI Systems for Verification**: New systems are employing machine vision to verify medications during dispensing, enhancing accuracy and reducing the risk of errors.
- **Predictive Analytics for Patient Behavior**: AI technologies are being explored to predict patient adherence patterns, allowing for proactive interventions to improve compliance and health outcomes.
- **AI Pricing Tools**: AI-powered pricing tools that provide real-time insights, helping independent pharmacies to remain competitive and financially sustainable.
- **Scalability for Long-Term Care Services**: Automation facilitates the expansion of services such as long-term care packaging, enabling pharmacies to serve a broader patient base effectively.

A DATA DRIVEN STRATEGY

Increase use of technology inevitably leads to more data points

Pharmacy management systems & ancillary software

Leveraging data can be beneficial

Identify customers for more services

Streamline workflows

Create new services

Cognitive overload is possible – So how do we alleviate it?

Rise of AI supported tools and services

May come from existing or new vendors

AI ADVANCEMENTS

- **Natural Language Processing (NLP):** Enables AI tools to interpret and respond to patient messages, extract relevant data from clinical notes, and support medication counseling or follow-up documentation.
- **Predictive Modeling (Supervised Learning):** Powers algorithms that forecast medication non-adherence, late refills, or risk of adverse outcomes, enabling proactive outreach and resource allocation.
- **Reinforcement Learning (RL):** Emerging in tools that adapt and improve over time—e.g., AI assistants that learn optimal timing for reminders or interventions based on individual patient behavior patterns.

AI UTILIZATION IN HEALTHCARE

ADMINISTRATIVE APPLICATIONS

- Automation of laborious tasks and duties
- Recording digital notes
- Optimizing operational processes

CLINICAL APPLICATIONS

- Supporting population health management
- Monitoring patients
- Guiding surgical care
- Predicting health trajectories
- Recommending treatments

https://www.gao.gov/products/gao-21-7sp

MEDICATION ADHERENCE TRACKING

PRESCRIPTION REFILL MANAGEMENT

CHRONIC DISEASE MANAGEMENT

INVENTORY MANAGEMENT

DRUG INTERACTIONS

PAYMENTS & BILLING

MEDICATION RECONCILIATION

PRESCRIPTION TRANSFER

ADVERSE DRUG REACTION MONITORING

PERSONALIZED MEDICATION MANAGEMENT

DRUG SHORTAGES MANAGEMENT

PATIENT EDUCATION & SCREENING

PATIENT SCHEDULING & TRIAGE

DRUG FORMULARY MANAGEMENT

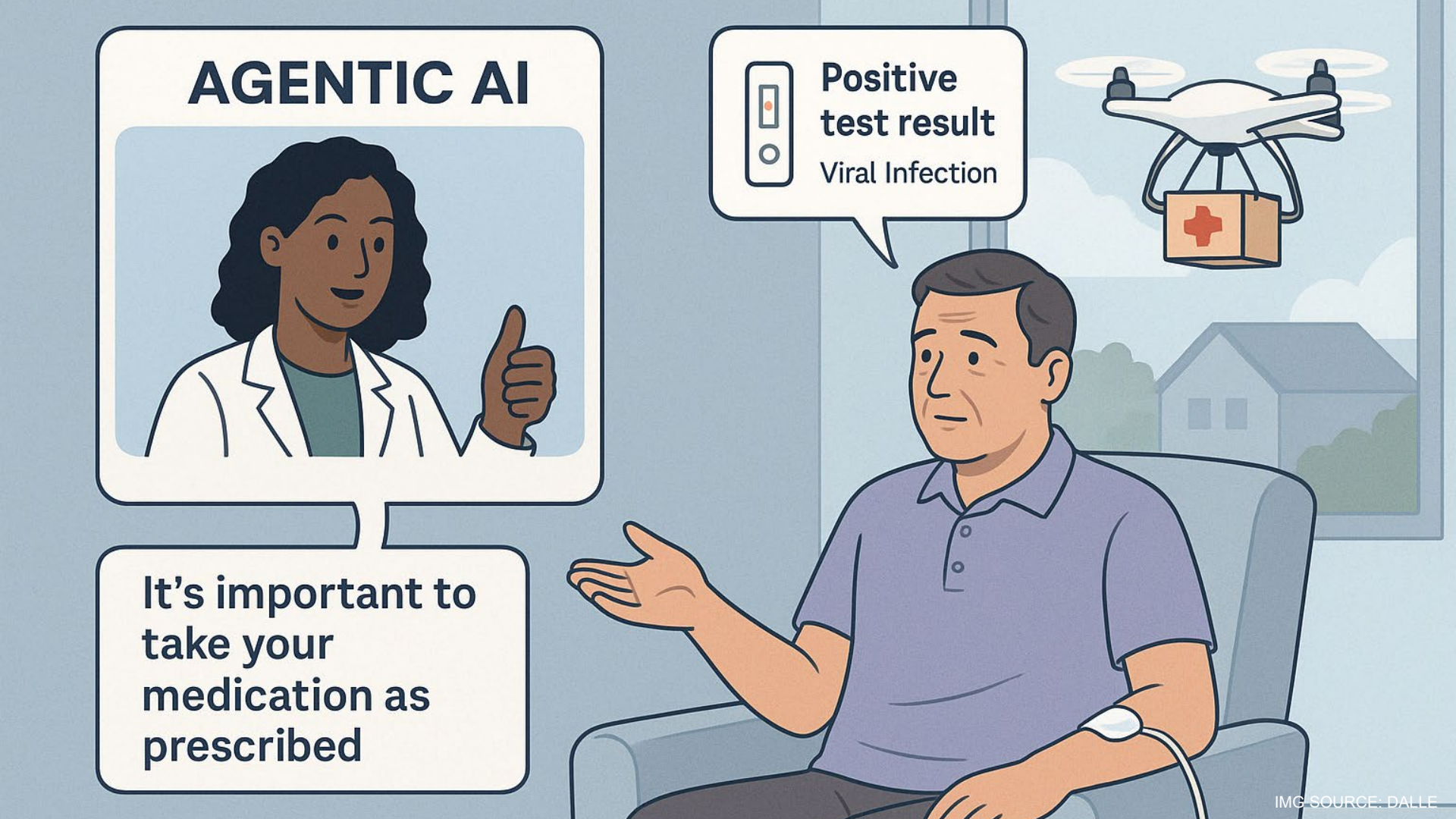
DRUG ACQUISITION

PRIOR AUTHORIZATIONS

Khan O, et al. Intelligent Pharmacy J (2023)32-40

AGENTIFICATION OF HEALTHCARE

- **AI Agents Are Task-Oriented Tools**: AI agents are software programs capable of autonomously performing tasks—such as synthesizing patient data, identifying drug interactions patterns, or recommending treatment plans—based on goals set by clinicians or systems.
- **Agentic AI Demonstrates Autonomy and Initiative**: Unlike traditional AI models, agentic AI can make decisions, learn from interactions, and adapt its actions over time, allowing it to proactively monitor disease progression, adjust alerts, or even coordinate follow-ups without constant human input.
- **Relevance to Pharmacy**: In pharmacy practice, agentic AI could autonomously track evolving drug utilization, recommend inventory management site-specific data, and engage patients with personalized follow-up and adherence support through medication management.


AGENTIC AI
Positive test result
Viral Infection
It’s important to take your medication as prescribed
IMG SOURCE: DALLE

ROLES OF AGENTS IN PHARMACY

CUSTOMER ENGAGEMENT

- Pharmacy agents designed for virtual (e.g., voice, text, video) interaction with patients 24/7
- Handle outreach for pharmacy related services
  - Medication refills
  - Vaccinations
  - Pharmacy related services
  - Sales and related frontend events
  - Social updates (e.g., birthday)

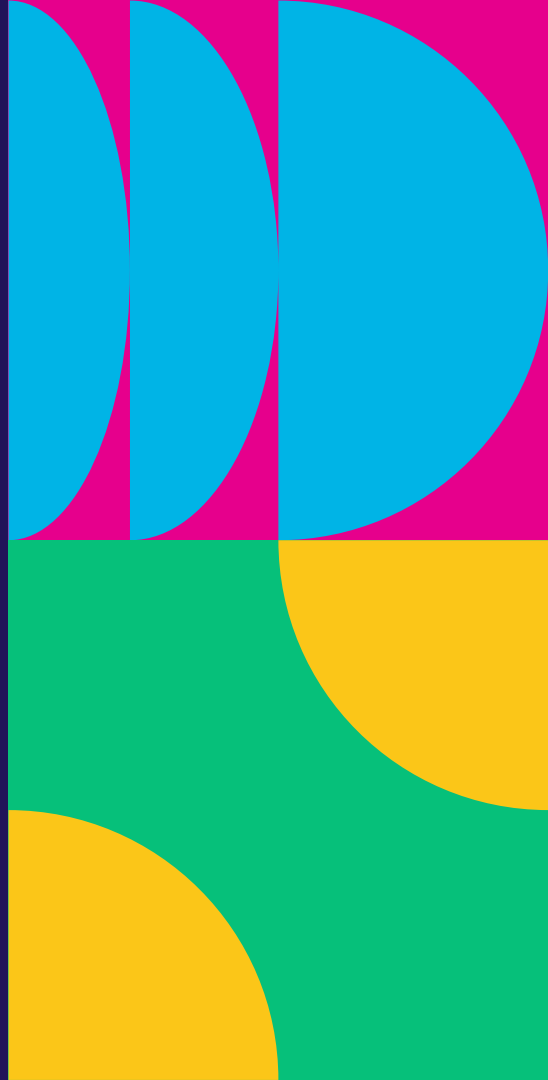
PHARMACY OPERATIONS

- AI agents can handle repetitive operational functions such as answering refill requests, triaging patient messages, managing inventory alerts, and verifying insurance eligibility—freeing up staff for higher-value care.
- AI agents can dynamically manage appointment scheduling for immunizations or consultations, optimizing staff time and reducing no-shows based on patient history and real-time demand.

BILLING AND AUDIT MANAGEMENT

- AI agents can analyze point-of-sale, prescription, and patient interaction data to surface trends—like identifying top-selling OTC products or opportunities for clinical service expansion.
- AI agents can flag documentation gaps, automate claims preparation, and detect billing anomalies—reducing audit risk, improving reimbursement accuracy, and streamlining back-office operations.

WHAT ARE THE LIMITATIONS?



AI ACCURACY & EXPLAINABILITY

Accuracy Concerns

- There have been many concerns related to the use of AI tools due to several limitations:
  - **Bias** – Models outputs reflect limited data that may not represent a wider population
  - **Hallucinations** – Models produce outputs that are incorrect
  - **Drift** – Models become divergent on their responses

What is Explainability?

- Understood as a characteristic of an AI-driven system allowing a person to reconstruct why a certain AI came up with the presented predictions
  - Essentially, do you understand the MOA of the AI model?
- Issues:
  - **Legal** – How much has to be exposed on MOA?
  - **Regulatory** – No guidance
  - **Medical** – Training and knowledge

Amann J, Blasimme A, Vayena E, Frey D, Madai VI; Precise4Q consortium. BMC Med Inform Decis Mak. 2020;20(1):310.; Sahiner B, Chen W, Samala RK, Petrick N. Data drift in medical machine learning: implications and potential remedies. *Br J Radiol*. 2023;96(1150):20220878.

AI REGULATORY LANDSCAPE

- Current regulatory pathways for AI in healthcare are being developed in:
  - The United States of America (USA), the United Kingdom (UK), Europe, Australia, China, Brazil, and Singapore
- Mixture of 'Hard' and 'Soft' laws:
  - **Hard** – Legislation and set laws set by governing bodies
  - **Soft** – Comprises professional guidelines, voluntary standards, codes of conduct, recommendations, agreements, national action plans, or policy documents, which are not legally binding and adopted by governments and the industry
- *In the USA there are no specific regulatory pathways for AI-based technologies, but the FDA evaluates them under the existing regulatory framework for medical devices.*
- Possible EU/USA guiding documents in coming years focused on AI trust.

Palaniappan K, Lin EYT, Vogel S. Healthcare (Basel). 2024;12(5):562.

AI AND THE FDA

The FDA has authorized 950 AI/ML-enabled medical devices.

- The FDA reviews medical devices through an appropriate premarket pathway, such as premarket clearance (510(k)), De Novo classification, or premarket approval.
  - This pathway was not designed to account for AI/ML technologies
- Over past 5 years the FDA has worked to change how it evaluates digital health and AI/ML enabled technologies, with involvement across multiple organizations including:
  - FDA's Center for Biologics Evaluation and Research (**CBER**), the Center for Drug Evaluation and Research (**CDER**), and the Center for Devices and Radiological Health (**CDRH**), and the Office of Combination Products (**OCP**)

FDA. Artificial Intelligence and Machine Learning (AI/ML)-Enabled Medical Devices. Updated August 7, 2024. Accessed August 14, 2024. https://www.fda.gov/medical-devices/software-medical-device-samd/artificial-intelligence-and-machine-learning-aiml-enabled-medical-devices; FDA. Artificial Intelligence & Medical Products: How CBER, CDER, CDRH, and OCP are Working Together. https://www.fda.gov/media/177030/download?attachment

CURRENT FDA FOCUS

Total product life cycle (TPLC) approach for the oversight of AI-MDs:

- Specific regulatory framework with the issuance of draft guidance on “Predetermined Change Control Plan”;
- Good machine learning practices;
- Patient-centric approach, including the transparency of devices to users;
- Methods for the elimination of ML algorithm bias and algorithm improvement;
- Real-world performance monitoring pilots.

Good machine learning practices (GMLPs) principles for AI development:

- High relevance of available data to the clinical problem and current clinical practice;
- Consistency in data collection that does not deviate from the SaMD’s intended use;
- Planned modification pathway;
- Appropriate boundaries in the datasets used for training, tuning, and testing the AI algorithms;
- Transparency of the AI algorithms and their output for users

Palaniappan K, Lin EYT, Vogel S. Healthcare (Basel). 2024;12(5):562.

DATA AND PRIVACY

- Same issue as ‘Big Data’ from over a decade ago – and still playing catch up to technology advances
- **Office for the National Coordinator of Health IT (ONC)**
  - **Algorithm Transparency**: Introduces new requirements for transparency in AI and predictive algorithms used in certified health IT, promoting fairness, effectiveness, and safety for clinical decision-making across hospitals and physicians.
  - **USCDI Version 3**: Implements USCDI v3 as the standard for certified health IT by 2026, aiming to improve patient data accuracy, promote equity, reduce disparities, and enhance public health data interoperability.
  - **Enhanced Information Sharing and Metrics**: Revises information blocking rules to improve secure data exchange and introduces reporting metrics to monitor how certified health IT supports care delivery.

Murdoch B. BMC Med Ethics. 2021;22(1):122.; ONC. (HTI-1) Final Rule, https://www.healthit.gov/topic/laws-regulation-and-policy/health-data-technology-and-interoperability-certification-program

ETHICAL CONSIDERATIONS

HOW MUCH DO YOU TRUST AI?

- Would you trust it to manage your bank account?
- Would you trust it to perform household chores?
- Would you trust it to help write for you?
- Would you trust it to help give daily advice or answer questions?
- Would you trust it to give music suggestions?
- Would you trust it to help identify new items to shop for?
- Would you trust it to help you drive your car?

AI HEALTH CARE ETHICAL CONSIDERATIONS

CONCERNS RELATED TO AI AND HEALTH CARE:

- Data bias and model development
- Informed consent and transparency
- Patient privacy and data protection
- Allocation and fairness of use
- Liability and accountability
- Explainability

Currently, there is limited training on AI health ethics for health professionals.

Cross-sectional study was conducted in countries from the Middle East and North Africa (MENA) region on 501 **pharmacy professionals**:

- Participants expressed concerns about patient **data privacy (58.9%), cybersecurity threats (58.9%),** potential job displacement (62.9%), and lack of legal regulation (67.0%)
- Tech-savviness and basic AI understanding were correlated with higher concern scores ($p < 0.001$)

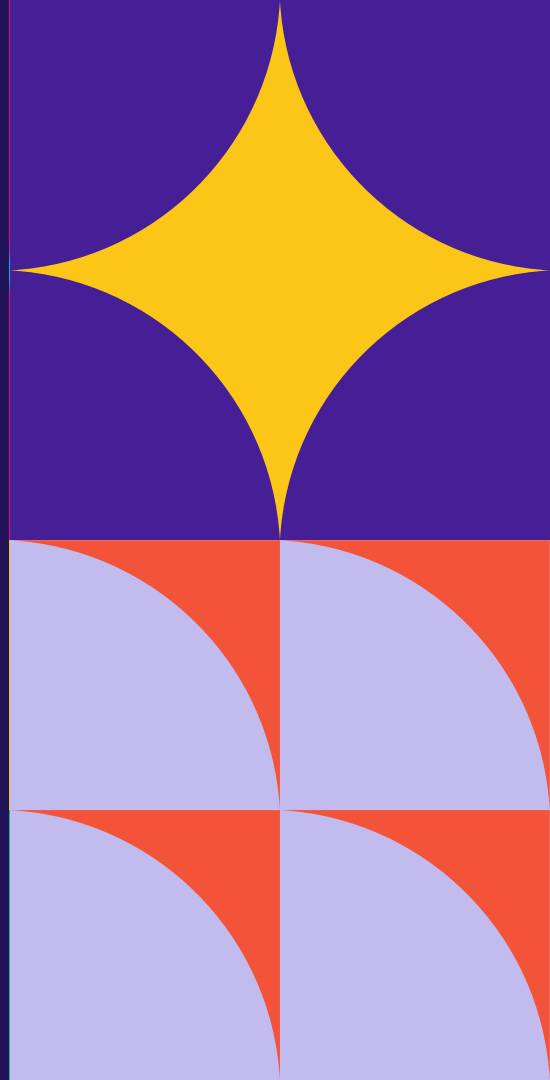
Weidener L, Fischer M. JMIR Med Educ. 2024;10:e55368.; Weidener L, Fischer M. Perspect Med Educ. 2023;12(1):399-410.; Hasan HE, Jaber D, Khabour OF, Alzoubi KH. BMC Med Ethics. 2024;25(1):55.

AI TRAINING AND EDUCATION

- No set guidance on what AI training is needed for medical professionals
  - Current students and practitioners will have different needs alongside professional roles
- Topics discussed that may be of value:
  - Ethical use of AI in healthcare
  - Knowledge regarding AI terminologies and understanding basic principles
  - Training on the utilization of AI within clinical roles and responsibilities
- Growing interest in subset specialties using AI (e.g., informaticists, AI specialists) for oversight and integration
- Pharmacy education with new COEPA and ACPE standards have adopted digital health into the curriculum which will see a growing focus on the clinical utility of technologies, like AI, into professional training

Sun L, Yin C, Xu Q, Zhao W. Am J Transl Res. 2023;15(7):4820-4828.; Weidener L, Fischer M. JMIR Med Educ. 2023;9:e46428.; Abdel Aziz MH, Rowe C, Southwood R, Nogid A, Berman S, Gustafson K. Am J Pharm Educ. 2024;88(1):100615.

HOW CAN WE MAKE THIS WORK?



TECHNOLOGY INTEGRATION CONSIDERATIONS

- Reimbursement Pathways
- Culture Shift
- Data Privacy
- Staff Training
- Digital Literacy
- Evidence & Regulations

Wang C, Lee C, Shin H. Digital therapeutics from bench to bedside. NPJ Digit Med. 2023;6(1):38.

LOW-RISK PROBLEMS

- Scheduling of staff
- Emails and communication
- Document preparation
- Internal data analysis
- Medical information interpretation
- Workforce minimizer (job loss) VS. Workflow maximizer (helps staff)

LEADERSHIP IN TIMES OF SHIFT

- Test potential solutions on relevant problems
- Executive leadership must push resilience to accelerate the way to deliver care alongside modern advancements
- Innovation and failure go hand in hand – Prepare for failure

FIND YOUR WHY

- Identify internal needs and where risks is accepted
- Incremental growth over substantial overnight change
- Test potential solutions on relevant problems

VALUE IDENTIFICATION

- Innovation center with governance, executives, legal, etc is key to determine where to invest time and capital — Don’t lose out on your margin
- ROI consideration is that you expect to grow and find those gains
- Measurement points to identify the investment payoff

Enhancing Adherence with Packaging and Synchronization

Theme: Scalable Medication Adherence Programs

- Independent pharmacies are improving adherence by combining **medication synchronization** with **automated packaging** (e.g., strip/blister packs).
- Use of compact automation systems allows pharmacies to enroll more patients in med sync without overburdening staff.
- Technicians often take on new roles as **adherence coordinators**, managing packaging, communication, and delivery.
- Outcomes include **higher patient retention**, reduced refill gaps, and easier transitions to value-based care.
- **Tip for pharmacies**: Start small with a pilot group and scale as workflows stabilize.

Driving Growth through Long-Term Care (LTC) Services

Theme: Diversifying Revenue via Compliance Packaging and Institutional Contracts

- Pharmacies are using automation to expand into **assisted living and group home markets**, offering custom-packed medications.
- Robotics simplify compliance packaging, freeing up time to handle **regulatory documentation** and client communication.
- Technology facilitates batching, delivery routing, and integrating with **eMAR platforms** used by LTC facilities.
- Many pharmacies report **business growth** and stronger relationships with local care providers as a result.
- **Tip for pharmacies**: Build partnerships with small residential facilities first before expanding to larger LTC settings.

Streamlining Clinical Services with Digital Platforms

Theme: Expanding the Role of Pharmacists Beyond Dispensing

- Tech platforms enable pharmacists to offer **billable clinical services** (e.g., immunizations, CGM programs, MTM).
- Solutions like **DocStation** and **OutcomesMTM** automate documentation, claims, and reporting, reducing administrative burden.
- Pharmacies can provide services such as **diabetes coaching, smoking cessation, or chronic care management**—adding new revenue streams.
- Patient satisfaction increases when pharmacists spend more time providing personalized care.
- **Tip for pharmacies**: Focus on one reimbursable service (e.g., CGM) and build a clinical offering around it.

Improving Patient Communication and Engagement

Theme: Meeting Patients Where They Are – Digitally

- Pharmacies are increasingly using **mobile apps, text messaging, and online refill tools** to engage patients.
- Tools like **Digital Pharmacist**, PioneerRx's **RxLocal**, and Omnicell's **EnlivenHealth** platform automate refill reminders, education, and outbound outreach.
- Enhanced engagement reduces phone call volume and improves **adherence and satisfaction**—especially among working-age adults.
- Pharmacies that offer digital convenience often see **higher customer loyalty** and more positive reviews.
- **Tip for pharmacies**: Start by implementing 2-way texting for refills and updates—an easy win for efficiency and patient happiness.

Using Telehealth and Remote Access to Expand Care

Theme: Extending the Pharmacist's Reach with Virtual Tools

- Telepharmacy software allows pharmacists to **verify scripts and counsel patients remotely**, supporting satellite sites or after-hours care.
- Video conferencing tools support **virtual MTM, chronic disease coaching, and follow-up visits** with patients at home.
- Remote patient monitoring (RPM) devices and apps (e.g., BP cuffs, CGMs) let pharmacists intervene proactively in chronic disease management.
- These tools position independent pharmacies as **community health hubs**, even beyond the physical store.
- **Tip for pharmacies**: Explore partnerships with local clinics or employers to offer telehealth-linked pharmacy services.

KEEPING THE PHARMACIST IN THE LOOP

- **Clinical Oversight & Safety**: Pharmacists ensure AI-driven recommendations (e.g., refill prompts, dose suggestions) are clinically appropriate, avoiding errors that algorithms may overlook in complex patient scenarios.
- **Patient Trust & Communication**: Patients value personal interaction—pharmacists bridge the gap between AI outputs and patient understanding, reinforcing trust and clarifying recommendations.
- **Ethical and Cultural Context**: Pharmacists provide human judgment to assess when AI suggestions may conflict with patient values, health literacy, or socioeconomic realities that AI may not detect.
- **Workflow Integration & Accountability**: Pharmacists play a critical role in interpreting AI insights within real-world operations, determining what action to take and ensuring legal and professional accountability.

ADJUNCTIVE TOOLS EXPANSION

Automation of Routine Tasks:

- Dispensing and Compounding: AI-powered robotic systems can automate medication dispensing and compounding, reducing errors and increasing efficiency. Technicians may oversee these systems, ensuring they function correctly.
- Inventory Management: AI algorithms can predict medication usage patterns, assisting technicians in maintaining optimal inventory levels and preventing stockouts or overstock situations.

Enhanced Workflow Efficiency:

- Data Entry and Documentation: AI can automate data entry processes, minimizing manual input and potential errors. Technicians will need to verify and manage this data effectively.
- Task Prioritization: Digital tools can help technicians prioritize tasks based on urgency and importance, streamlining daily operations.

CHANGING INTERACTIONS

Patient Interaction and Support:

- Telepharmacy Services: With the rise of telehealth, technicians may assist pharmacists in virtual consultations, helping manage remote medication dispensing and patient inquiries.
- Medication Adherence Programs: AI can identify patients at risk of non-adherence, enabling technicians to support interventions that improve medication compliance.
- Provider Interactions: AI tools move communication towards more data leverage and virtual communication with health team members

TRAINING ADJUSTMENTS

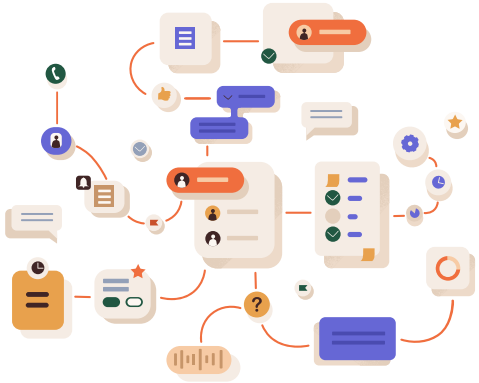
Education and Skill Development:

- Technical Proficiency: Technicians will need to become proficient with new digital tools and software, requiring ongoing education and training.
- Adaptability: Embracing a mindset open to change will be essential as technologies continue to evolve.

Regulatory Compliance and Data Security:

- Privacy and Confidentiality: Technicians must ensure that AI systems comply with HIPAA and other regulations, safeguarding patient information.
- Cybersecurity Awareness: Understanding the basics of cybersecurity can help prevent data breaches and protect sensitive information.

PREPARING FOR THE FUTURE

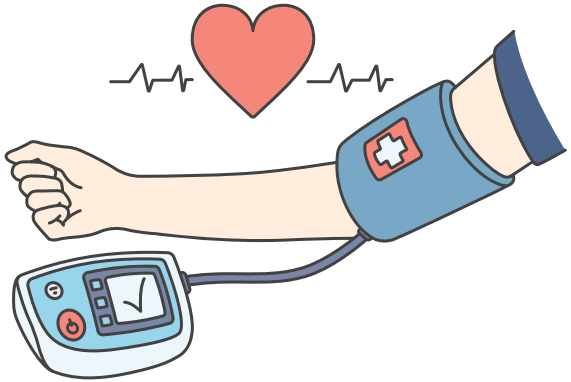


WORKFLOW

- AI identifies patients for interventions and services
- Work directed to appropriate staff in the pharmacy

PHARMACY TEAM

- Pharmacy technicians oversee dispensing of medications with AI integration
- Pharmacists focused on clinical services



ID MANAGEMENT

- Pharmacists utilize technology to provide in-person and remote care services
- Oversee low-to-moderate acuity conditions

KEY TAKEAWAYS

Evaluate Partnership Opportunities:

- Consider collaborating local providers or novel services

Leverage AI and Automation:

- Explore tools to enhance clinical decision-making and allow for expanded services.

Enhance Digital Presence:

- Update or implement mobile apps to improve patient engagement.
- Create a digital front door for customers to have an engaging service

Expand Clinical Services:

- Identify possible services to offer customers based on local issues or increase access to care

Focus on Personalized Care:

- Differentiate from larger competitors by offering tailored services and building strong patient relationships.

Questions?

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