

Preliminary Comments Development Team (PCDT) Presentation:

**Using Data and Health Information Technology to Transparently Empower
Consumers and Support Providers**

Krishna Ramachandran, MBA, MS (Lead)

Lawrence Kosinski, MD, MBA

Joshua Liao, MD, MSc

James Walton, DO, MBA

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Objectives of This Theme-Based Meeting

- Discuss approaches for improving data infrastructure and interoperability to support patient empowerment and provider decision-making
- Explore effective digital tools for equipping patients with information about their health care
- Examine emerging strategies for promoting shared decision-making between providers and patients
- Assess data-driven approaches for enabling patients with multiple chronic conditions to take control of their health care
- **Discuss payment models, provider incentives, and benefit design improvements to enhance patient empowerment**

Context for This Theme-Based Meeting

- PTAC has received 35 proposals for physician-focused payment models (PFPMs).
- Nearly all of these proposals addressed patient choice and health information technology.
- Committee members found that 25 of these proposals met Criterion 8 (Patient Choice) and 22 proposals met Criterion 10 (Health Information Technology) established by the Secretary for PFPMs. Among these proposals, seven provide detailed strategies and approaches:
 - Four proposals describe specific strategies to support patient choice.
 - Three proposals describe innovative approaches to health IT that promote data standardization, interoperability, and transparency.

Background

Data Infrastructure: Challenges and Opportunities

Patient and Provider-Facing Digital Health Tools

Patient Empowerment and Alternative Payment Models (APMs)

Concepts in Patient-Centered Health Care

- Many terms are used to describe patient-centered care concepts.
- Six commonly used terms are:

patient enablement	patient engagement
patient activation	patient involvement
patient empowerment	patient participation

- Differing and overlapping definitions of these terms exist but the underlying concepts generally encompass the process and state of:
 - having the knowledge and skills to understand and manage one's health
 - having the confidence and motivation to be able to act and control one's health
 - actively taking part in decisions and behaviors related to one's health

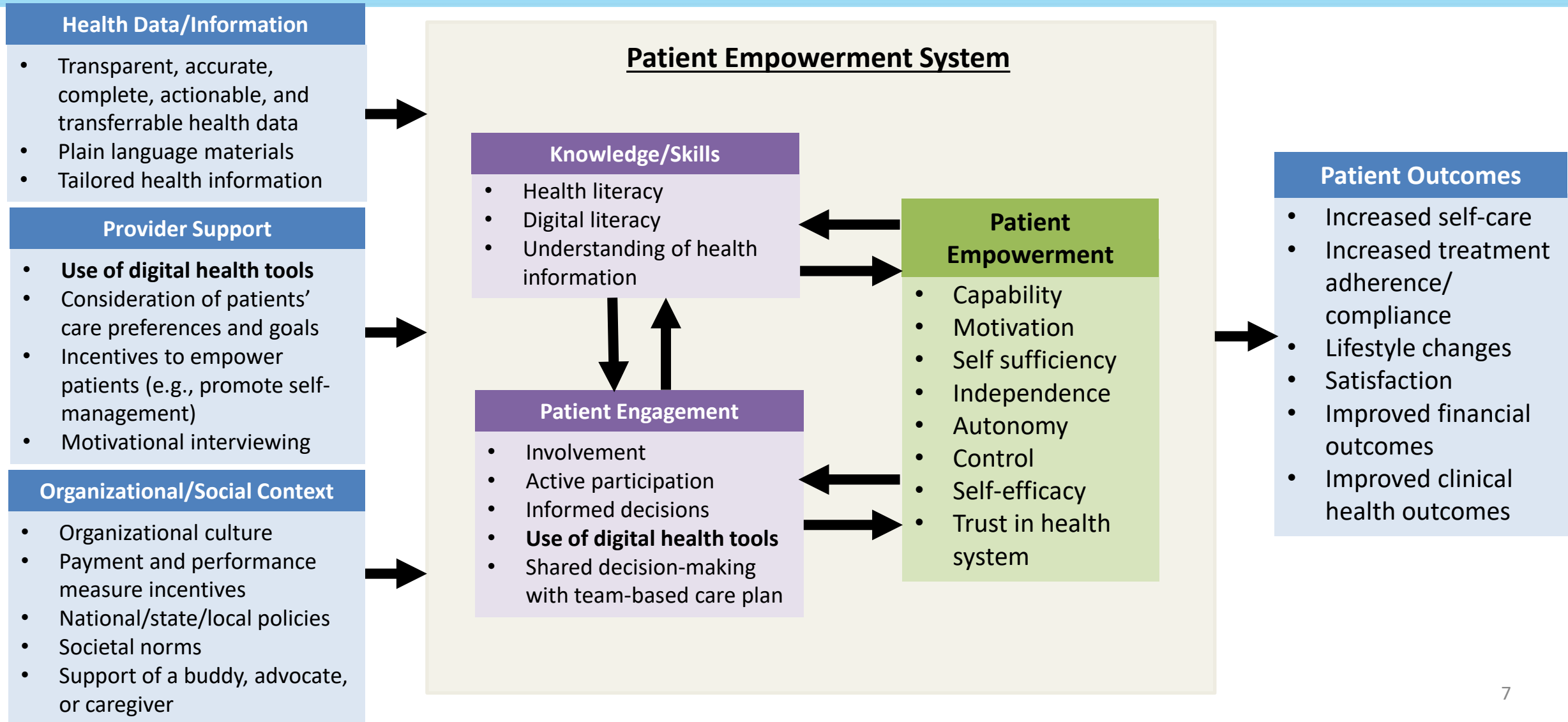
PTAC Working Definition of Patient Empowerment

- PTAC is using the following working definition of **patient empowerment**:
 - *The process and state whereby a patient acquires and has the ability (knowledge and skills) and motivation (desire and confidence) to control and make timely decisions regarding their own health and health care.*
- This definition will likely continue to evolve as the Committee collects additional information from stakeholders.

PTAC Working Definition of Patient Engagement

- PTAC is using the following working definition of **patient engagement**:
 - *The process and state by which a patient actively communicates their health status, health care needs, and health care wishes; makes informed decisions regarding their health and health care treatments; and participates in shared decision-making regarding their health with their providers.*
- This definition will likely continue to evolve as the Committee collects additional information from stakeholders.

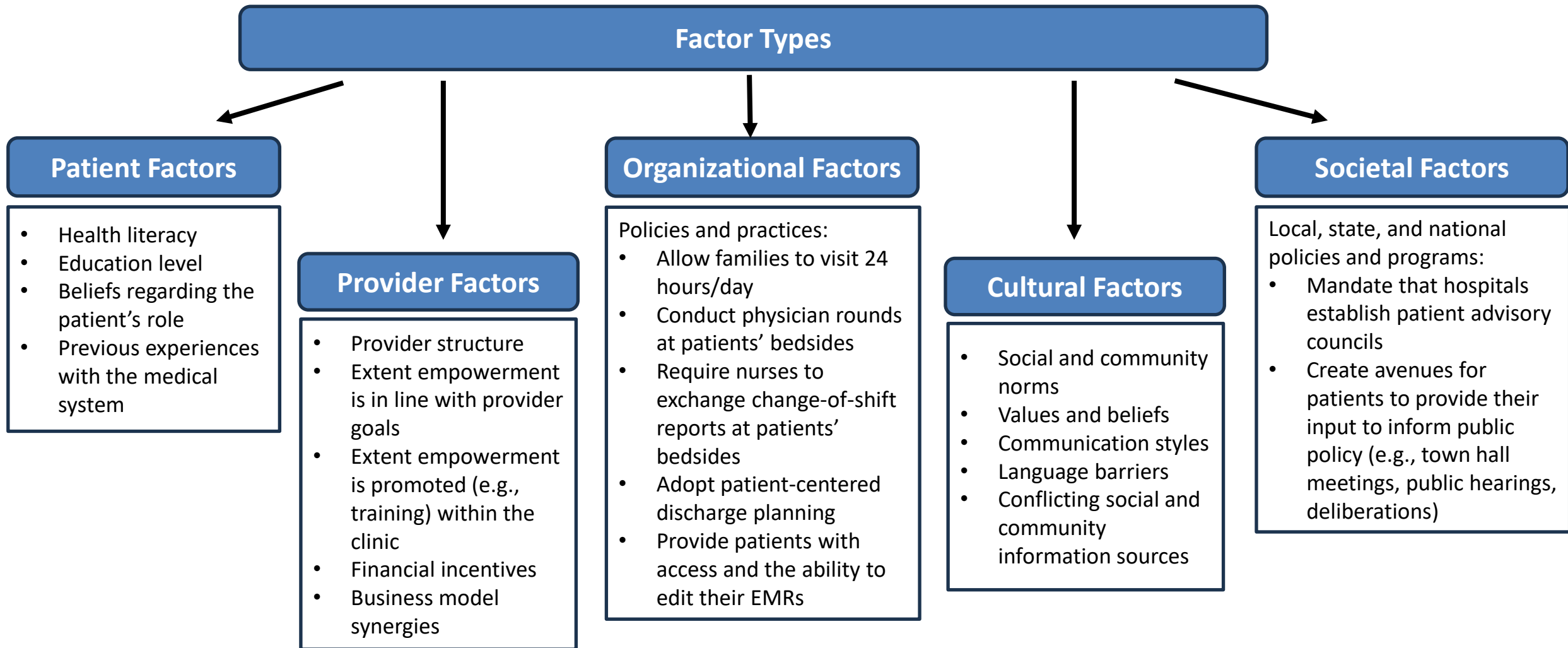
Patient Empowerment Conceptual Framework



Patient Empowerment Areas and Influences

- Patients can be empowered to make informed decisions about their:
 - Choice of health insurance plans and providers
 - Use of the health care system
 - Overall health, medical conditions, and choice of treatments
 - For healthy patients, the focus is on staying healthy and detecting disease early
 - For patients with chronic conditions, the focus is on managing conditions and slowing disease progression
- Data and information are critical to enable patients to make informed decisions
 - Provides patients with a sense of responsibility and control over their lives
 - Improves patients' levels of engagement in their care and strengthens the patient-provider relationship
- Various factors can influence patient empowerment at the patient, organizational, and societal level

Factors Influencing Patient Empowerment



Patient Empowerment: Choosing a Health Insurance Plan and Providers

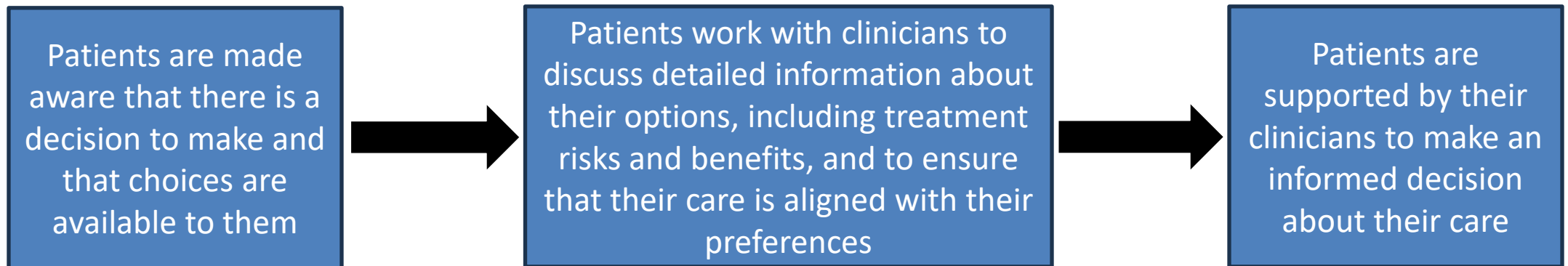
Making Decisions About:	Information/Tools Available to Patients
Health insurance plans	• Medicare Plan Finder to compare pricing, coverage options, and benefits • Insurance brokers
Providers	• CMS online comparison tool to search for and compare providers based on patient health care needs • Consumer Assessment of Healthcare Providers and Systems (CAHPS) to evaluate information on patient experience with their providers • Proximity of provider • Previous positive experience with the provider

Patient Empowerment: Navigating the Health Care System

- Empowering patients to effectively navigate the health care system involves providing patients with virtual care options, such as the use of telehealth and online appointment scheduling
- Telehealth platforms and other forms of virtual care can provide patients with increased convenience and accessibility to health care
 - To be effective, providers should offer clear instructions on how to access and navigate telehealth platforms as well as provide training for patients who need further assistance

Patient Empowerment: Engaging in Shared Decision-Making about One's Own Health, Conditions, and Treatments

- Engaging a patient in clinical practice often involves shared decision-making, where a patient and their clinician work together to make informed decisions about the patient's health and health care
- Shared decision-making helps to ensure medical decisions align with patients' personal health goals and fulfills patients' wishes to feel that they are on the same team as their health care providers



Supporting Providers to Promote Patient Empowerment

- Support providers to engage the patient in shared decision-making to better inform treatment and management of the patient's conditions and promoting patient choice
- Encourage providers to focus on the complete patient experience, including discussion of lifestyles choices
- Introduce the concept of “social prescribing” where providers prescribe activities or resources (e.g., exercise, exposure to nature, volunteering), in addition to traditional prescribing of drugs and therapy
- Allow for asynchronous communication—the ability for patients and providers to communicate remotely (e.g., through patient portals) outside of scheduled appointments
- Use AI to help providers review patient data, increasing efficiency and accuracy, and reducing provider workload and burnout

Impact of Patient Empowerment on Outcomes

- There is limited but promising evidence showing that patient empowerment can improve various outcomes

Outcomes	Examples
Patient experience	• Higher-quality interactions with providers • Perception that treatments are free from bias based on patients' sociodemographic characteristics • More frequent communication with providers outside of regularly scheduled visits (contact with physicians via phone or email)
Patient-reported outcomes	• Better health status and quality of life • Higher self-efficacy, self-esteem, and social support
Clinical indicators	• Systolic blood pressure within the normal range • Fewer emergency department visits • Fewer hospitalizations

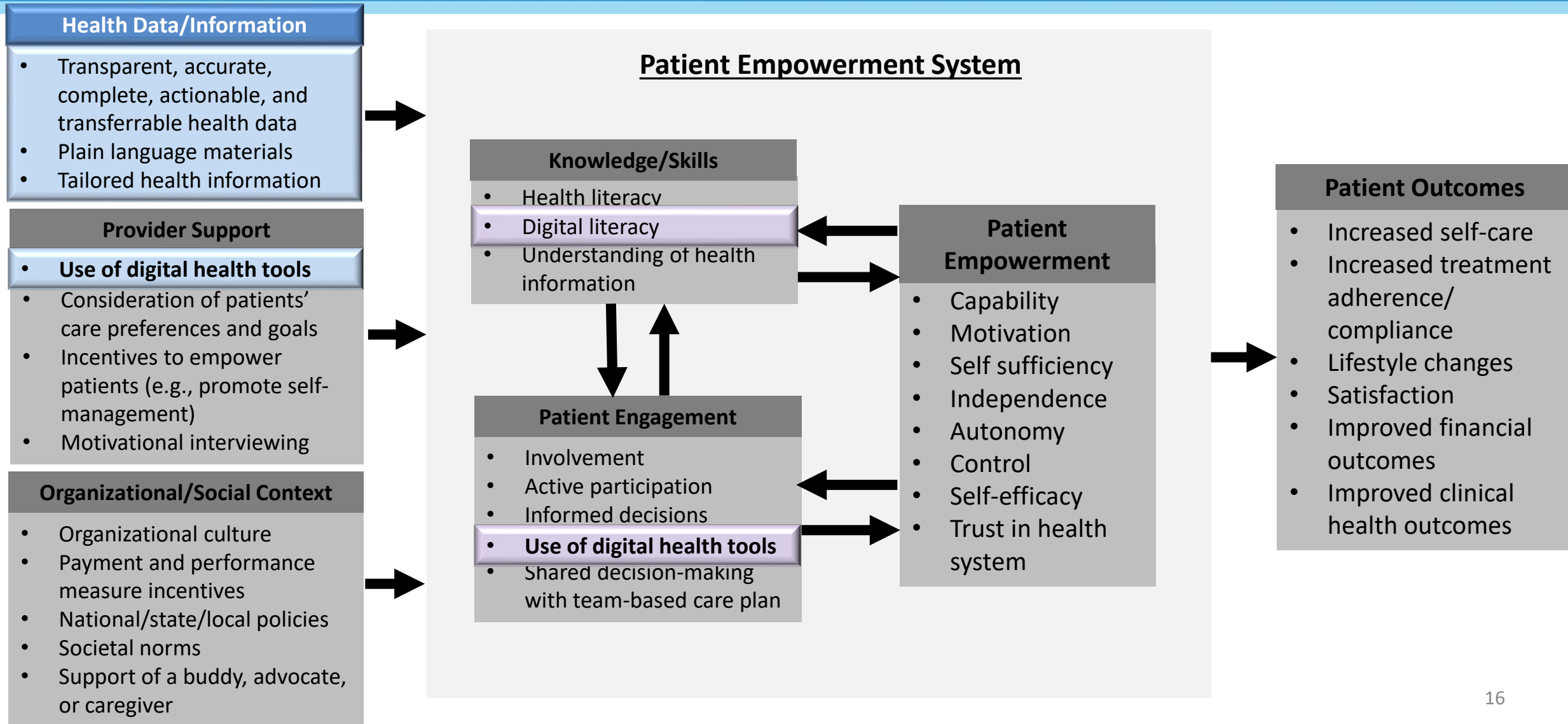
Background

Data Infrastructure: Challenges and Opportunities

Patient and Provider-Facing Digital Health Tools

Patient Empowerment and Alternative Payment Models (APMs)

Patient Empowerment Conceptual Framework: Data Infrastructure Focus



Types of Health IT to Promote Patient Empowerment and Support Providers

Type of Health IT	Definition/Characteristics
Digitized Patient Health Information	• Electronic Medical Records (EMRs): digital version of patient medical records specific to a particular health care setting/provider • Electronic Health Records (EHRs): digital patient health information that can be shared across health care settings/providers
Digital Health Tools	• Collect, share, and integrate patients' health information • Examples include patient portals (provide patient access to EHRs), mobile apps and wearable health technology, and clinical decision support (CDS) to facilitate patient/provider shared decision-making
Artificial Intelligence (AI) and Emerging Technologies	• For patients, AI may include personalized apps to assist with monitoring a patient's condition, and chatbots and virtual assistants to answer patient medical questions • For providers, AI may include incorporation of patient monitoring data into personalized treatment plans • Other technologies may include smart implants and wearables to support remote patient monitoring (RPM)

Data Interoperability: An Essential Requirement for Optimizing the Use and Value of Health IT

- To optimize the value of health IT to patients and providers, data interoperability is needed.
 - **Data Interoperability:** the capability of different information systems from different organizations to access, exchange, integrate, and use data in a harmonized way
- Various regulations and initiatives have promoted data interoperability over the past 10–15 years, including:
 - Medicare and Medicaid EHR Incentive Programs (2011)
 - 21st Century Cures Act (2016)
 - CMS Interoperability and Patient Access Final Rule (2020)
 - Medicare Promoting Interoperability Program (2022)

Data Interoperability: Challenges and Opportunities

Challenge	Opportunity
Lack of Standardization	• Health Level 7 (HL7) Fast Healthcare Interoperability Resources (FHIR) provides a national standard for data sharing across organizations; adoption currently varies • CMS's Blue Button 2.0 provides a secure, universal way for Medicare beneficiaries to access and share their health information
Integration of Patient-Reported Data into EHR	• Implementing standards such as FHIR and using application programming interface (API) technologies to integrate patient-generated data (e.g., from remote patient monitoring tools) into the EHR
Resources and Cost Demands	• Incentive programs can support and encourage organizations to adopt and upgrade their health IT

Patient Use and Access of Data: Challenges and Opportunities

Challenge	Opportunity
Health Literacy	• Tailored patient education materials • Health literacy training programs for providers/staff to effectively communicate with patients
Barriers to Accessing Technology	• Simple design of technologies and clear organization of information to facilitate use • Inclusion of patients in the technology development process
Issues with Real-Time Access to Data	• Balance providing real-time patient access to information with the need for provider clinical knowledge to interpret and discuss results with patients
Patient Privacy and Confidentiality Concerns	• Tools to provide patients with greater control over what types of health data they share, with whom, and for what purpose

Agenda

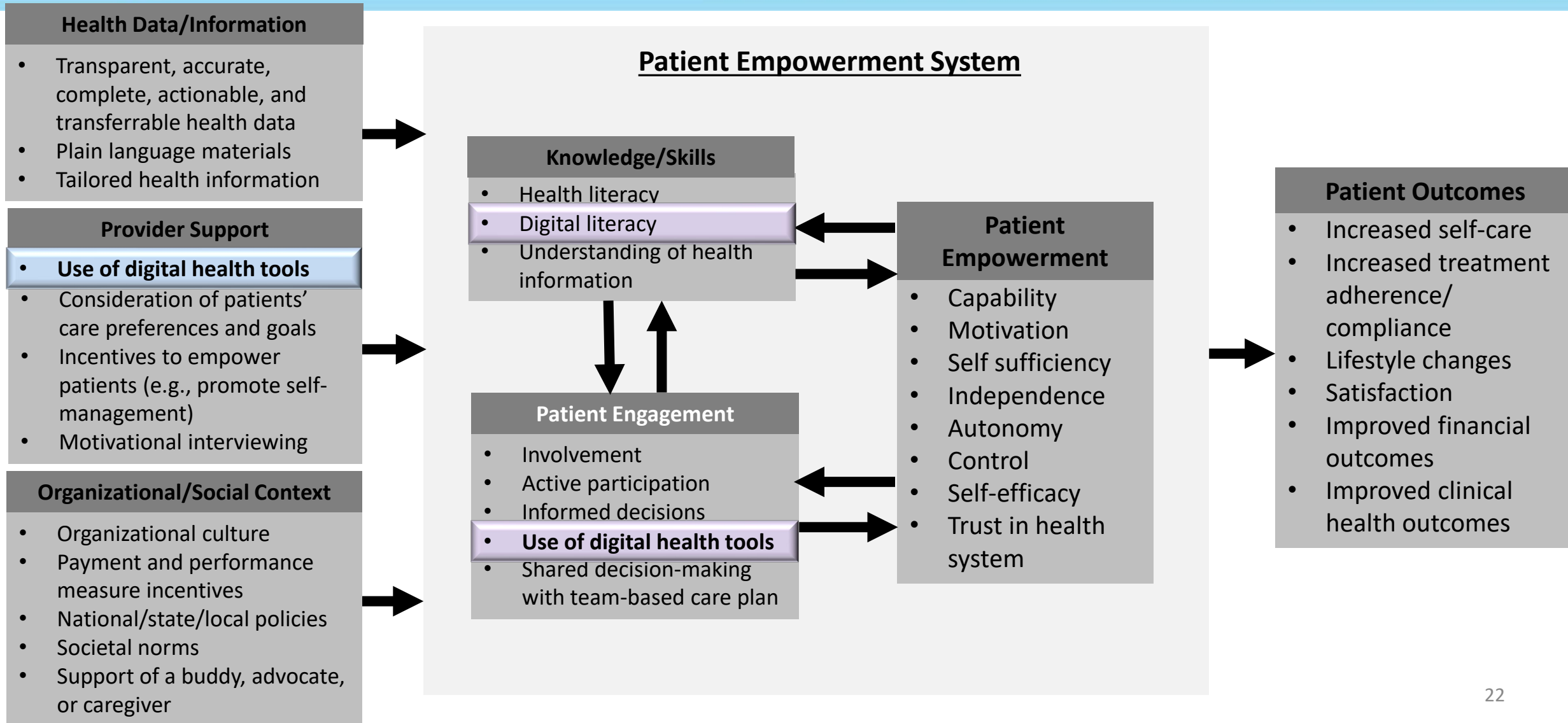
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Patient Empowerment Conceptual Framework: Digital Health Tools Focus



Classification of Digital Health Tools Used Throughout the Patient Care Journey

Digital Health Tool Category	Category Definition	Step in Patient Care Journey	Types of Digital Health Tools
Health & Wellness	Promote general health and well-being (e.g., healthy eating, exercise, weight loss); non-clinical, non-regulated	Preventive Health / Self-Care (patient-facing)	- Wellness applications/“apps” (e.g., breathwork, meditation) - Wearables (e.g., smartwatches, odometers) - Virtual reality fitness games
Health System Clinical Software	Health IT patient management solutions	Diagnosis (clinician-facing)	- Clinical documentation and imaging (e.g., EMRs, patient portals) - Physician clinical decision support (CDS) tools - Communication support (workflow, alerts) - Telehealth platforms
Digital Diagnostics	Provide clinical diagnostics; drive clinical decision-making; medical devices; highly regulated	Diagnosis (clinician-directed, patient-facing)	- Algorithmic data analysis (e.g., biometrics) - Predictive modeling

Classification of Digital Health Tools Used Throughout the Patient Care Journey (continued)

Digital Health Tool Category	Category Definition	Step in Patient Care Journey	Types of Digital Health Tools
Care Support	Promote patient self-management of condition	Treatment / Self-Care (patient-facing)	• Disease-specific apps (e.g., medication trackers) • Patient CDS tools (e.g., educational apps) • Patient decision aids • Digital care (e.g., physical rehabilitation apps)
Digital Therapeutics	Provide disease treatment; medical/therapeutic intervention; highly regulated	Treatment / Clinical Care (clinician-directed, patient-facing)	• Immediate biometrics feedback • Sensory stimuli to target neural activity • Clinically validated digital behavioral therapy
Patient Monitoring	Monitor health data to inform management of condition	Monitoring (patient-facing)	• Physiologic monitoring (e.g., glucose) • Patient-reported outcomes monitoring (e.g., cancer symptoms) • Remote patient monitoring (e.g., inhalers with built-in sensors)

Classification of Digital Health Tools Used Throughout the Patient Care Journey (continued)

Digital Health Tool Category	Category Definition	Step in Patient Care Journey	Types of Digital Health Tools
Health System Clinical Software	Health IT patient management solutions	Monitoring (clinician-facing)	• Clinical documentation and imaging (e.g., EMRs, patient portals) • Physician clinical decision support (CDS) tools • Communication support (workflow, alerts) • Telehealth platforms

Digital Health Tools Promote Shared Decision-Making

- Digital health tools, in particular **care support** and **patient monitoring** tools, facilitate shared decision-making across the patient care journey by empowering patients with health knowledge to enable them to make informed decisions about their health and treatment and by fostering patient-provider connections
- Care support tools
 - **Care support apps:** aid in disease management and trigger virtual connections between patients and clinicians in real-time
 - **Patient decision aids:** promote patient education and active participation with providers
- Patient monitoring tools
 - **Remote patient monitoring (RPM):** allows providers to track patient progress remotely through patient use of digital tools (e.g., smartwatches, pacemakers, inhaler sensors, blood pressure monitors) and promotes active participation between patients and providers

Effectiveness of Digital Health Tools on Increasing Patient Empowerment and Improving Clinical Outcomes

- There is limited but promising evidence showing the effectiveness of digital health tools on increasing patient empowerment and improving clinical outcomes

Outcomes	Examples
Increased patient empowerment	• Improved knowledge and awareness of treatment options using decision aid digital tools • Increased patient activation scores
Improved clinical outcomes	• Improved hypertension control using home-based digital blood pressure monitors • Better management of cardiovascular diseases using digital interventions, including mobile apps, telemonitoring, and wearables • Improved pain management using physical therapy remote patient monitoring tools • Reduced depressive symptoms using self-management apps such as mindfulness or meditation apps

Agenda

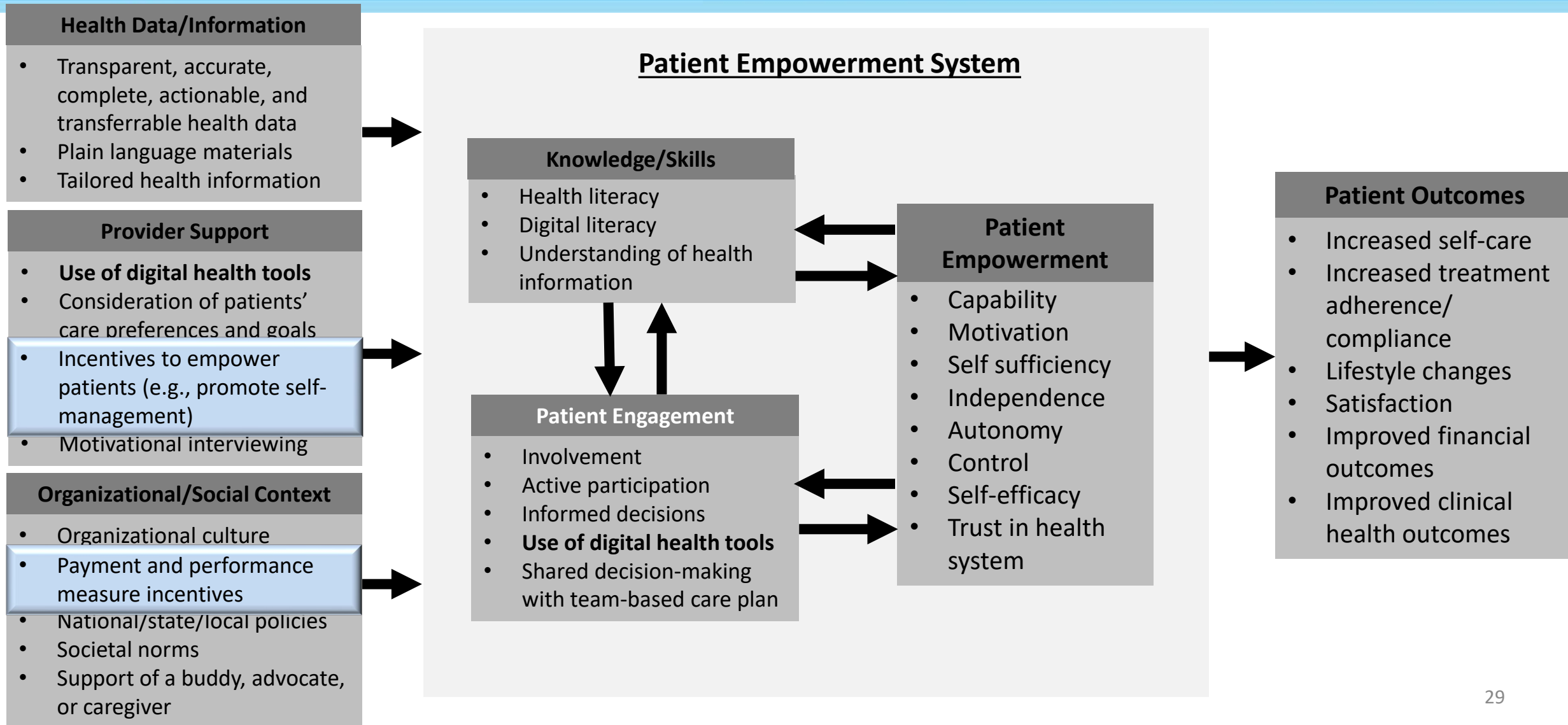
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Patient Empowerment Conceptual Framework: Alternative Payment Models (APMs) Focus



Examples of Value-Based Care Arrangements to Increase Patient Empowerment and Engagement

Model/Program Name	Patient Empowerment/Engagement Strategies
Ambulatory Specialty Model (ASM)	Promotes patient engagement and interactions with providers, including discussions about lifestyle-based interventions
Accountable Health Communities (AHC) Model*	Community members could provide feedback on HRSN screening, referral, and community navigation services to facilitate improvements
Innovation in Behavioral Health (IBH) Model	Person-centered approach that actively tries to engage patients in both their behavioral and physical health care; provides patient self-management support; allows for use of upfront funds for patient engagement IT solutions
Medicare Diabetes Prevention Program (MDPP)	Model participants may offer engagement incentives to beneficiaries that are preventive care-related or aimed at progressing beneficiaries' clinical goals by involving beneficiaries in managing their health
The Transforming Maternal Health (TMaH) Model	Person-centered approach that encourages providers to actively listen to patients so patients can better control their birth experience
Veterans Health Administration Patient-Aligned Care Team (PACT) Medical Home Model	Patient considered a member of the primary care team; promotes patient self-management; provides motivational interviewing (e.g., motivating patients to commit to healthy behaviors)

* The AHC model ended in 2023. The other five models are currently active as of June 2025.

The Role of Medicare's Shared Savings Program in Promoting Patient Empowerment

- The Shared Savings Program is the largest APM for Medicare
 - As of January 2024, this permanent program includes 480 ACOs involving more than 608,000 clinicians, covering nearly 11 million Medicare beneficiaries
- Patient empowerment is an important component of this program
 - Promotes patient-centered care and focuses on individual patient goals
 - Involves patients in the decision-making process
 - Aims to improve communications between providers and patients
 - Allows patient choice of provider (even if provider is not in a participating ACO)
 - Reports publicly the quality-of-care information for its ACOs
- Prime forum for promoting and testing patient empowerment and engagement strategies in the program

Total Cost of Care (TCOC) Models Provide Opportunities for Patient Empowerment

- Opportunities to incentivize providers to promote patient empowerment
 - Financial incentives (e.g., pay-for-performance, bonuses, bundled payments) to promote patient empowerment strategies, such as providing patients with educational resources and encouraging shared decision-making
 - Waivers to allow providers to offer patient engagement incentives, such as a gift card for a remote patient monitoring tool
- Opportunities to empower patients
 - Education on the value of participating in TCOC models
 - Benefit design change, such as reduced out-of-pocket costs for participating in patient-centered TCOC models

PTAC Public Meeting Focus Areas

- Improving Data Infrastructure to Empower Patients and Providers
- Availability and Effectiveness of Digital Tools for Equipping Patients with Information About Their Health Care
- Emerging Data Strategies for Supporting Shared Decision-Making Between Providers and Patients
- Data-Driven Approaches for Enabling Patients with Chronic Conditions and Enhancing Secondary Prevention
- Payment Models and Benefit Design Improvements to Enhance Patient Empowerment

Appendix A

Additional Information About Using Data and
Health IT to Empower Patients and Support
Providers

Stages of Behavioral Change

- The Stages of Change (or Transtheoretical) Model describes the six steps of behavior change
- The model has been used to help patients modify certain health-related behaviors such as smoking, addiction, and obesity as well as to increase preventive health care, such as routine screenings

1. Pre-Contemplation: no actions taken



2. Contemplation: plans to take action shortly



3. Preparation: some steps in plans to take action have been executed



4. Action: some changes in behavior



5. Maintenance: behavior has changed for a period of time



6. Termination: behavior has changed and will not return to prior state

Appendix B

Value-Based Care Components of Selected Innovation Center Models

Key Value-Based Care Components of Selected CMMI Models

Model Name	Clinical Focus	Value-Based Care Components
Accountable Health Communities (AHC) Model <i>Not Active</i> Years Active: 2017-2023	Unmet HRSNs	Overall Model Design Features: The model provided screening, referral services, and community navigation services to Medicare and Medicaid beneficiaries to identify and address HRSNs and assess the impact on health care costs and utilization. Financial Methodology: Upfront funds, as well as payments for beneficiary screening and referrals and payments for high-risk beneficiaries who choose to receive community navigation services. How Payment is Adjusted for Performance: N/A Specific Strategies to Engage Patients in Their Health Care: Some participants had community members provide feedback on HRSN screening, referral, and community navigation services to facilitate improvements. Innovative Health IT Approaches: Some participants built HRSN screening tools into EHR systems, developed closed-loop referral platforms, and integrated HIEs with referral platforms.
Innovation in Behavioral Health (IBH) Model <i>Ongoing</i> Years active: 2025-present	Behavioral health	Overall Model Design Features: The model provides Medicare and Medicaid beneficiaries who have moderate to severe mental health conditions and substance use disorders with coordinated care that focuses on their physical and behavioral health care needs and HRSNs. Financial Methodology: Upfront funds to upgrade HIT and EHR, to hire needed staff, and to provide practice transformation activities. By model year 4, practices will participate in the Medicaid payment approach (and those who serve Medicare patients may also participate in the Medicare payment approach) where participants most likely will receive a per-person per-month payment; however, states have flexibility in their Medicaid payment approach (e.g., payment type, financial risk level). How Payment is Adjusted for Performance: Additional performance-based payments will be made to participants for meeting certain performance requirements. Again, states have flexibility in how they make performance-based payments (e.g., upside only, downside risk). Specific Strategies to Engage Patients in Their Health Care: Person-centered approach that actively tries to engage patients in both their behavioral and physical health care; provides patient self-management support; allows for use of upfront funds for patient engagement IT solutions. Innovative Health IT Approaches: The model offers targeted investments in EHR and other tools to facilitate interoperability and data sharing.

Key Value-Based Care Components of Selected CMMI Models, Continued

Model Name	Clinical Focus	Value-Based Care Components
Medicare Diabetes Prevention Program (MDPP) Expanded Model <i>Ongoing</i> Years active: 2018-present	Diabetes (Type 2)	Overall Model Design Features: MDPP provides interventions to try to prevent type 2 diabetes in patients with signs of pre-diabetes. Patients receive 16 “core” sessions of a Centers for Disease Control and Prevention (CDC)-approved curriculum over six months focused on dietary changes, physical activity, and healthy lifestyle habits. Core sessions are followed by six follow-up sessions over six months. Financial Methodology: Participants submit claims using g-codes and receive up to 22 FFS payments per beneficiary (for attending the 22 sessions) and potential performance-based payments for any decreases in beneficiaries’ risk of diabetes (e.g., weight loss). How Payment is Adjusted for Performance: Participants receive a performance-based payment if beneficiaries show documented decreases in risk of diabetes (e.g., weight loss). Specific Strategies to Engage Patients in Their Health Care: Participants may offer beneficiary engagement incentives (at their own expense; CMS will not fund incentives) that are preventive care-related or aimed at progressing beneficiaries’ clinical goals by involving beneficiaries in managing their health. Innovative Health IT Approaches: The model allows for sessions to be conducted virtually, as well as the use of digital technology to obtain performance goals (e.g., scales that record and communicate weights electronically).

Key Value-Based Care Components of Selected CMMI Models, Continued

Model Name	Clinical Focus	Value-Based Care Components
Transforming Maternal Health (TMaH) Model <i>Ongoing</i> Years active: 2025-present	Pregnant and postpartum mothers	Overall Model Design Features: The model provides female Medicaid and CHIP beneficiaries with pregnancy, childbirth, and postpartum care, including physical, mental health, and social needs. Financial Methodology: Provider infrastructure payments to support care delivery transformation, including patient safety bundles, maternal care assessments, quality measure reporting, data integration, team-based care, enhanced access to care, and identification of community-based organizations to address HRSNs. Starting in model year 4, participants may receive upside-only performance payments. How Payment is Adjusted for Performance: Participants may earn a performance-incentive payment where 80% of the payment is based on quality performance score and 20% of the payment is based on cost performance score. Specific Strategies to Engage Patients in Their Health Care: The model aims to provide person-specific care and to actively listen to patients so they can better control their birth experience. Innovative Health IT Approaches: The model aims to improve data integration and HIEs. This includes integration with community-based organizations to share screening and referral information.

Appendix C

Value-Based Care Components of Selected PTAC Proposals

Selected PTAC Proposals that Included Value-Based Care Components

Nearly all of the 35 proposals that have been submitted to PTAC addressed patient choice and health information technology (IT). Committee members found that 25 of these proposals met Criterion 8 (Patient Choice) and 22 proposals met Criterion 10 (Health Information Technology) established by the Secretary for PFPs. Among these proposals, seven provide detailed strategies and approaches: four proposals describe specific strategies to support patient choice, and three proposals describe innovative approaches to health IT that promote data standardization, interoperability, and transparency.

Proposal	Clinical Focus	Value-Based Care Components
American Academy of Hospice and Palliative Medicine (AAHPM) (Provider association/specialty society) <u>Patient and Caregiver Support for Serious Illness (PACSSI)</u> Recommended for limited-scale testing, 3/26/2018	Serious illness and palliative care	Overall Model Design Features: PACSSI proposes palliative care medical home services for high-need patients not yet eligible or not wanting hospice care. Financial Methodology: Monthly care management payments adjusted based on geographic location and site of care. There are two tracks: Track 1 – payment incentives and Track 2 – shared savings and shared risk. How Payment is Adjusted for Performance: Payments would be adjusted based on performance on quality and spending. Specific Strategies to Support Patient Choice: PCTs would conduct several patient assessments (e.g., physical, social, cultural), identify patient goals, and develop coordinated care plans that include patient preferences in accordance with their identified goals. Further, PCTs would provide care to patients in their preferred settings (e.g., home).

Selected PTAC Proposals that Included Value-Based Care Components, Continued

Proposal	Clinical Focus	Value-Based Care Components
Johns Hopkins School of Nursing and the Stanford Clinical Excellence Research Center (Hopkins/Stanford) (Academic institution) <u>CAPABLE Provider Focused Model</u> Recommended for testing as specified in PTAC comments, 9/6/19	Chronic conditions and functional limitations	Overall Model Design Features: A time-limited intervention performed by an interdisciplinary team to target specific functional goals, perform limited home repairs and modifications, and address common geriatric concerns. Financial Methodology: Partial bundled payment with partial upside, moving toward a fully capitated model of care. How Payment is Adjusted for Performance: A bonus for meeting quality metrics would be awarded. Specific Strategies to Support Patient Choice: Hopkins/Stanford proposes to identify patient goals, specifically goals for patients to reside at home in a safe capacity and with choice (e.g., patient sleeping on the second floor in their bed versus on the first floor on a couch).
Icahn School of Medicine at Mount Sinai (Mount Sinai) (Academic institution) <u>"HaH-Plus" (Hospital at Home-Plus): Provider-Focused Payment Model</u> Recommended for implementation, 9/17/2017	Inpatient services in the home setting	Overall Model Design Features: Multidisciplinary care around an acute care event to reduce complications and readmissions. Financial Methodology: Bundle payment covering the acute episode and an additional 30 days of transition services. Two components are in the payment model: 1) a new diagnosis-related group (DRG)-like HaH-Plus payment to substitute for the acute inpatient payment to the hospital and attending physician, and 2) the potential for a performance-based payment linked to the total Medicare spend for the entire HaH-Plus episode and the APM performance on quality metrics. How Payment is Adjusted for Performance: The APM entity's performance on quality metrics influences payment. Specific Strategies to Support Patient Choice: The proposal specifies that it would accommodate patient preferences, needs, and conditions.

Selected PTAC Proposals that Included Value-Based Care Components, Continued

Proposal	Clinical Focus	Value-Based Care Components
Personalized Recovery Care (PRC) (Regional/local single specialty practice) Home Hospitalization: An Alternative Payment Model for Delivering Acute Care in the Home Recommended for implementation, 3/26/2018	Inpatient services in the home setting or skilled nursing facility	Overall Model Design Features: This is a home hospitalization care model that proposes to provide inpatient hospitalization-level care and personalized recovery care (PRC) at home or a skilled nursing facility for patients with certain conditions through an episodic payment arrangement. Financial Methodology: Bundled episode-based payment not tied to an anchor admission, replacing FFS with shared risk. Bundled payment has two components: 1) risk payment for delivering care compared to the targeted cost of care, and 2) a per-episode payment made for care provided instead of an acute care hospitalization. How Payment is Adjusted for Performance: A portion of physician compensation is tied to quality metrics and outcomes. Specific Strategies to Support Patient Choice: It would provide a choice for the ill patient to receive care at home, as opposed to receiving care in the hospital, and would accommodate different patient characteristics and conditions.

Selected PTAC Proposals that Included Value-Based Care Components, Continued

Proposal	Clinical Focus	Value-Based Care Components
Hackensack Meridian Health and Cota, Inc. (HMH/Cota) <i>(Regional/local multispecialty practice or health system; Device/technology company)</i> Oncology Bundled Payment Program Using CNA-Guided Care Recommended for limited-scale testing, 9/8/2017	Oncology	Overall Model Design Features: This is an oncology bundled payment model in which care choices are modulated by the prior outcomes of similar patients from real-world data. This process is called Cota Nodal Address (CNA) guided care. Financial Methodology: Prospective payment is provided to HMH for patients participating in the model. HMH bears the risk of bundled payments and distributes payments to physicians. How Payment is Adjusted for Performance: Compensation is, in part, incentive-based and determined by the achievement of clinical quality and patient satisfaction outcomes. Innovative Health IT Approaches: HMH/Cota will ensure interoperability and standardization of EHRs by using one data system (Epic) across all providers. Further, HMH/Cota created a database to provide monthly cost of care and quality measure reports, and also has developed an innovative telemedicine program to improve communication between the patient and provider.
Innovative Oncology Business Solutions, Inc. (IOBS) <i>(For-profit corporation)</i> Making Accountable Sustainable Oncology Networks (MASON) Referred for further development and Implementation, 12/10/2018	Oncology	Overall Model Design Features: Builds off the Community Oncology Medical Home (COME HOME) Innovation Center project. Financial Methodology: Determined by the oncology payment category (OPC), consisting of FFS payments for physician visits, imaging, lab, radiation therapy, surgery; infusion with a facility fee; ambulatory payment classifications (APC) for hospital outpatient care; DRGs for inpatient care; and the patient-centered oncology payment (PCOP) for medical home infrastructure. How Payment is Adjusted for Performance: Two percent of the OPC, which includes all expenses related to cancer care except drugs, is reserved for a quality pool. If quality measures are not met, the 2% is not rewarded. Innovative Health IT Approaches: All participants need to have advanced knowledge and use of EHRs as this would be necessary in order to create and update the OPCs; IOBS will also create dashboards to facilitate trusted decision support. The proposal also expresses the importance of data transparency and being able to access all data for a given patient.

Selected PTAC Proposals that Included Value-Based Care Components, Continued

Proposal	Clinical Focus	Value-Based Care Components
The University of New Mexico Health Sciences Center (UNMHSC) (Academic institution) ACCESS Telemedicine: An Alternative Healthcare Delivery Model for Rural Emergencies Recommended for implementation, 9/16/2019	Cerebral emergency care; telemedicine	Overall Model Design Features: Rural EDs can consult neurologists via teleconsultation and assess patients' condition when they present at the hospital ED. The model aims to reduce costs in hospital transfers and ambulatory medicine. Financial Methodology: Additional one-time payment without shared risk. How Payment is Adjusted for Performance: Performance is monitored but does not impact payment. Innovative Health IT Approaches: UNMHSC uses telemedicine delivery technology by NMXS, and all participants/sites use the same technology, ensuring consistency. UNMHSC will remain flexible to expansion in technology, such as phones or tablets. The proposal mentions that interoperability between the patient EHR and the remote neurologist could improve this model, but it is not a requirement.

Appendix D

References

References

Slide 7 – Patient Empowerment Conceptual Framework

- Hickmann E, Richter P, Chlieter H. All together now – patient engagement, patient empowerment, and associated terms in personal healthcare. BMC Health Services Research. 2022;22:1116.
<https://doi.org/10.1186/s12913-022-08501-5>
- Fumagalli LP, Radaelli G, Lettieri E, Bertele P, Masella C. Patient empowerment and its neighbours: clarifying the boundaries and their mutual relationships. Health Policy. 2015;119:384-394.
- Bravo P, Edwards A, Barr PJ, Scholl I, Elwyn G, McAllister M, et al. Conceptualising patient empowerment: a mixed methods study. BMC Health Services Research. 2015;15:252.
- Castro EM, Regenmortel TV, Vanhaecht K, Serneus W, Hecke AV. Patient empowerment, patient participation and patient-centeredness in hospital care: a concept analysis based on a literature review. Patient Education and Counseling. 2016;99:1923-1939.
- Higgins T, Larson E, Schnall R. Unraveling the meaning of patient engagement: a concept analysis. Patient Education and Counseling; 2017;100:30-36.
- Pekonen A., Eloranta S, Stolt M, Virolainen P, Leino-Kilpi H. Measuring patient empowerment – a systematic review. Patient Education and Counseling. 2020;193:777-787.
- Mora MA, Sparud-Lundin C, Moons P, Bratt E-L. Definitions, instruments and correlates of patient empowerment: a descriptive review. Patient Education and Counseling. 2022;105:346-355.

References

Slide 8 – Patient Empowerment Areas and Influences

- Bailo L, Guiddi P, Vergani L, Marton G, Pravettoni G. The patient perspective: investigating patient empowerment enablers and barriers within the oncological care process. *Ecancermedicalscience*. 2019;13:912. doi:10.3332/ecancer.2019.912
- Thompson AG. The meaning of patient involvement and participation in health care consultations: a taxonomy. *Soc Sci Med*. 2007;64(6):1297-310. doi:10.1016/j.socscimed.2006.11.002

References

Slide 9 – Factors Influencing Patient Empowerment

- Carman KL, Workman TA. Engaging patients and consumers in research evidence: applying the conceptual model of patient and family engagement. *Patient Education and Counseling*. 2017;100(1):25-9. <https://doi.org/10.1016/j.pec.2016.07.009>
- Madanian S, Nakarada-Kordic I, Reay S, Chetty T. Patients' perspectives on digital health tools. *PEC Innov*. 2023;2:100171. doi:10.1016/j.pecinn.2023.100171
- Niazkhani Z, Toni E, Cheshmekaboodi M, Georgiou A, Pirnejad H. Barriers to patient, provider, and caregiver adoption and use of electronic personal health records in chronic care: a systematic review. *BMC Medical Informatics and Decision Making*. 2020;20:1-36. <https://doi.org/10.1186/s12911-020-01159-1>
- Van Kessel R, Ranganathan S, Anderson M, McMillan B, Mossialos E. Exploring potential drivers of patient engagement with their health data through digital platforms: A scoping review. *International Journal of Medical Informatics*. 2024;189:105513. doi:[10.1016/j.ijmedinf.2024.105513](https://doi.org/10.1016/j.ijmedinf.2024.105513)
- Carman KL, Dardess P, Maurer M, Sofaer S, Adams K, Bechtel C, et al. Patient and family engagement: a framework for understanding the elements and developing interventions and policies. *Health Affairs*. 2013;32(2):223-31. <https://doi.org/10.1377/hlthaff.2012.1133>
- Thompson AG. The meaning of patient involvement and participation in health care consultations: a taxonomy. *Soc Sci Med*. 2007;64(6):1297-310. doi:10.1016/j.socscimed.2006.11.002

References

Slide 9 – Factors Influencing Patient Empowerment, continued

- Bravo P, Edwards A, Barr PJ, Scholl I, Elwyn G, McAllister M; Cochrane Healthcare Quality Research Group, Cardiff University. Conceptualising patient empowerment: a mixed methods study. BMC Health Serv Res. 2015 Jul 1;15:252. doi: 10.1186/s12913-015-0907-z. PMID: 26126998; PMCID: PMC4488113.
- Spencer M, Chen J. Revisiting Patient Engagement and Empowerment Within the NIMHD Health Disparity Framework. American Journal of Public Health. 2022 Nov 3.
<https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2022.307170>
- Bani Hani S, Sauser B, Niranjana S, Willoughby T. A study of key factors that influence and enable patient empowerment: A systems approach. Systems Research and Behavioral Science. 2023 Dec 27.
<https://doi.org/10.1002/sres.2992>

References

Slide 10 – Patient Empowerment: Choosing a Health Insurance Plan and Providers

- Medicare.gov. Explore your Medicare coverage options. <https://www.medicare.gov/plan-compare/#/?year=2025&lang=en>
- Rivera-Hernandez M, Blackwood KL, Mercedes M, Moody KA. Seniors don't use Medicare. Gov: how do eligible beneficiaries obtain information about Medicare Advantage plans in the United States? *BMC Health Services Research*. 2021;21:146. <https://doi.org/10.1186/s12913-021-06135-7>
- Centers for Medicare & Medicaid Services. Provider Data Catalogue. <https://data.cms.gov/provider-data/>
- Medicare.gov. Find & compare providers near you. <https://www.medicare.gov/care-compare/>
- Victoor A, Delnoij DM, Friele RD, Rademakers JJ. Determinants of patient choice of healthcare providers: a scoping review. *BMC Health Services Research*. 2012;12:1-6. <https://doi.org/10.1186/1472-6963-12-272>

Slide 11 – Patient Empowerment: Navigating the Health Care System

- Burton L, Rush KL, Smith MA, Davis S, Rodriguez Echeverria P, Suazo Hidalgo L, Görges M. Empowering Patients Through Virtual Care Delivery: Qualitative Study With Micropractice Clinic Patients and Health Care Providers. *JMIR Form Res*. 2022 Apr 27;6(4):e32528. doi: 10.2196/32528. PMID: 35413002; PMCID: PMC9049644.

References

Slide 12 – Patient Empowerment: Engaging in Decision-Making About One’s Own Health, Conditions, and Treatment

- Thompson AG. The meaning of patient involvement and participation in health care consultations: a taxonomy. *Soc Sci Med*. 2007;64(6):1297-310. doi:10.1016/j.socscimed.2006.11.002
- Elwyn G, Frosch D, Thomson R, Joseph-Williams N, Lloyd A, Kinnersley P, et al. Shared decision making: a model for clinical practice. *J Gen Intern Med*. 2012;27(10):1361-7. doi:10.1007/s11606-012-2077-6

Slide 13 – Supporting Providers to Promote Patient Empowerment

- Chatterjee R. With social prescribing, hanging out, movement and arts are doctor’s order. npr. July 14, 2025. <https://www.npr.org/2025/07/14/nx-s1-5434386/social-prescription-arts-exercise-loneliness>
- Wheel Team. Synchronous vs. Asynchronous Telehealth. Wheel. May 17, 2022. <https://www.wheel.com/blog/synchronous-vs-asynchronous-telehealth#:~:text=What%20is%20asynchronous%20telehealth?,set%20up%20consultations%20as%20needed>
- Alowais SA, Alghamdi SS, Alsuhebany N, Alqahtani T, Alshaya AI, Almohareb SN, Aldairem A, Alrashed M, Bin Saleh K, Badreldin HA, Al Yami MS, Al Harbi S, Albekairy AM. Revolutionizing healthcare: the role of artificial intelligence in clinical practice. *BMC Med Educ*. 2023 Sep 22;23(1):689. doi: 10.1186/s12909-023-04698-z. PMID: 37740191; PMCID: PMC10517477.

References

Slide 14 – Impact of Patient Empowerment on Outcomes

- Hibbard JH, Greene J. What the evidence shows about patient activation: better health outcomes and care experiences; fewer data on costs. *Health Affairs*. 2013;32(2):207-14. <https://doi.org/10.1377/hlthaff.2012.1061>
- Hibbard JH. Patient activation and the use of information to support informed health decisions. *Patient Education and Counseling*. 2017;100(1):5-7. <https://doi.org/10.1016/j.pec.2016.07.006>
- Greene J, Hibbard JH. Why does patient activation matter? An examination of the relationships between patient activation and health-related outcomes. *J Gen Intern Med*. 2011;27(5):520-6. doi:10.1007/s11606-011-1931-2
- Alexander JA, Hearld LR, Mittler JN, Harvey J. Patient-physician role relationships and patient activation among individuals with chronic illness. *Health Serv Res*. 2012; 47(3 Pt 1):1201-23. doi:10.1111/j.1475-6773.2011.01354.x
- Mora MA, Sparud-Lundin C, Moons P, Bratt EL. Definitions, instruments and correlates of patient empowerment: a descriptive review. *Patient Education and Counseling*. 2022;105(2):346-55. <https://doi.org/10.1016/j.pec.2021.06.014>

References

Slide 17 – Types of Health IT to Promote Patient Empowerment and Support Providers

- Evans RS. Electronic health records: then, now, and in the future. *Yearb Med Inform.* 2016;(Suppl 1):S48-S61. doi:10.15265/IYS-2016-s006.
- Desai PJ, Nanji K, Dullabh PM, Cope E, Catlett M, Adler J, et al and the CDSiC Outcomes and Objectives Workgroup: Integration of Patient-Centered Clinical Decision Support Into Shared Decision Making. Prepared under Contract No. 75Q80120D00018. AHRQ Publication No. 23-0084. Rockville, MD: Agency for Healthcare Research and Quality; September 2023. <https://cdsic.ahrq.gov/sites/default/files/2023-09/FINAL%20OO%20PC%20CDS%20SDM%20Report.pdf>
- Digital Patient Engagement Tools | Navigation Services | Get Well. 2025. Accessed April 29, 2025. <https://www.getwellnetwork.com/virtual-care-navigation/>
- Boston Consulting Group. How Digital and AI Will Reshape Health Care in 2025. January 2025. <https://web-assets.bcg.com/8c/f8/ae51ffb44ca59cb8abd751940441/bcg-how-digital-and-ai-solutions-will-reshape-health-care-in-2025.pdf>

References

Slide 18 – Data Interoperability: An Essential Requirement for Optimizing the Use and Value of Health IT

- Bates DW, Samal L. Interoperability: what is it, how can we make it work for clinicians, and how should we measure it in the future? *Health Serv Res.* 2018;53(5):3270-3277. doi:10.1111/1475-6773.12852
- Interoperability in Healthcare | HIMSS. August 4, 2020. Accessed May 18, 2025. <https://legacy.himss.org/resources/interoperability-healthcare>
- Centers for Medicare & Medicaid Services. Promoting Interoperability Programs. December 12, 2024. Accessed March 26, 2025. <https://www.cms.gov/medicare/regulations-guidance/promoting-interoperability-programs>
- Centers for Medicare & Medicaid Services. CMS Interoperability and Patient Access Final Rule (CMS-9115-F). September 10, 2024. Accessed April 8, 2025. <https://www.cms.gov/priorities/key-initiatives/burden-reduction/interoperability/policies-and-regulations/cms-interoperability-and-patient-access-final-rule-cms-9115-f#:~:text=The%20Centers%20for%20Medicare%20%26%20Medicaid,they%20can%20best%20use%20it.>
- Centers for Medicare & Medicaid Services. 2022 Medicare Promoting Interoperability Program Requirements. September 10, 2024. Accessed March 26, 2025. <https://www.cms.gov/2022-medicare-promoting-interoperability-program-requirements>

References

Slide 19 – Data Interoperability: Challenges and Opportunities

- Oracle. Interoperability in Healthcare Explained. June 24, 2024. Accessed April 8, 2025. <https://www.oracle.com/health/interoperability-healthcare/>
- Centers for Disease Control and Prevention. About Public Health Data Interoperability. Accessed April 11, 2025. <https://www.cdc.gov/data-interoperability/php/about/index.html>
- Dinh-Le C, Chuang R, Chokshi S, Mann D. Wearable health technology and electronic health record integration: scoping review and future directions. JMIR Mhealth Uhealth. 2019 Sep;7(9):e12861. doi:10.2196/12861

Slide 20 – Patient-Related Technology and Access: Challenges and Opportunities

- U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. National Action Plan to Improve Health Literacy. Updated August 24, 2021. <https://odphp.health.gov/our-work/national-health-initiatives/health-literacy/national-action-plan-improve-health-literacy>
- Seidel E, Cortes T, Chong C. Strategies to Improve Organizational Health Literacy. AHRQ PSNet Patient Safety Network. May 31, 2023. <https://psnet.ahrq.gov/primer/strategies-improve-organizational-health-literacy>
- Oracle. Interoperability in Healthcare Explained. June 24, 2024. Accessed April 8, 2025. <https://www.oracle.com/health/interoperability-healthcare/>
- Bertolazzi A, Quaglia V, Bongelli R. Barriers and facilitators to health technology adoption by older adults with chronic diseases: an integrative systematic review. BMC Public Health. 2024 Feb 16;24(1):506. doi: 10.1186/s12889-024-18036-5. PMID: 38365698; PMCID: PMC10873991.

References

Slide 23-25 – Classification of Digital Health Tools Used Throughout the Patient Care Journey

- Wade B, Abraham J, Coder M. *Guidance to Industry: Classification of Digital Health Technologies*. Digital Therapeutic Alliance; Health Advances; 2023. Accessed May 15, 2025. <https://dtxalliance.org/wp-content/uploads/2023/06/Guidance-to-Industry-Classification-of-Digital-Health-Technologies-2023Jun05.pdf>
- Institute for Clinical and Economic Review (ICER), Peterson Health Technology Institute (PHTI). ICER-PHTI Assessment Framework for Digital Health Technologies. 2023. <https://icer.org/wp-content/uploads/2023/09/ICER-PHTI-Assessment-Framework-for-Digital-Health-Technologies.pdf>

References

Slide 26 – Digital Health Tools Promote Shared Decision-Making

- Desai PJ, Nanji K, Dullabh PM, Cope E, Catlett M, Adler J, et al and the CDSiC Outcomes and Objectives Workgroup: Integration of Patient-Centered Clinical Decision Support Into Shared Decision Making. Prepared under Contract No. 75Q80120D00018. AHRQ Publication No. 23-0084. Rockville, MD: Agency for Healthcare Research and Quality; September 2023. <https://cdsic.ahrq.gov/sites/default/files/2023-09/FINAL%20OO%20PC%20CDS%20SDM%20Report.pdf>
- Wade B, Abraham J, Coder M. *Guidance to Industry: Classification of Digital Health Technologies*. Digital Therapeutic Alliance; Health Advances; 2023. Accessed May 15, 2025. <https://dtxalliance.org/wp-content/uploads/2023/06/Guidance-to-Industry-Classification-of-Digital-Health-Technologies-2023Jun05.pdf>
- Stacey D, Lewis KB, Smith M, Carley M, Volk R, Douglas EE, et al. Decision aids for people facing health treatment or screening decisions. Cochrane Database of Systematic Reviews. 2024;(1):CD001431. doi:10.1002/14651858.CD001431.pub6
- Serrano LP, Maita KC, Avila FR, et al. Benefits and Challenges of Remote Patient Monitoring as Perceived by Health Care Practitioners: A Systematic Review. Perm J. 27(4):100-111. doi:10.7812/TPP/23.022

References

Slide 27 – Effectiveness of Digital Health Tools on Increasing Patient Empowerment and Improving Clinical Outcomes

- Milani RV, Lavie CJ, Bober RM, Milani AR, Ventura HO. Improving Hypertension Control and Patient Engagement Using Digital Tools. *The American Journal of Medicine*. 2017;130(1):14-20. doi:[10.1016/j.amjmed.2016.07.029](https://doi.org/10.1016/j.amjmed.2016.07.029)
- Jiang X, Ming WK, You JH. The cost-effectiveness of digital health interventions on the management of cardiovascular diseases: systematic review. *Journal of Medical Internet Research*. 2019;21(6):e13166. doi:10.2196/13166
- Austin CA, Mohottige D, Sudore RL, Smith AK, Hanson LC. Tools to Promote Shared Decision Making in Serious Illness: A Systematic Review. *JAMA Internal Medicine*. 2015;175(7):1213-1221.
- Bulaj G, Clark J, Ebrahimi M, Bald E. From Precision Metapharmacology to Patient Empowerment: Delivery of Self-Care Practices for Epilepsy, Pain, Depression and Cancer Using Digital Health Technologies. *Frontiers in pharmacology*. 2021;12:p612602.
- Santo K, Redfern J. Digital Health Innovations to Improve Cardiovascular Disease Care. *Curr Atheroscler Rep*. 2020 Oct 3;22(12):71. doi: 10.1007/s11883-020-00889-x. PMID: 33009975; PMCID: PMC7532121
- Peterson Center on Healthcare. Unlocking Value in Digital Health: Challenges and Opportunities to Implementing High-Value Technologies. 2023. <https://phti.org/wp-content/uploads/sites/3/2023/08/Peterson-Unlocking-Value-in-Digital-Health-Report.pdf>
- Peterson Center on Healthcare. Evolving Remote Monitoring, An Evidence-Based Approach to Coverage and Payment. 2025. <https://petersonhealthcare.org/wp-content/uploads/sites/7/2025/04/Peterson-Evolving-Remote-Monitoring-Report-1.pdf>

References

Slide 30 – Examples of Value-Based Care Arrangements to Increase Patient Empowerment and Engagement

- Accountable Health Communities (AHC) Model. Centers for Medicare and Medicaid Services.
<https://www.cms.gov/priorities/innovation/innovation-models/ahcm>
- Innovation in Behavioral Health (IBH) Model. Centers for Medicare & Medicaid Services. Accessed April 29, 2025. <https://www.cms.gov/priorities/innovation/innovation-models/innovation-behavioral-health-ibh-model>
- Medicare Diabetes Prevention Program (MDPP) Expanded Model. Accessed April 29, 2025.
<https://www.cms.gov/priorities/innovation/innovation-models/medicare-diabetes-prevention-program>
- Transforming Maternal Health (TMaH) Model. Centers for Medicare & Medicaid Services. Accessed April 29, 2025. <https://www.cms.gov/priorities/innovation/innovation-models/transforming-maternal-health-tmah-model>
- Katz DA, Wu C, Jaske E, Stewart GL, Mohr DC. Care practices to promote patient engagement in VA primary care: factors associated with high performance. The Annals of Family Medicine. 2020;18(5):397-405.
<https://doi.org/10.1370/afm.2569>

References

Slide 31 – The Role of Medicare’s Shared Savings Program in Promoting Patient Empowerment

- Shared Savings Program. Centers for Medicare & Medicaid Services. <https://www.cms.gov/medicare/payment/fee-for-service-providers/shared-savings-program-ssp-acos/about>
- Centers for Medicare & Medicaid Services. Medicare Shared Savings Program Continues to Deliver Meaningful Savings and High-Quality Health Care. October 29, 2024. <https://www.cms.gov/newsroom/press-releases/medicare-shared-savings-program-continues-deliver-meaningful-savings-and-high-quality-health-care>

Slide 35 – Stages of Behavioral Change

- Rural Health Information Hub. Stages of Change Model. [https://www.ruralhealthinfo.org/toolkits/health-promotion/2/theories-and-models/stages-of-change#:~:text=Stages%20of%20Change%20Model%20\(Transtheoretical,return%20to%20prior%20negative%20behaviorshttps://www.ncbi.nlm.nih.gov/books/NBK556005/](https://www.ruralhealthinfo.org/toolkits/health-promotion/2/theories-and-models/stages-of-change#:~:text=Stages%20of%20Change%20Model%20(Transtheoretical,return%20to%20prior%20negative%20behaviorshttps://www.ncbi.nlm.nih.gov/books/NBK556005/)