From Prediction to Practice

Rethinking Chronic Disease Management in Value-Based Care

Calcium PulseDataAI
Advancing Health, from Data to Care.

Agenda

I. Introduction & Executive Summary
II. The Challenge
III. Prevention through Prediction
IV. About the PulseData & Calcium Partnership
V. Q&A
VI. Key Takeaways
VII. Conclusion & Next Steps

Executive Summary

The Chronic Disease Crisis

Chronic disease management fails because risk is identified too late.

60%	of U.S. adults live with at least one chronic condition.
90%	of the $4.1T healthcare spend is for chronic & mental health.
100M	Americans have undiagnosed chronic diseases.

The Value-Based Shift

Healthcare is shifting from retrospective, volume-driven care to proactive, outcomes-focused models.

Fee-for-service

- Backward-looking performance metrics
- Incentivizes visits and procedures
- Care reacts after complications occur

Value-Based Care

- Forward-looking risk identification
- Rewards prevention and total cost management
- Requires early, coordinated intervention

The Solution : Three Pillars Powered by PulseData and Calcium

Early Risk Identification

Predictive analytics powered by ML and AI identifies rising risk earlier and enables intervention

+

Patient Engagement

Engaged patients experience fewer complications, better outcomes, and lower utilization.

+

Care Coordination

Engaged patients experience fewer complications, better outcomes, and lower utilization.

Outcomes

- Reduced Hospitalizations
- Better Outcomes
- Lower Cost of Care
- Closed Gaps in Care

The Challenge

The Chronic Disease Crisis

Chronic disease management fails because risk is identified too late.

60%	of U.S. adults live with at least one chronic condition.
90%	of the $4.1T healthcare spend is for chronic & mental health.
100M	Americans have undiagnosed chronic diseases.
4.3M	Preventable ER visits annually costing >$8.3B

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The Value-Based Shift

From Retrospective to Proactive Care

Why traditional approaches fall short in a value-based world

Healthcare is shifting from retrospective, volume-driven care to proactive, outcomes-focused models.

Fee-for-service

- Backward-looking performance metrics
- Incentivizes visits and procedures
- Care reacts after complications occur
- Gaps in care are common

Value-Based Care

- Forward-looking risk identification
- Focused on prevention and quality of care
- Emphasizes outcomes and total cost of care
- Requires earlier insight into patient risk
- Requires early, coordinated intervention

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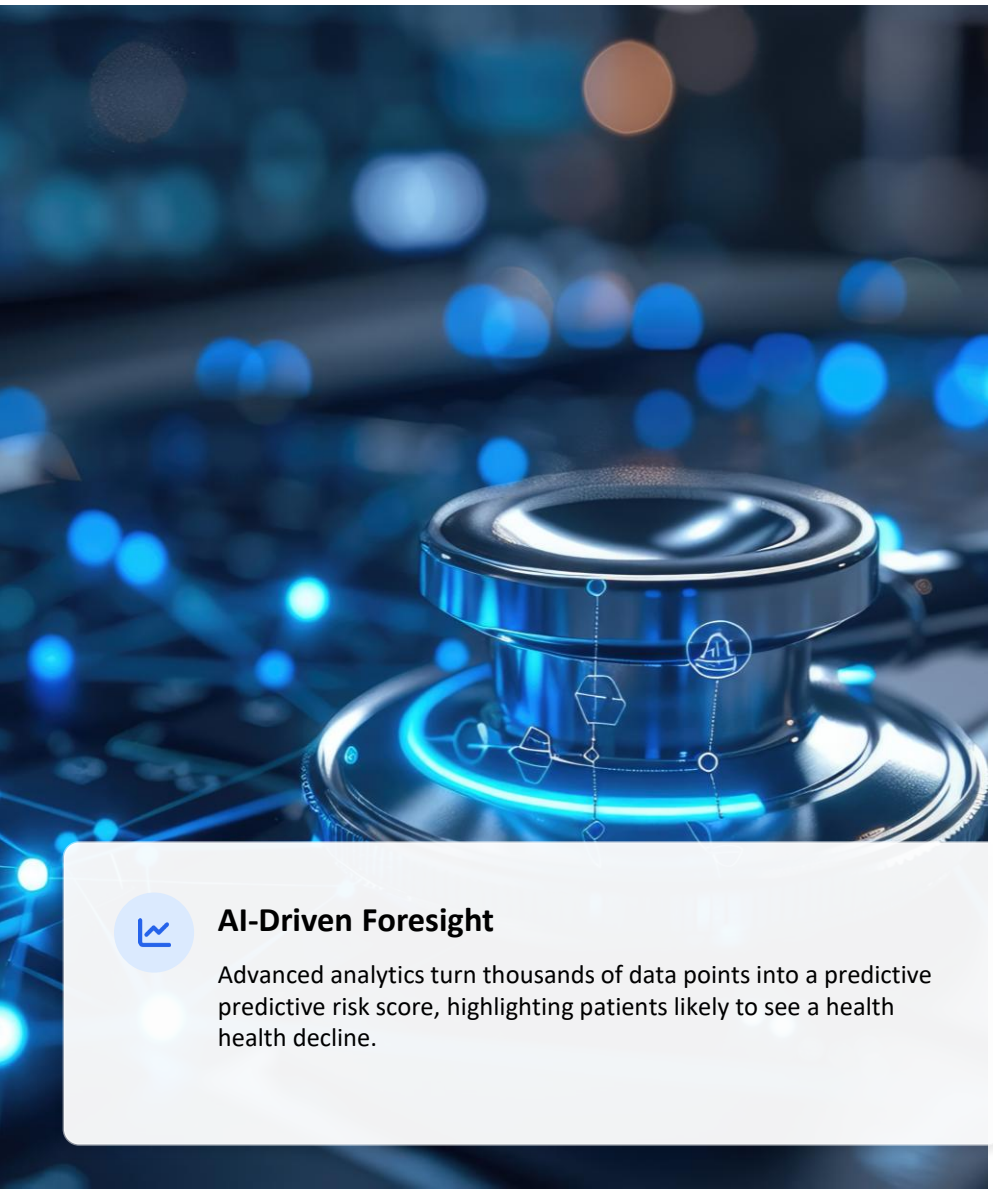
Early Risk Identification



AI-Driven Foresight

Advanced analytics turn thousands of data points into a predictive predictive risk score, highlighting patients likely to see a health health decline.

The Role of Predictive Analytics

Predictive analytics support a forward-looking approach to care.

Integrates data sources including claims, EHR, labs, pharmacy, and SDoH data to create a comprehensive, holistic patient risk profile

Flags rising-risk patients well before clinical deterioration occurs, enabling proactive outreach. This enables care teams to prioritize outreach earlier

Actionable insights trigger care gap closure, early intervention, patient education, medication adjustments, or specialist referrals.

Comprehensive Model Suites

Prevention through Prediction

Renal Suite

- Kidney Failure Prediction 6M
- Kidney Failure Prediction 12M
- High Risk of Hospitalization
- CKD Stage 3+
- eGFR Decline Prediction (5yr)

Chronic Conditions

- Alzheimer's and Dementia
- Asthma
- Atrial Fibrillation
- Cancer
- CKD 3+
- COPD
- Diabetes
- Heart Failure
- Hypertension
- Ischemic Heart Disease
- Stroke
- Suspected Conditions

Behavioral Health

- Identify potentially avoidable admissions within 6M
- Predicts acute events
- Predict ED visits
- Dynamic clinical actions
- Medication adherence
- Major Depressive Disorder (MDD)

High Risk of Hospitalization

- Cardiorenal Syndrome Spectrum
- Cardiovascular events
- COPD
- Diabetic complications
- Infections
- Respiratory failure

Senior Living

- Skilled nursing progression
- Behavioral health
- Mortality
- Hospice/Palliative care
- Alzheimer's and Dementia
- Frailty
- Medication adherence
- UTI risk
- Seizures
- Epilepsy

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Patient Engagement

Empowering patients in their care journey

Why identification of risk must be paired with sustained engagement.

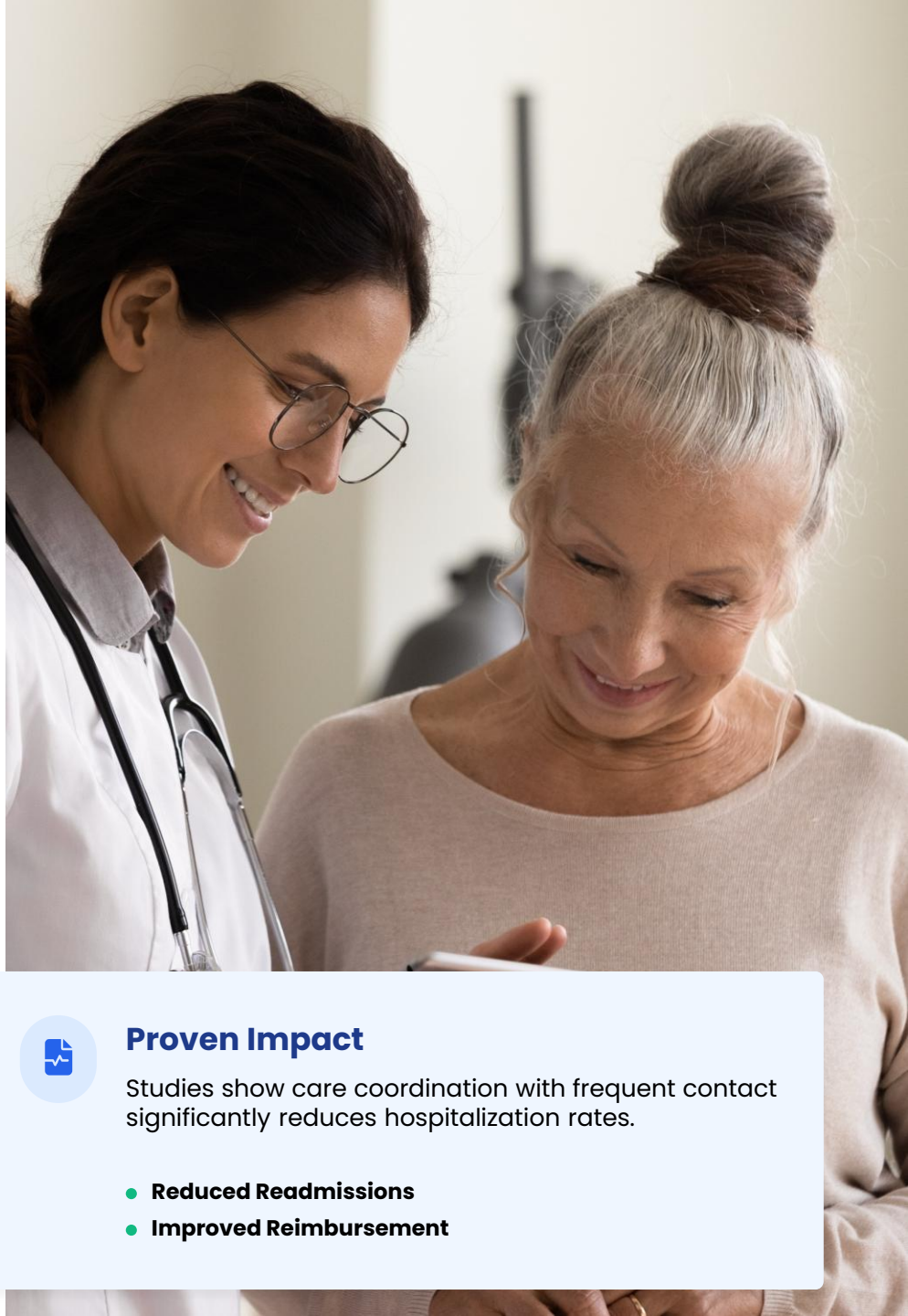
Engaged patients are more likely to adhere to treatments and make healthy lifestyle changes which translates insights into outcomes

Continuous Outreach

- Regular touchpoints beyond episodic visits
- Support for adherence, lifestyle, and care navigation
- Alignment with CCM and RPM program requirements

Personalized Support

- Care managers & health coaches build confidence and address real-world barriers.
- Support through education and community resources



Proven Impact

Studies show care coordination with frequent contact significantly reduces hospitalization rates.

- **Reduced Readmissions**
- **Improved Reimbursement**

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Coordinated Care Delivery

The Team Sport of Care

Successful chronic care requires distinct roles, clear handoffs, and a unified game plan across the entire continuum.

Connecting the Dots for better outcomes

Effective chronic disease management depends on coordination.

- Better alignment between primary care, specialists, and ancillary services
- Shared care plans and clear accountability
- Timely communication during transitions of care

Proven Real-World Impact

11%	5x	87%
Cost Reduction	**Better Control**	**Fewer Readmissions**

Where Proactive Management Pays Off

Targeting conditions with disproportionate impact on outcomes and costs

Diabetes

Improved A1c Control

Early identification of pre-diabetes and poor glucose trends enables timely intervention.

Key Interventions

- Early risk identification
- Education & nutrition support
- Coordinated foot/eye exams
- Prevent complications

Heart Failure

Reduce Readmissions

1 in 4 patients readmitted within 30 days. Proactive monitoring catches fluid build-up early.

Key Interventions

- Daily weight monitoring
- Nurse titration calls
- Rapid post-discharge follow-up
- Medication adjustment

Chronic Kidney Disease

Slow Progression

90%are unaware until late stages. Early detection via lab mining is critical.

Key Interventions

- Detect via lab/risk factors
- Manage BP/Diabetes
- SGLT2/RAAS therapy
- Timely nephrology referral

COPD

Prevent Flare-ups

Focus on preventing the exacerbations that drive emergency utilization and decline.

Key Interventions

- Medication adherence
- Inhaler technique training
- Vaccination & cessation
- Home action plans

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Hospitalization Risk Management

Reduce APKs and Identify Hidden Risk

Improved Prioritization

Care teams can now schedule proactively for patients with high probability of admission who were previously flying under the radar.

**AI models capture risk factors (e.g., social determinants, subtle lab trends) that rules miss.*

$77M
Total Identified Opportunity

Comprehensive retrospective analysis identified significant cost savings potential through better management of high-risk chronic populations.

$14.6M
"Under the Radar" Opportunity

Specific focus on patients missed by traditional rules-based systems but flagged by AI as high probability for admission.

> 45%
Reduction in avoidable hospital admissions

Earlier identification of rising risk enables timely intervention before conditions escalate to acute events. By shifting focus from reactive response to proactive outreach and coordinated follow-up, many admissions that would otherwise occur can be avoided.

30 Min
Reduction in care manager time per patient

By focusing attention on the right patients earlier, workflows become more efficient and follow-up actions more targeted. In practice, this streamlining results in an average reduction of approximately 30 minutes of care manager time per patient.

One Platform, Endless Flexibility

From Data to Care

Seamless integration of CKD risk stratification directly into physician EHR workflows.

- Risk stratification tool embedded in EHR
- KDIGO-based action pathways
- Improved guideline adherence
- Increased utilization of treatment

DATA SOURCES	FEATURE ENGINEERING	ACTIONABLE OUTPUTS
Claims Data	Diagnosis Features	Risk Predictions
EMR / EHR	Lab Features	Care Gaps
Labs & Results	Custom Features	Custom Models
RPM & Devices	Standardized & Cleaned	Integrated into Workflow
Surveys (PHQ-9)		

Aorta

Purpose-Built for Technology for Healthcare Data

SPECIALIZED TOOLING ECOSYSTEM

Feature Engineering

Platform optimized for ingesting and structuring messy, real-world clinical data from disparate sources.

Clinical Validation

Applications enabling patient-level expert review at scale to ensure ground-truth accuracy.

Production Monitoring

Continuous detection of data/model drift to ensure long-term reliability of predictions.

AORTA CORE

DEEPER, ACTIONABLE INSIGHTS

Clinical Clusters

Identifying distinct patient archetypes within high-risk groups for targeted pathway assignment.

GenAI Summaries NEW

Natural-language explanations of risk drivers and "next-best actions" to empower care teams.

GenAI Patient Summaries

Transforming Complex Data into Understandable Actions

Easy to Understand

Written in natural, human-readable language tailored for clinicians, care managers, and even patients—no technical translation needed.

Clinically Grounded

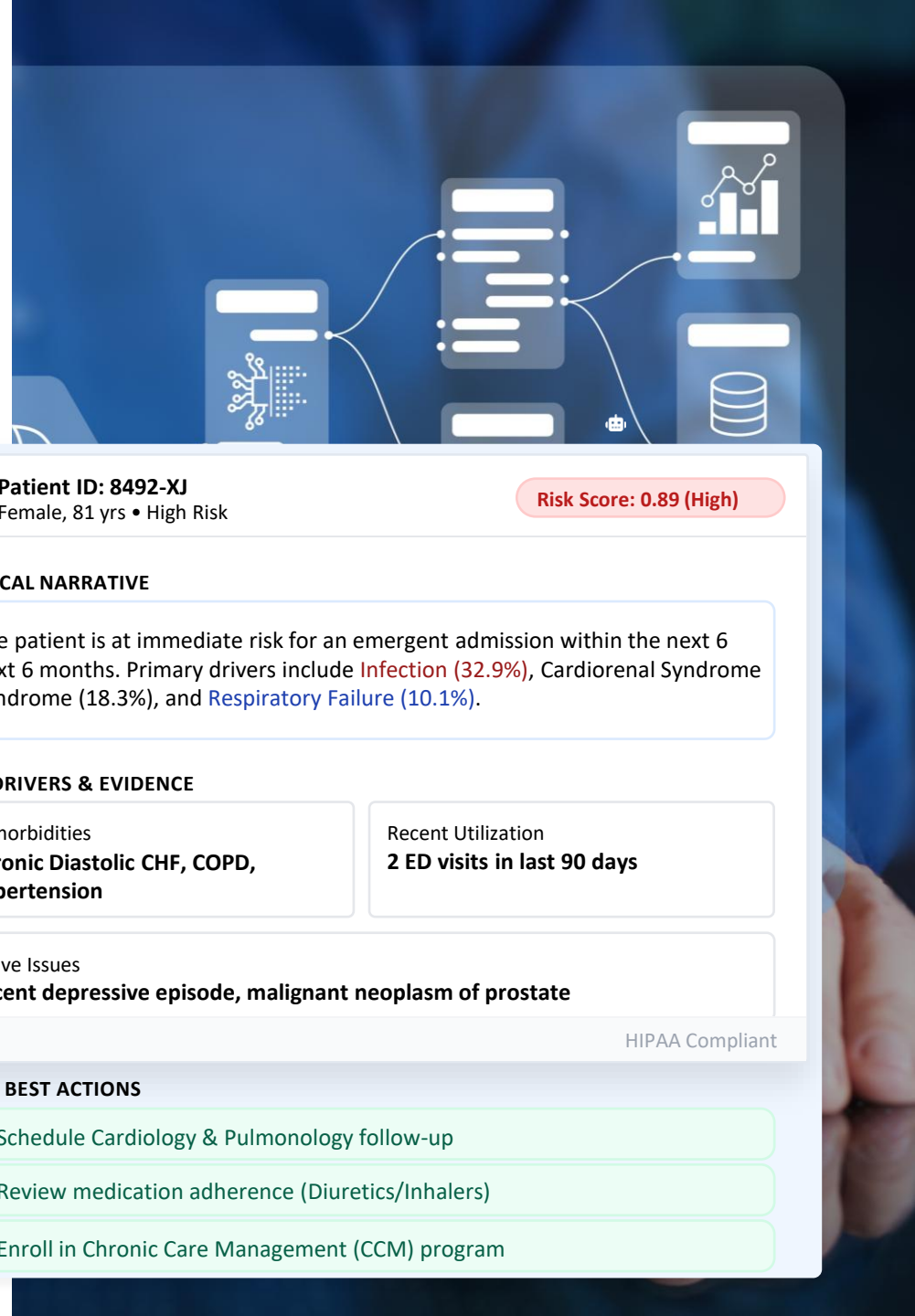
Every summary is backed by proven ML predictions and linked directly to patient-level data features, ensuring relevance, traceability, and trust.

Action-Oriented

Go beyond what the risk is to explain why the patient is at risk and what to do next—highlighting key drivers, clinical patterns, and suggested interventions.

Workflow-ready

Designed for real-world integration: summaries are lightweight, embeddable, and feed seamlessly into existing EHRs, care coordination tools, and outreach platforms.



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Proactive Care Transformation

Four elements support proactive care

Technology & Data Integration

- ✓ **Unified Patient Records:** Combining claims, labs, pharmacy, SDoH, survey data and others into a single source of truth.
- ✓ **Interoperability:** Seamless data exchange between payers, hospitals, and clinics.
- ✓ **Care Platforms:** Integrated dashboards that surface gaps in care instantly.

ML and AI

- ✓ **Risk Stratification:** Generating daily "hot lists" of rising-risk patients.
- ✓ **Transparent Models**: Explainable insights to build clinician trust.
- ✓ **Automated Outreach:** Reducing admin burden by automating routine tasks.

Proactive Care

Workflows

- ✓ **Care Coordinators:** Dedicated staff bridging gaps between visits.
- ✓ **Clear Protocols:** Standardized actions for risk alerts (e.g., "Call within 24h").
- ✓ **Team-Based Care:** Empowering nurses and pharmacists to practice at top of license.

Aligned Incentives

- ✓ **Value-Based Models:** Shared savings and capitation rewarding prevention.
- ✓ **Partnerships:** Payer-provider collaboration on data and resources.
- ✓ **Reimbursement:** Leveraging codes for RPM, telehealth, and CCM.

PulseDataAI

Buy, Build, Partner: Flexible Engagement Models

Off-the-Shelf Models

- ✓ Pre-trained, validated models for common chronic risks.
- ✓ Deploy immediately to identify high-risk members without development delays.
- ✓ Fine tune models with expert support

Custom Developed Models

- ✓ Models tailored specifically to your population
- ✓ Unique data features, and internal KPIs.
- ✓ Collaborative development process.
- ✓ Partnerships that combine analytics with care delivery

Action Pathway Library

- ✓ Evidence-based "next steps" mapped to risk signals.
- ✓ Don't just predict risk—know exactly how to intervene clinically.

Platform Access

- ✓ Leverage PulseData's ML/AI infrastructure (Aorta) with your own data science team to accelerate internal innovation.
- ✓ Build models using our platform with guided expert support as needed.

Model Analysis

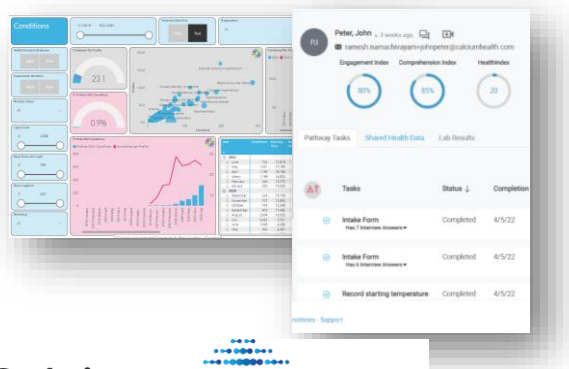
- ✓ Independent benchmarking and analysis of your internal models to identify drift, bias, or performance gaps.

The Calcium Platform

For Organizations

Calcium Core

Robust analytics and trends, AI, and insights, plus patient management and alerts

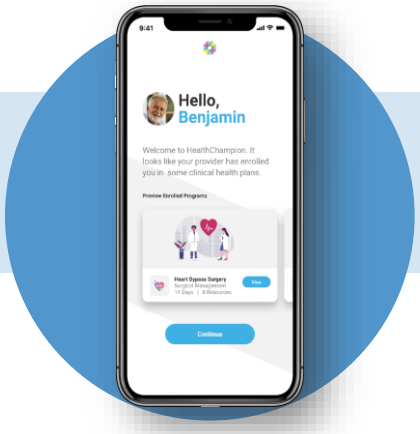


Calcium AI Studio

Modify and create pathways to engage your patients, employees and more

Easily sign-in to Calcium Core and Calcium Studio via desktop browser.

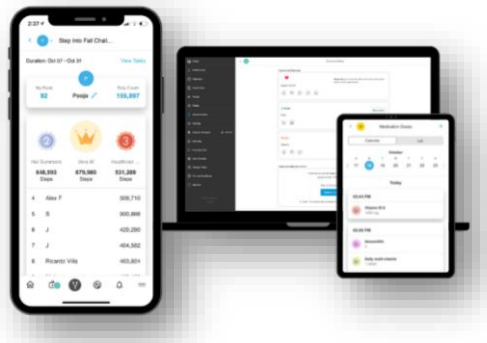
For Individuals



Calcium App

Patient-facing health Super App to deliver your pathways and more

(Available in Google Play, Apple App Store; on Mobile, Desktop and Tablet)



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Q&A

Key Takeaways

From Prediction to Practice

Transforming Care Delivery

Moving from reactive treatment to proactive prevention requires a fundamental shift in how we use data, engage patients, and coordinate teams.

Better Outcomes.
Lower Costs.
Healthier Lives.

- **Earlier risk visibility improves clinical prioritization**
- **Proactive engagement reduces downstream intensity of care**
- **Care coordination becomes more effective when driven by foresight**
- **Clinical teams spend more time on meaningful care**
- **Predictive insight supports scalability in value-based models**
- **Outcomes improve without increasing patient burden**

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Visit the Calcium Health exhibit booth

Contact Information & Follow-Up

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