

# SyncAid: Predictive Medical Systems and Appointment Optimization

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# The Situation

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As you know,

- In January 2026, a **severe winter storm** shut down the only highway connecting Clearwater Ridge to the nearest hospital for over five days
- Medical travel became impossible during an already strained period of delayed referrals and specialist follow-ups
- The healthcare system had no way to adapt when normal operations broke down
- An elderly resident with a known heart condition missed a cardiology follow-up
- **Poor communication** and **manual tracking** meant the missed appointment was never rebooked
- Two weeks later, the patient required an emergency airlift for a **preventable** cardiac event

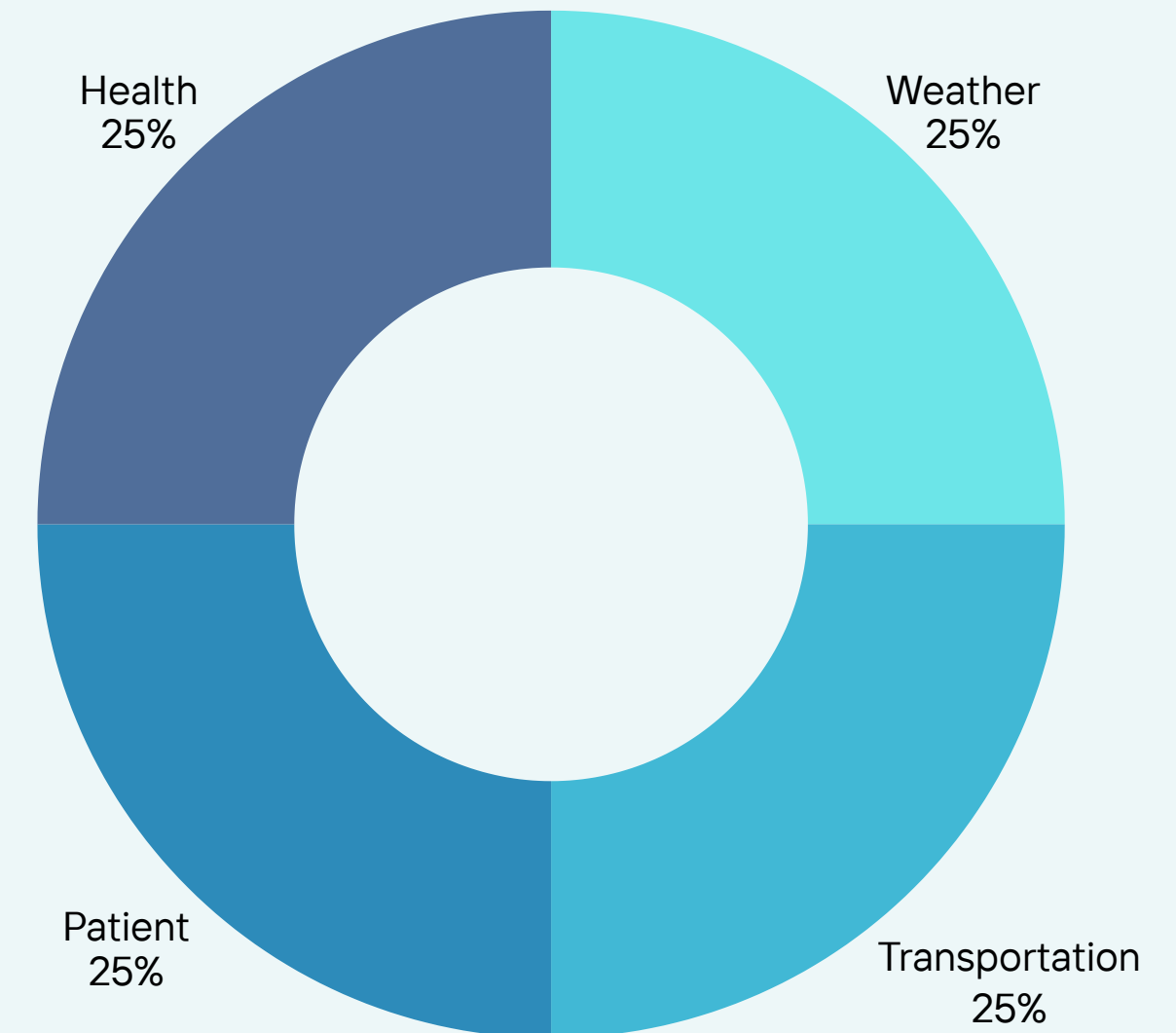
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# This isn't just Clearwater Ridge.

Appointment schedules can be made days or weeks in advance, but:

- Patient reliability changes
- Weather changes
- Transportation availability changes
- Health status changes

Yet traditional schedules **do not**, at least not in time.



Every missed follow-up  
increases both human risk and  
system cost.



# Our Solution: SyncAid

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## What we built

SyncAid is a lightweight, web and app-based coordination platform designed for clinics (especially rural ones) that need to manage appointments, follow-ups, and rescheduling under unpredictable conditions.

Instead of treating medical and healthcare scheduling as static, SyncAid continuously adapts using risk signals and real-time context.



# Our Insights

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The value isn't in optimization - it's in responsiveness.

Optimizing a schedule once isn't enough.

What actually matters is:

- Detecting risk as it emerges
- Responding before an appointment fails
- Reallocating time in minutes, not weeks

A good schedule anticipates.

A great schedule, adapts.

# Key Features

## 01 Visual Risk-Aware Calendar

Color-coded scheduling lets providers understand schedule stability at a glance and prioritize attention where it matters most.

## 03 Rapid Change Detection & Alerts

The system immediately flags rising risk and notifies staff, enabling action minutes after conditions change — not days later.

## 02 Live Appointment Risk Scoring

Each appointment is continuously evaluated using historical attendance, confirmation status, and disruption signals to generate a real-time reliability score.

## 04 Consent-Based Slot Swapping

Patients are contacted automatically for confirmation before any change, ensuring transparency and trust while preserving flexibility.

live demo: [website link]



System Online: Clearwater Ridge



Hello, Martha S.

Welcome to SyncAid

Your Next Appointment  
Monday, February 2, 2026 -  
Cardioogy Follow-up

#### Transportation Status

SyncAid Highway 110 closed.  
Safe Haven Protocol active

4:34

System Online: Clearwater Ridge

Your Next Appointment  
**TODAY, 2:00 PM - Cardioogy  
Follow-up**

Emergency reschdble due weather.  
Details below

#### Transportation Status



SyncAid Shuttle - Arriving in 10 min

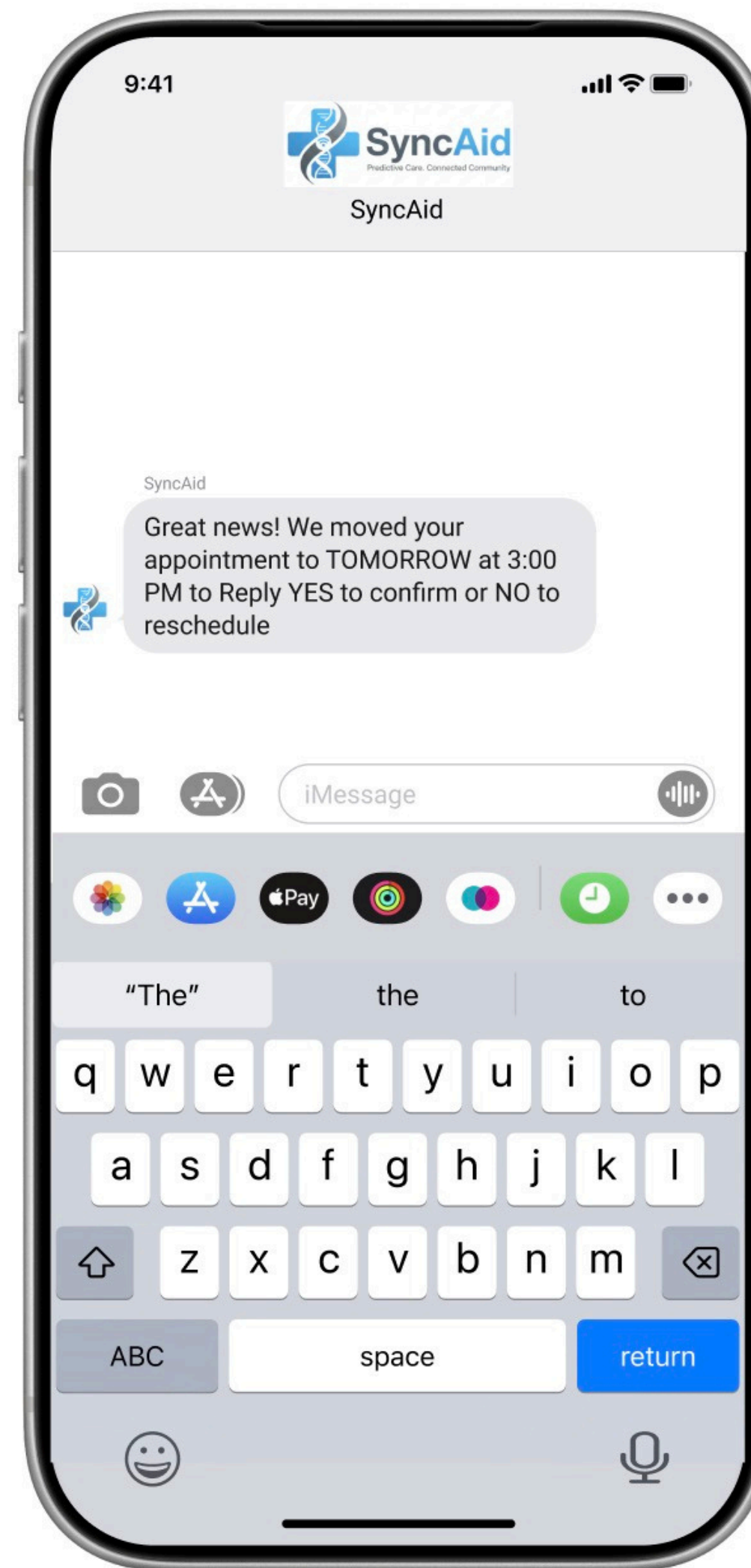
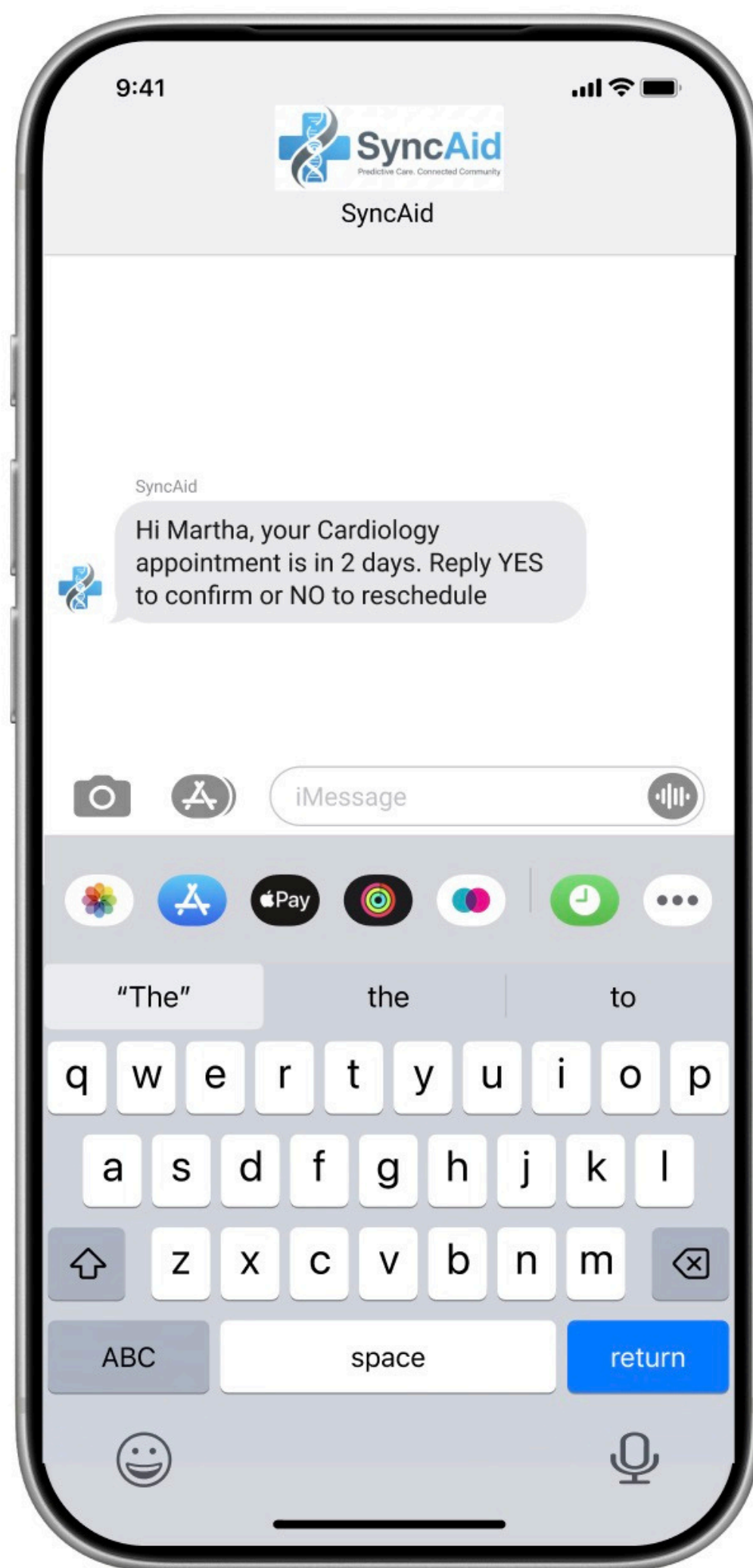
[View Shuttle Map](#)

#### Important Alerts

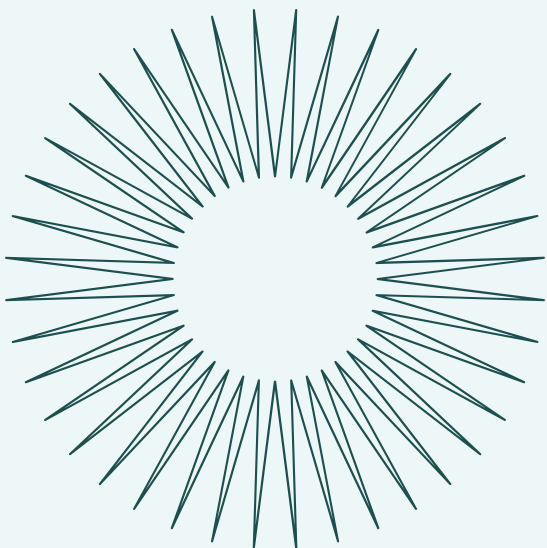
Storm Warning: Highway 110 closed. Safe Haven  
Protocol active

[Book New Appointment](#)

[Tap to Call Nurse Hotline](#)



# Financial Analysis



Component	Typical Cost	Rationale
Predictive Scheduling Engine	~\$25,000	Model development, risk logic, tuning
Web Dashboard & UX	~\$15,000	Nurse-facing calendar + alerts
Messaging & Notifications	~\$5,000	SMS confirmations & consent
Cloud & Security	~\$10,000	Hosting, access control, logging
Training & Deployment	~\$5,000	Staff onboarding & rollout

## The Cost of Inaction

- Missed appointment: ~\$200
- Preventable hospitalization: \$8,000–\$12,000
- Emergency airlift: ~\$15,000

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SyncAid turns scheduling into a **real-time asset** that, protects patients, supports providers, strengthens the system.

# Institutional Impact

## For Patients

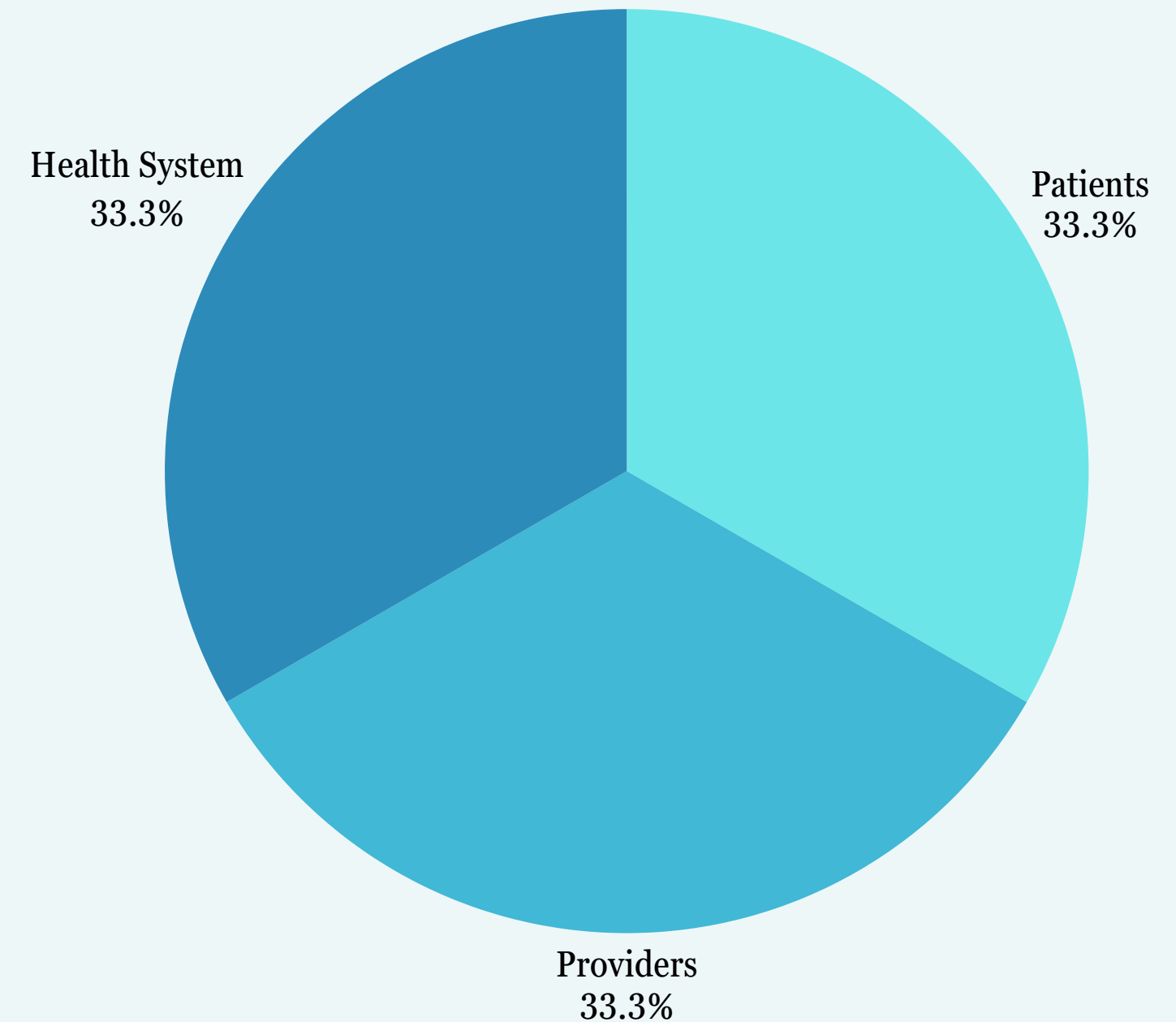
- Fewer missed appointments
- Faster access to care
- Less silent delay and risk

## For Providers

- Higher schedule utilization
- Fewer empty slots
- Better use of limited clinical time

## For the Health System

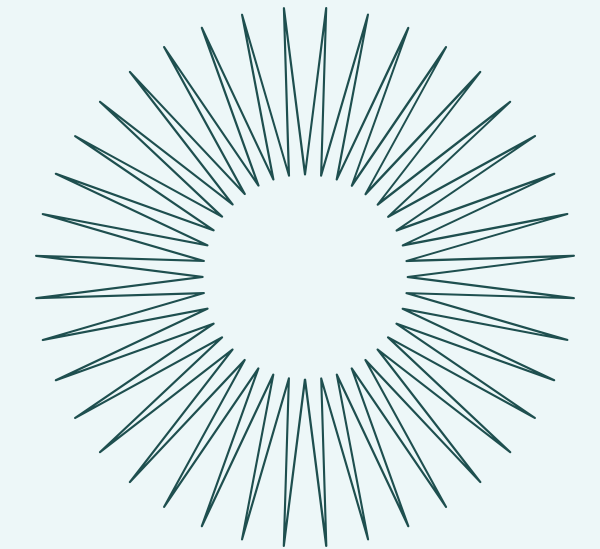
- Reduced wait times
- Lower downstream emergency risk
- More equitable access to scarce appointments



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National averages show around 10-25% of clinic time is idle due to missed appointments every year.

# Scalability and Future Outlook



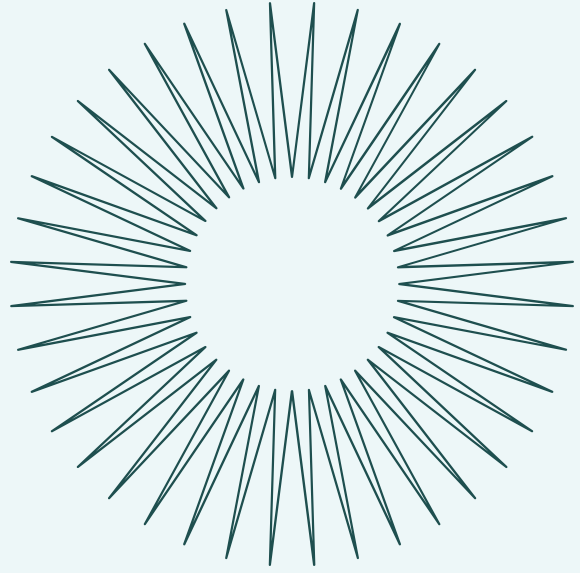
SyncAid is for the future of all healthcare.

## Built to Scale by Design:

- Universal Layer: SyncAid operates at the scheduling layer, making it transferable across clinics, hospitals, and specialties without workflow replacement
- Low Marginal Cost: Core predictive engine is reused; scaling adds minimal infrastructure overhead
- Data-Driven Improvement: More usage improves prediction accuracy and scheduling efficiency over time

## Future Directions:

- Expand from single-clinic deployment to multi-department scheduling
- Integrate waitlist prioritization using real-time reliability scores
- Refine risk models with additional disruption signals



# Thank you for your time.

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WDS // SPARK 2026

Ethan, George, Mousa, Sanad :)