



HEALTHCARE SOLUTIONS OVERVIEW

Communication Software for Mobility, Efficiency,
and Safety

ENABLING CARE, SAFETY, AND EFFICIENCY IN A CHANGING HEALTHCARE TECHNOLOGY ENVIRONMENT

In hospitals worldwide, a myriad of clinical, safety, and other communication systems constantly generate updates, alerts, and key pieces of information. But unless this data is gathered and delivered to the right person, at the right time, on the right communication device, it's useless. This is in addition to your staff's ongoing need for physicians, nurses, and other personnel to connect quickly for real conversations about how to handle patient care.

People and technology now need to communicate flawlessly to speed response times and keep safety and satisfaction in the forefront.

Given this vast amount of information, your organization needs effective, streamlined communications at every turn to reach the right caregivers at all times. Doctors go in and out of surgery and staffing assignments change around the clock. So when a patient comes to the emergency department with heart attack symptoms in the middle of the night, are you quickly gathering all the right people when the code STEMI is issued? Patients' lives depend on the coordination and management of details like this.

SPOK: HELPING YOU LEAD THE CHARGE IN CRITICAL COMMUNICATIONS

Spok supports both large and small hospitals in their quest to deliver the highest standards of care with communication technology designed to meet today's challenges. Year after year, the vast majority and often all of *U.S. News & World Report* magazine's Best Hospitals Honor Roll organizations are Spok customers.

We offer a full suite of integrated solutions that support mobile hospital staff with a firm link back to the contact center and the valuable information it maintains.

OVERVIEW OF OUR SOLUTION AREAS:

- Communication-enabled workflow automation
- Clinical alerting
- Contact center solutions
- Staff scheduling
- Secure critical communications
- Physician preference directed communications
- Critical test results management
- Emergency notification and incident management
- Enhanced 911
- Paging services

➤ "The [Spok®] system helps us provide better patient care by letting us alert staff faster and with more relevant information than before."

Steve Ridenour
Systems Manager
MedCentral Health System

TRENDS AND REQUIREMENTS AFFECTING HOSPITALS TODAY

Supporting Secure, Mobile Communications

Staff are on the go and carry the latest smartphones, tablets, and other devices. IT teams must develop mobile device management policies and enforce them. These should include plans for what tools are supported, encryption, how to remove sensitive information from a lost/stolen device, and managing authenticated access to web directories and on-call schedules.

Protecting Information Security/ePHI

With the increase in mobility comes the increased risk of compromised electronic protected health information (ePHI). Organizations and patients benefit from proactive, documented security measures.

Improving Efficiency

More than ever, staff cannot waste time looking for information, people, supplies, or open beds. Notifications must go to the right people at the right time, doctors need a way to find one another for important conversations, and automated information sharing from clinical systems needs to be embraced for efficient care and interaction.

Achieving Compliance

Many regulatory bodies and laws affect hospitals, including The Joint Commission, HIPAA, and the HITECH Act. Audit trails, encrypted messaging, efficient code call handling, and accurate reporting are all keys to this.

Connecting Disparate Healthcare Systems

There are many disconnected systems in hospitals that need to share information. These span clinical, critical test results, security, building management, electronic health records, IT, health information, transport, and many more. There is an effort underway to eliminate these islands of information by linking hospital systems, allowing important information to pass among them.

Raising and Tracking Patient Satisfaction

The nationwide Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey tracks patient satisfaction scores, with many questions focused on communication. The strength of caregiver-patient communication and having quiet, healing environments are key elements.

Maintaining Reimbursements

With payment models moving away from hospitals simply being paid for services rendered and toward payment for quality performance, hospital revenues are at risk of going down if top-notch care is not delivered every time. They need to identify opportunities for improved workflows to ensure safety and effective communications while lowering costs. In addition, reimbursements rise with patient satisfaction scores.



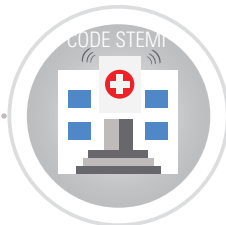
COMMUNICATION-ENABLED WORKFLOW AUTOMATION

WORKFLOW EXAMPLE 1

Reach code teams quickly to prepare for urgent situations



ED tests point to a heart attack.



Code sent to 20-30 staff both on and off the hospital campus so they can prepare for their role in treatment.



Staff respond with availability, and escalations are sent automatically to alternates.



Coordinated, life-saving treatment is delivered to the patient quickly.

WORKFLOW EXAMPLE 2

Sending critical radiology results to the ordering physician



An ED patient has a scan, which is sent to radiology.



The radiologist notices cerebral bleeding and notes the critical acuity in the system.



The system sends a critical test results message to the ordering doctor's smartphone and updates the patient's EMR with a flag.



The patient is treated quickly and effectively.

WORKFLOW EXAMPLE 3

Connecting busy staff



ED physician Dr. Lee urgently needs to reach the on-call obstetrician for a pregnant patient in distress.



She calls into the system and asks for the on-call obstetrician, specifying the urgency of the call. In seconds, the system uses logic to factor in doctor contact preferences, schedules, caller, and date/time.



The call is connected quickly to Dr. Barnes on his smartphone, enabling fast, effective treatment.

CLINICAL ALERTING

Centralize the management of critical alerts and alarms generated by point-of-care and safety systems such as nurse call, patient monitoring, and many others. Link alerts from these systems to staff's mobile devices to speed response times. This solution has achieved FDA 510(k) clearance as a class II medical device.

- Improve patient care with faster response to requests and critical changes in vitals
- Make staff work patterns more efficient
- Reduce overhead noise and promote a quiet, healing environment

> MAPLE GROVE HOSPITAL

Supports a quiet, healing environment by sending patient monitoring and nurse call alerts to staff's mobile devices. They're in the **top 5%** nationally for patient scores on 'willingness to recommend.'



HOW IT ALL WORKS

An example



Using the nurse call system, the patient can select options for nurse, pain, water, or toilet.



Depending on the selection, the message is routed to the appropriate person. This may be a nurse, orderly, or other person.



Here the patient's nurse received the request and provides assistance quickly, increasing the patient's comfort.

CONTACT CENTER SOLUTIONS

OPERATOR CONSOLE

Provide operators with the information needed to process calls using their computers, with just a few keystrokes. Operators can quickly and accurately perform directory searches and code calls, as well as send messages and pages to individuals, groups, and roles.

- Simplify the call-taking process to handle higher call volumes with fewer resources
- Simplify the consult process to connect patients with the physicians they need to see
- Generate revenue by providing answering services to outside physicians or groups
- Reduce costs by centralizing call center operations

WEB-BASED DIRECTORY

Make employee contact information more accessible and enable staff to send messages quickly right from the directory. Authenticated users can log on anywhere, anytime to perform a variety of key updates to contact information and on-call schedules, search the directory, and send important messages.

- Reduce reliance on the operator group with self-service options
- Eliminate the need for costly printed directories that become outdated quickly
- Give password-protected staff access to updated contact information

SPEECH RECOGNITION

Enable your organization to process routine phone requests including transfers, directory assistance, messaging, and paging—without live operators and with more ease-of-use than touchtone menus.

- Manage greater call volumes while improving productivity and professionalism
- Enable callers to automate the paging and messaging function
- Alleviate operator workloads, allowing time for more in-depth caller inquiries
- Keep calls connecting properly with a tuning system that tracks alternate pronunciations and incorporates new names and other changes with ease

> BANNER HEALTH

Processes

4.2 million calls
and **saves \$700,000**

annually through a consolidated communications center running operator consoles.

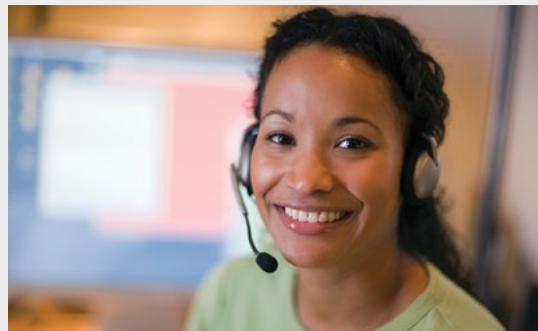
> BEFORE:

Paper-Based Chaos



> AFTER:

Efficiency & Consistency



CONTACT CENTER RECORDING AND QUALITY MANAGEMENT

Record, monitor, and score your operators' conversations to improve call handling and overall customer service for patients, visitors, physicians, and other callers.

- Improve operator call handling by identifying training needs
- Enhance call quality and professionalism
- Provide an audit trail of calls to retrace conversations if organizational disputes arise

CALL ACCOUNTING

Log the date, time, and duration of all calls made and received by your staff.

- Provide an audit trail of phone activities
- Gain accurate bill-back information and staff telephone usage
- Detect improper use of corporate resources

STAFF SCHEDULING

WEB-BASED ON-CALL SCHEDULING

Keep personnel, calendars, and on-call scheduling information updated—even with thousands of staff—using a secure web portal to maintain and allow password-protected access to the latest on-call schedules.

- Protect patients by sending messages quickly to the right on-call person directly from the schedule
- Keep personnel and scheduling information current and accurate, protecting personal time for off-duty staff
- Move ownership of on-call schedules from operators to individual departments

STAFF ASSIGNMENT

Assign particular devices and patients to staff for the various clinical systems you are linking to your Spok critical alerting solution. Send updates to the right person based on his or her role and device preferences.

- Speed response time to patient requests by sending notifications to the right staff member

> NEMOURS A Children's Health System

Established web-based on-call scheduling that simplified the process of reaching the right person at the right time on the right device.

PHYSICIAN PREFERENCE DIRECTED COMMUNICATIONS

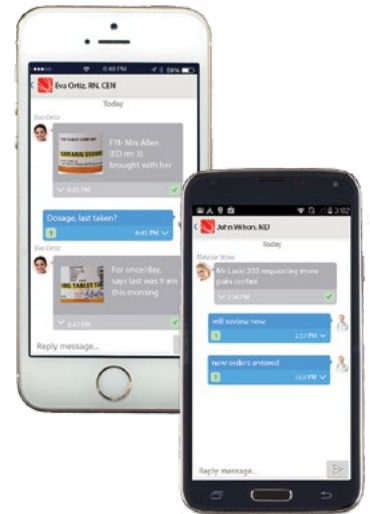
Make it easier for important physician conversations to happen quickly and in accordance with physicians' established preferences. Call a single, local number to reach a person or role and the system will factor in variables such as date/time, message sender, and urgency to determine how best to route the call.

- Improve speed and quality of patient care
- Reduce time spent searching for physicians and responses
- Give doctors control over how others reach them

SECURE CRITICAL COMMUNICATIONS FOR SMARTPHONES AND TABLETS

Spok enables doctors and clinicians to improve many of their daily workflows with a secure texting app that's far more than just secure texting. Spok Mobile™ plugs smartphones, tablets, and wireless IP phones (and their users) into data, alerts, and messages not readily available on the move. Spok Mobile lets a doctor reference the on-call schedule and request a consult from the appropriate colleague. It allows a nurse to receive patient calls for assistance and determine the patient's need, without requiring a visit the patient's room. It notifies the attending clinician when a patient monitor's threshold has been reached.

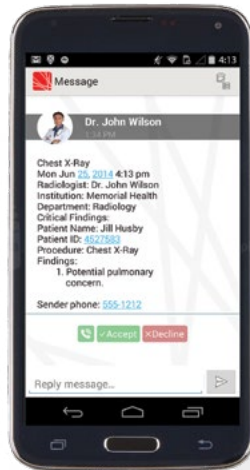
- Integrate with existing third-party monitoring and alerting systems across the hospital
- Use a smartphone or tablet to access the organization's directory and send secure messages to any staff member, including the right on-call clinicians
- Send images and videos along with text
- Create closed-loop communications with delivery confirmations and the ability to respond to or escalate messages
- Support a wide variety of smartphones and other devices, allowing each person to use his/her preferred device
- Protect sensitive patient details with encrypted, traceable messaging among doctors and other staff members
- Wipe messages remotely from a lost or stolen device



CRITICAL TEST RESULTS MANAGEMENT

Automate and streamline the process of delivering critical test results to the right clinicians to help ensure patient safety. Closed-loop communications enable lab and radiology technicians to spend less time tracking down doctors and more time interpreting tests. This solution has achieved FDA 510(k) clearance as a class II medical device.

- Speed test result information to ordering physicians to improve patient care
- Meet The Joint Commission's National Patient Safety Goal requirements
- Reduce risk and cost of litigation associated with delayed, lost, or mishandled test results



> More than **800** hospitals are now using encrypted critical smartphone communications from Spok to improve patient care.

EMERGENCY NOTIFICATION AND INCIDENT MANAGEMENT

Quickly and reliably notify and confirm team member availability during emergency situations without calling trees and confusion. Automatically deliver messages, collect responses, escalate to others, and log all activities for reporting and analysis.

- Speed the coordination of patient care when time matters (e.g., for heart attack patients or other code calls)
- Provide dependable, accurate notification of critical information quickly
- Comply with industry mandates and guidelines (e.g., HICS, NIMS)

EMORY UNIVERSITY

Reduced heart attack treatment times to an average of 54 minutes at one hospital and 62 minutes at another.

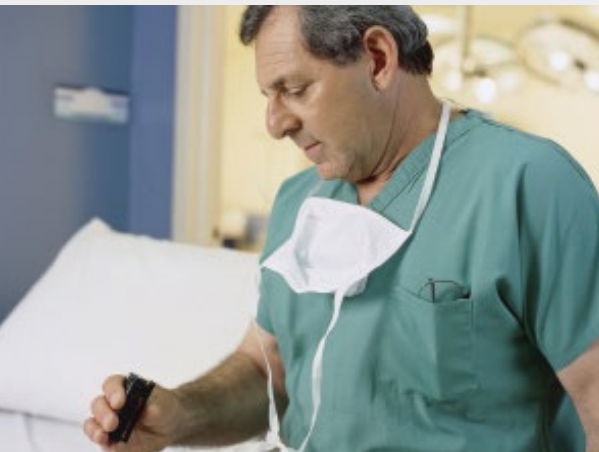
ENHANCED 911 (E911)

Many hospitals incorrectly assume that a patient or guest will dial 0 in an emergency, when they often dial 911. Direct emergency personnel to a caller's exact location (building, floor, and room) to help ensure fast response.

- Increase patient, staff, and visitor safety
- Get emergency personnel to the caller's exact location quickly
- Comply with state laws and limit liability

PAGING SERVICES

Many healthcare organizations leverage paging to cut costs, increase messaging speed, and provide greater reliability, especially in disaster situations. Spok offers both wide-area and onsite paging options, including many models for pagers.



WIDE-AREA PAGING

- Solutions from the leader in wide-area paging
- Unparalleled reliability for critical communications and disasters
- Proven coverage during 9/11, Hurricane Katrina, Minnesota bridge collapse, and Boston bombing

ONSITE PAGING

- Simplify the paging function by working with a single vendor for all components of the private paging system
- Unparalleled reliability for critical communications and disasters
- Leverage rugged pagers designed for medical use

WHAT SETS SPOK APART?

INDUSTRY LEADER

- Used by the best—each year the vast majority if not all of the top hospitals as ranked on the *U.S. News and World Report* Best Hospitals Honor Roll rely on Spok for their critical communications
- Financially sound—with healthy growth and profitability

BROAD PRODUCT SUITE

- The products you want are available from one provider—and we're developing more all the time
- Spok provides seamlessly integrated solutions for mobile staff communications and contact center management
- Spok focuses on sharing intelligence that allows critical information to be delivered to the right person at the right time on the right device for fast response

CHOICES

- SQL Server or Oracle
- All industry smartphones and mobile devices supported
- Broad array of PBX systems supported
- Strong interoperability with other systems
- All industry paging protocols supported

➤ "We're excited to have so many elements of our critical communications working together."

Asif Khattak
Director, EVS, PBX and Resource Center
St. Joseph Hospital

➤ "Our [Spok] solutions work together to orchestrate and synchronize communications and actions in a way that's become essential to our ability to fulfill our patient commitment."

Sheila Cook-Dolciame
R.N., M.S.N., Director of Call Center Operations
Parkland Health and Hospital System



STRONG SECURITY

- JITC certified—Spok has passed this extremely stringent security certification used by the highest offices of the U.S. government

EXCELLENT SUPPORT

You have peace of mind knowing your solution will be implemented with precision and expertise, and assistance is a phone call away once your application is live.

- Company's proven implementation approach helps ensure system success
- 24/7/365 support via an in-house staff
- Comprehensive training options
- 99% maintenance renewal

ENTERPRISE ARCHITECTURE

High reliability and scalability mean less downtime, fast response, and having a system you won't outgrow.

- Supports high volume
- Supports clustering
- Compliant with VMware®
- Supports storing data on customer storage area network (SAN)
- JITC certified
- Supports single sign on (SSO)
- Supports centralized and multi-site environments
- Flexible user interface clients—delivering messages to staff when and where they work based on their own individual preferences



ABOUT SPOK, INC.

Spok, Inc., a wholly owned subsidiary of Spok Holdings, Inc. (NASDAQ: SPOK), headquartered in Springfield, Va., is proud to be a leader in critical communications for healthcare, government, public safety, and other industries. We deliver smart, reliable solutions to help protect the health, well-being, and safety of people around the globe. More than 125,000 organizations worldwide rely on Spok for workflow improvement, secure texting, paging services, contact center optimization, and public safety response. When communications matter, Spok delivers.

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