

CASE STUDY



SAGE & OnPage - Teleneurology in action

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CASE STUDY

SAGE is a privately held California-based company that provides rural clinics with neurological services through telemedicine. SAGE currently employs 15 physicians and works with 30 hospitals in small towns in California, Arizona and Nevada. They provide coverage to their clinics in their network 24/7, 365 days per year.

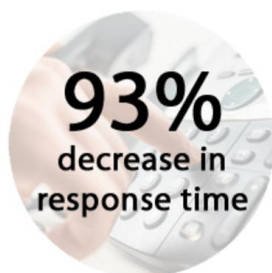
Business Situation

SAGE sought an intelligent method with which to route alerts to physicians when one of the hospitals in its network had an immediate need for its teleneurology services.

In the past, when the rural facility would call into SAGE and ask for the attending neurologist, SAGE would page one of their neurologists in the hospital. However, the neurologist didn't always respond immediately. It could take up to 20 minutes before a neurologist was alerted.

Results with OnPage

In 95% of the cases, the call for a rural hospital is returned in **under a minute**. Only **5% of the cases require escalation** to a second physician. When escalation is required, **alerts are answered in under 3 minutes**. This means that if the first physician contacted by SAGE is not immediately available, the next physician on-call is rapidly alerted and returns the call. Today, **OnPage handles 90% of all calls** at SAGE.



OnPage reduced the response time of the neurologists from **20 minutes to 1 minute** through **OnPage's Escalation Policy and On-Call Scheduler**.



Before OnPage SAGE was only able to serve 5 hospitals. Now with **complete alert automation** at their finger tips, they serve 40!



SAGE NeuroHospitalist **saves \$100,000 annually** thanks to OnPage's **intelligent alert management system**. Now, SAGE no longer needs to pay staff to administer pages.

SAGE before OnPage

Inefficient paging process and response delays

SAGE went through a convoluted process when trying to connect a patient with a neurologist. Before OnPage SAGE experienced the following issues:

- Poor workflow: The rural facility had to contact the hospital or the answering service which in turn paged the neurologist
- No escalation: If the first neurologist didn't respond, there was no automatic escalation to the next doctor
- Lack of immediacy: It could take up to 20 minutes before a neurologist returned a call from a rural facility
- No audit trail: There was no reporting of how long it took before a neurologist responded. As such, there was no way of monitoring success or failure

Missing pages and lack of automation

SAGE neurologists had difficulty with pagers. To begin with:

1. Pages were lost and there was no infrastructure in place to track pages.
2. Delays in responding to received pages were a regular occurrence with no system in place to forward the page to another SAGE neurologist.
3. Rural clinics were frustrated with SAGE. At times, they had to wait over 20 minutes before receiving a call from the neurologist due to poor pager workflow.
4. Pager connectivity and range issues were experienced.

Solution – OnPage's intelligent, HIPAA compliant, alerting!

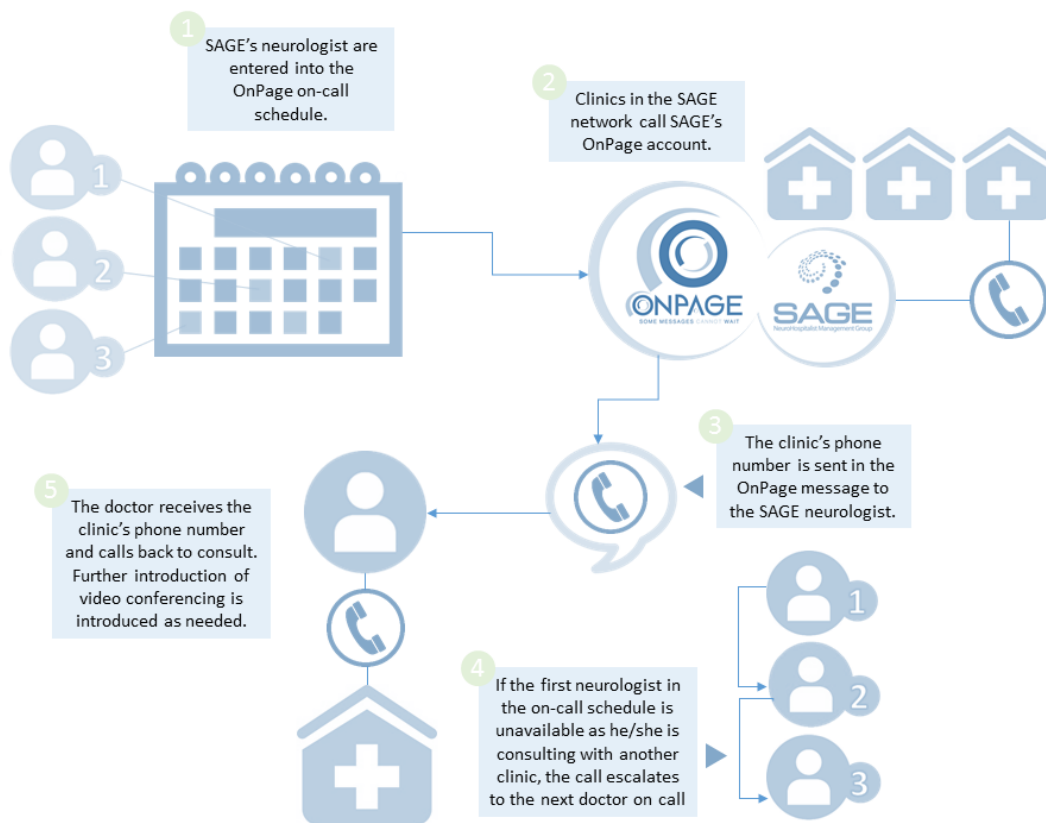
SAGE uses the ability provided by OnPage to enable clinics to reach physicians with an immediate and prominent alert while also providing escalation. SAGE saw significant improvements after implementing OnPage:

- SAGE has not missed pages since implementing OnPage.
- Pages lost due to connectivity and range issues are no longer a problem as OnPage also works with wifi.
- Page escalation is now an automated process. If the first SAGE neurologist is not able to respond to the page it is automatically forwarded to the next neurologist on-call.
- SAGE is now able to guarantee their clients a response of less than 5 minutes
- All pages are tracked through OnPage's Audit Trail. Which increases the accountability of SAGE's service.
- Pages are attended to within the first two escalations which means patients receive care faster.
- Automation of alerts has increased SAGE's revenue!

Why Telemedicine

The shortage of neurologists places significant demand on hospitals to efficiently deliver inpatient neurology care. Teleneurology enables rural and remote hospitals to provide in-person consultation to mitigate the lack of neurologists on staff.

SAGE's neurohospitalists conduct live, video-enabled consultations that allow for rapid patient assessment and formulation of a treatment plan. Telemedicine shows its usefulness most prominently in the case of stroke.



Time is Brain

In neurology, time is brain. Every second lost can lead to brain damage or loss of life.

Every minute lost until stroke treatment takes place accounts for 1.9 million neurons lost and accelerates aging by 3.1 weeks. Every hour lost until treatment accounts for 120 million neurons lost and accelerates aging by 3.6 years.

Signs of Stroke

Rural hospitals know to look for the **FAST** signs in assessing a potential stroke patient:

- (F)acial drooping: Is a section of the face drooping or hard to move?
- (A)rm weakness: Inability to raise one's arms fully
- (S)peech difficulties: Difficulties with speaking or understanding speech
- (T)ime: If any of these symptoms are showing then the patient needs to be admitted immediately.

If the patient appears to present these symptoms, the attending doctor or nurse knows to contact the SAGE OnPage account. With stroke, if tPA – the only FDA approved drug to treat stroke - is not delivered within 4.5 hours after the stroke occurs, the possibility for a full recovery is vastly diminished. Immediate treatment is necessary to prevent the long term effects of the stroke and potential death. tPA cannot be administered after 4.5 hours since the clot-busting drug will cause significant damage to the remaining brain tissue. This is why it is so important to identify stroke immediately.

Reporting

At SAGE's central headquarters in Pasadena, California the company's Operations Administrator, Melinda Chiem, keeps track of the call volume, response time and any delays that are occurring in providing service to the hospitals and ultimately to the patients. She receives this information through OnPage's reporting system which allows her to also create graphs to physically

represent the progress of the company's neurologists in meeting the needs of the hospitals.

The information from the reports is also compared against the statistics kept by clients to make sure they match. The reporting also allows SAGE to better analyze and forecast the clinics' needs.

OnPage fills the need for immediate alerting and profitability

When a patient at a rural hospital in the SAGE network does present with a neurological condition, the clinic calls up the SAGE OnPage account. The clinic is assured of receiving a response from an on-call physician **in under a minute**.

By using OnPage, SAGE no longer needs the administrative staff to page neurologists. This move has **saved SAGE over \$100,000** and allowed their **business to grow 7 fold** with their promise of a rapid response to patient needs.

Summary and Benefits

In years past, SAGE Neuro relied on pagers to alert neurologists to a rural hospital's needs. Pagers were unreliable and ineffective in providing immediate access to doctors. Luckily for hospitals and the patients they treat, OnPage can provide immediate and secure alerting to SAGE's neurologists.

Through video hook-ups or other forms of consultation provided by telemedicine, the neurologist can diagnose and treat patients more quickly. In the end, this means that lives are saved and patients can hopefully return to the lives they were leading.