



Saving Lives through Technology www.goodsamapp.org







GoodSAM is the world's most advanced emergency services mobile technology platform.

From alerting trained bystanders to dispatching statutory emergency services; from on-scene video triage to our latest innovation, the remote assessment of vital signs through video; GoodSAM offers a suite of functions which not only saves lives, but also improves emergency resource management.

We have 3 core principles:

Governance Security Innovation

with a collaborative ethos enabling us to work with you to provide the best possible solution to optimise patient outcomes.

GoodSAM is revolutionising emergency care.

Welcome to the future.

GoodSAM Cardiac GoodSAM AED Registry Instant Dispatch Instant On Scene Instant Comms Instant Vitals MultiAgency Major Incidents Elderly Care Drones Instant Help

Endorsed by



Resuscitation Council (UK)



Responder map for London 2018. See back cover for world map.

GoodSAM is used by some of the largest ambulance services around the world - over 80 organisations have partnered, with many more coming on board. Examples include:



GoodSAM Cardiac

GoodSAM Cardiac is both a technology platform and a community of life savers. This not-for-profit service alerts those able to perform basic life support and use an Automated External Defibrillator (AED) to cardiac arrests occurring near them.

Cardiac arrest survival in Heathrow Airport is ~80%. This compares to 9% on the streets of London. The difference is access to AEDs (at every other gate) and someone starting high quality CPR within minutes of the arrest (all air crew are trained). Our plan is to use technology to achieve this everywhere.

They say you're never more than 5 metres from a spider, and you're rarely more than 300 metres from someone who can perform high quality CPR and use an AED. The problem has been making them aware of the cardiac arrest in the building next door or just around the corner.

This is where the GoodSAM platform comes in. It is a platform for first aid organisations, hospitals and the emergency services. For ambulance services, it integrates into Computer Aided Dispatch (CAD) to automatically trigger customisable alerts. Responders can register under an organisation which they are affiliated with or use the GoodSAM catch-all. This highly governed process ensures all Responders are who they say they are and appropriately trained. The GoodSAM platform gives ambulance services complete control over who they are alerting (which categories of Responders, from which organisations) over what radius and which rules should be set up for different mapped areas.

There are advanced messaging features (e.g. push-totalk radio) in the App as well as Patient Report Forms (PFRs) and instant video (e.g. to get advice from the clinical desk).







Core Principles

The underlying principles which established our cardiac arrest platform pervade subsequent GoodSAM developments. All the core features outlined apply to subsequent products in this brochure, and all are available through the GoodSAM Dashboard and Responder App.

Governance:

Governance is our core. Our processes ensure ambulance services have complete knowledge and control of who they are alerting to emergencies.

Responder Approval: All organisations on GoodSAM only approve Responders which they can genuinely verify. Approvals are done by matching photo ID, email address and, where appropriate, GMC/HCPC/NMC/APHRA (etc) number. Responders are categorised into nationally governed (e.g. GMC registered doctors, HCPC registered paramedics), locally governed (e.g. CFRs by ambulance services) and first aid qualified. Ambulance services control which organisations and which groups of people they alert. They can even alert by category of Responder (e.g. police/fire etc.).

If you're an organisation who would like to come on the GoodSAM platform (such as a first aid organisation or hospital), don't worry about administration work around approvals. We can "auto-approve" with known email addresses - give us a call for more information.

In some parts of the world (e.g. New Zealand), the ambulance services have decided to alert anyone who self-certifies that they are CPR competent. This is because they train people, (e.g. in football stadia at half time), without issuing certificates and want to be able to alert these people to their next door neighbour in cardiac arrest. These people can also register on the system but will only be alerted in regions where the statutory ambulance service agrees to alert them, and only over a very small radius (1-200m).

Code of Conduct: We work with ambulance services to ensure Responders agree to a "code of conduct" specifically for the region they are in. This is displayed on the App, on the website and at time of sign-up.

Security:

All data transmission through GoodSAM is AES 256 bit encrypted and data transmitted complies with Calldicott principles exceeding standards required by NHS and HIPAA. GoodSAM adheres to EU GDPR requirements.

Security is provided through TLS protocols Scalable architecture using stateless servers Self-healing capabilities with distributed notification system Redundancies on all services (CAD, APP, WEB and Media servers) with 100% uptime Multi AZ database with read replicas













Innovation:



You will see in the following pages, GoodSAM is innovating way beyond cardiac care into the core of providing better care through Instant On Scene and video triage. From the GoodSAM Dashboard, you can access a plethora of features - from real-time data advising you on optimal alert radius, times of first on scene, through to individual patient reports compiled by Responders.



GoodSAM works across all smartphones. There is no need to supply CFRs/Responders with costly hardware. Their personal phone will support GoodSAM. This means they will always be alerted to local cardiac arrests, even when not on duty. Additionally, Responders buy phones that have a good signal where they live/work, minimising risk of non-connection.

But GoodSAM even operates where phones don't have a data signal. This is useful in resource poor countries where mobile systems are unreliable. Responders can log into their profile and select "SMS alerting" saying where they live and work and the times they are at each. They can then become static Responders, alerted by SMS.

Collaboration:

We are proud to collaborate with some of the largest and most advanced emergency services around the world. We work with organisations to develop solutions that optimise outcome.

GoodSAM is NOT a first aid organisation - we don't teach first aid, supply services or sell AEDs. We are also not a pure tech company that develops a spec and disappears. We have a deep understanding of clinical need and work with organisations to continuously evolve. We act as a glue that can bond a spectrum of organisations - so that the skills which their members have can be used when least expected - to save lives in their community. As such, the App can be branded to maintain the core organisation's identity for its members.





Static AED map for London 2018.

AED Tracker:

AEDs on their own don't save lives.

Many first aiders, off duty CFRs and others carry an AED in their vehicle. Responders can now state that they "have an AED" with them, which automatically then tracks them as a Responder and AED unit.

In London, 900 police cars carry AEDs and Taxi drivers with specific training also carry them. We believe the vast majority of unmapped AEDs are in the boots of people's cars. We are tracking > 1000 at any one time. This revolutionary new system gives the opportunity for them to be used.





Melbourne



Auckland

AED Registry and Tracking



GoodSAM has mapped the largest AED Registry across the world - over 40,000 to date!

This has been achieved by the GoodSAM community uploading images of their local AEDs through the GoodSAM Apps. Additional information such as access hours, AED type, guardian details and PIN number can also be added. Data and location are checked before appearing on the map.

We believe all AED data belongs to the statutory service for that region. We, therefore, provide our AED data (and sync) with many ambulance services, either in real time or every 24 hours at no cost.

We keep AED data open access for everyone - but only AEDs local to where you are can be seen. At the time of a cardiac arrest additional details, such as the access code for AEDs, are also displayed.

Following a cardiac arrest, our system enables Responders to report which AED they have used and the guardian of the AED is automatically informed.

We work with ambulance organisations to encourage mapping in their region and have supported successful campaigns in both the UK and Australia.





The GoodSAM Dashboard allows Administrators to access a multitude of features. This includes the ability to verify Responders, message individuals or staff en mass (for example in a major incident), create response algorithms, upload KML maps and download advanced analysis of alerts and responses, receive video streams and monitor alerts, and ascribe new admins and control video settings.





The GoodSAM platform can be used to enable "co-responding" across multiple agencies.

Instant Dispatch GoodSAMPRO



GoodSAM can be used to formally dispatch staff and community first responders to any number of emergencies, in addition to cardiac arrest.

The platform provides complete control for the ambulance service to tailor which personnel should be dispatched to specific types of events, in specific geographical areas.

You can establish numerous algorithms for different conditions and, by uploading KML maps, can alter dispatch criteria for different locations.

The system is ideal as a co-responding platform where resources can be ascribed a "type" (e.g. motorbike, fire, police) and visualised on the map.



By defining KML maps, different regions can have different algorithms ascribed.

Radius variation:



The Monitor Dashboard displays live alerts - with the map showing the event and nearby resources. The lat/long, video and information feed from CAD are all displayed. This is also where video triage can be activated simply by entering the caller's phone number.



In Three WiFi Call 20:23 10 10 10	
I will be there in a minute. Patient in Resus coming up to level 9 MAJOR INCIDENT ALERT.	
Image: Control of the second secon	

Major Incident Management

The GoodSAM platform has many roles in major incidents - both internal (within an organisation) and incidents involving multi-agency response.

The mapping feature can enable real-time location of staff and resources, even those off duty.

Instant messages can be pushed en masse to keep everyone up to date as well as person specific messages passed.



Group Comms channels can be established so different teams can communicate directly through the Push-to-Talk radio.

The sirens and alarms can override silent function - so you can inform and alert your staff even if their phone is on silent overnight.

Instant Comms GoodSAM Push-to-Talk Radio

The GoodSAM platform has an inbuilt "Radio" system. Simply select others on the platform and press the microphone button to send them a real time audio message that automatically plays on their phone - even if the App is not running in the foreground. Users have complete control, but crucially they can select to have audio messages and the siren dispatch sound play, even if their phone is on silent.

Users can set up channels so that multiple people can instantly communicate together. This is especially useful for teams within organisations.

For example, a hospital or ambulance service can use this function to alert all their staff in a major incident (including when phones are on silent). Within organisations there are usually many teams (e.g. emergency medicine/surgery or Incident Response Officers / operation managers). These groups can also form channels themselves and have simultaneous conversations.

Debrief & MDTs

We often get to debrief in our teams, but rarely across services. Similarly, getting the relevant people together to discuss a difficult case can be tricky. Within the GoodSAM Dashboard, however, you can create a video chat room and invite as many people as you wish. Every-

one can join in a multiple person video chat to feedback from a job or to have a multi-disciplinary team meeting. This works on any smartphone and from any computer with no need to download any Apps.

Contributors can be invited by email or their phone number. They just click the link and join the meeting!

To set this up, click "Consultation" and select how long you want the room to be open.

Then invite attendees into the room. There is an additional free text message area to provide more details. At the time of the meeting, everyone just clicks the link.





Kent Surrey and Sussex and Great North Air Ambulance have been using Instant On Scene to better support triage decisions and planning en route to an incident.

For example, sometimes it is difficult to establish the extent of a burn. Being able to see the patient can determine if an advanced response is required. Even medical conditions can be better evaluated by those with clinical experience. For example, a pale and sweating patient with chest pain is clearly a priority. Decisions can also be supported with remote observations (see Instant Vitals).



Instant On Scene

A huge part of pre-hospital work is decision making rather than intervention. Being able to see the patient and scene is radically changing the world of triage:

Triage of Scene - Mechanism of Injury / Numbers of Vehicles / Size of fire... Triage of Patient - Do they look sick / in discomfort? Do they have a deformity? How big is the burn...

The GoodSAM system can be used for primary triage (from the caller's mobile phone) or secondary triage - providing the clinical hub to have eyes on a patient to give the initial responder / CFR support.

How it works:

The system simply sends a text with a link for the caller to click on to start streaming video (from front or rear camera). The 999 call continues as audio passes both through the phone call and through the video simultaneously.

Responders / Alerters with the App can start streaming video simply by pressing the camera button on the App.

No video is stored on the caller's mobile phone and ambulance services have complete control as to whether video is not stored, stored on their own servers, or stored with GoodSAM.

"Instant On Scene" is enabling the process of "hear and treat" to become "see and treat" facilitating better triage and optimising patient care.

Importantly, there is no App to download to open the video stream. It is not like Skype or FaceTime and works on any smartphone in seconds.

Sharing of Video Stream:

The video stream can be directed in a number of ways. From Control, it can be shared with resources in the organisation. For example, the paramedic en route or the air ambulance service.

The video stream can also be shared between organisations e.g. the police service.

In a road traffic collision, ambulance, police and fire are often required. This enables all three emergency services to collaborate effectively.





Instant Vitals

GoodSAM continuously evolves, and our latest technology is truly ground breaking.

Not only can Control or the clinical hub see the patient on scene but, within seconds, they can get an accurate readout of vital signs - directly from the caller's camera. This is regardless of which "Instant On Scene" activation mechanism is used.

This objective assessment, in addition to the clinical assessment of the patient, can provide further confidence to decisions being made - whether that be increasing the urgency of the case or supporting a decision of lower priority.

Current evaluation studies are demonstrating remarkable accuracy of this system and will be published soon.

The system can read multiple patient's pulses simultaneously with potential use for multiple casualty situations.

To make this system work, select "Operators" in the Dashboard and switch on "Real Time Analysis". The figures will then display as in the image below. The percentage accuracy will increase the longer the camera is held on the patient. Again, the back camera can be used for another patient, or the front camera if the caller is the patient.

Video can be stored if desired (again, select store video under the Operators Panel).

<text>





Elderly & Vulnerable Care

Falls in the elderly account for a considerable amount of ambulance service workload. We are working with organisations, through the GoodSAM platform, to alert neighbours and 3rd sector personnel to such potential patients. They can be helped up and back into their chair. An assessment can be made (through GoodSAM video with the clinical hub) and transfer to hospital only carried out if actually necessary.

This is vital for keeping patients independent.

There are a number of ways the elderly and vulnerable can trigger the GoodSAM network (and alert their chosen specific people such as neighbours or relatives). This can be through wearables and speech recognition systems. Enquire with us for more details.



Drones

Everybody thinks drones are cool and the answer to cardiac arrest. They are cool, but they aren't the only answer... they are part of a solution in a well governed system. GoodSAM provides that highly governed enabling architecture.

In built up cities with thousands of static AEDs, and thousands more mobile AEDs that are constantly mapped, the risks of drones outweigh the benefits.

However, in remote locations, where static AED coverage would simply not be financially viable, they offer great potential. GoodSAM provides the ideal solution.

GoodSAM knows the exact coordinates of cardiac arrests, as they happen. Our drones can be easily programmed to fly a safe route (e.g. over sea). All they need is the lat/long at time of activation.

More importantly, our network of registered

Responders ensures the highest governance.



GoodSAM Responders can confirm safe landing (even relaying video) and ensure competent AED use. The GoodSAM network ensures security of the drone and appropriate packaging for its return flight home.

The GoodSAM drone dispatch platform can be used with any drone manufacturer. However the drones we recommend have a 45 minute flying time (using 4G enabling constant video transmission), can fly in heavy rain (250mm/min), are dust-proof and can carry up to 10kg. The AED suggested is only 1kg and can transmit data in real-time.

Of course, services can use drones to deliver considerably more than AEDs. The system can be used to deliver epinephrine for anaphylaxis, blood and anything else that your system might require.



Instant Help GoodSAM ALERTER



The GoodSAM Alerter App can be downloaded by the public for use in life threatening emergencies. It simultaneously dials the emergency services for the region the phone is in (e.g. 999 in UK, 000 in Australia) and alerts the three nearest Responders.

This is being used all over the world, especially where GoodSAM has not yet integrated with the ambulance service CAD or in resource poor countries where there is no ambulance service.

For example in the UK, there are many people who live with someone who is unwell or has previously had a cardiac event. They know that in their street / village there are people trained to provide immediate care. But in the event of an emergency they would have to wait for an ambulance to come from the nearest town. The GoodSAM Alerter App reassures them that there is a Responder within a few hundred metres.

In the event of their loved one collapsing they simply press the Emergency button and that person is alerted as well as the ambulance service called. We get many letters / emails commending the comfort this gives people.

Where there is no Ambulance

In areas of Brazil there is no ambulance service. The local fire services have teamed up with GoodSAM to be alerted to life threatening emergencies.

The GoodSAM system is also working in India and Africa to provide both remote video care and activation of trained personnel to a wide range of emergencies.

We believe everybody should be able to access emergency care, no matter where they are - and it's our mission to make that a reality for even the remotest and poorest areas on the planet.





The Tech Stack



All features are coded in-house. There is no third party software.

The GoodSAM Technology Stack is modular making it highly flexible. Modules can be tailored to your organisation's needs.

Uptime is maintained and guaranteed with full tech support at no additional cost.

There are multiple options for storing data and encryption, including in-house databases.

All GoodSAM systems are Emergency Services Network Ready and work across all smartphone systems



Survivor Stories



GoodSAM has many survivor stories, and when we hear them, they really emphasise that it takes a system to save a life.

One of our first was a 52 year old man who, whilst practising Taekwondo in a local village hall, felt unwell and sat down. He then had a cardiac arrest. Someone dialled 999 and through the GoodSAM system, two St John volunteers who were walking past the building en route to a local church for training, were alerted. They were carrying an AED! They went in and got ROSC with a single shock. The patient had cardiac stenting and made a full recovery. His letter of thanks to the two St John responders obviously thanked them for saving his life, but also made it hit home the devastating effect the family loss his children would have had if he had died that day.

There are many similar stories - East Midlands Ambulance Service reported 30 ROSCs as a result of GoodSAM responders in their first 10 months of implementation - and that was just alerting their own staff when off duty!



www.goodsamapp.org instant.help

GoodSAM instant.help





Come visit us!



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