

## TELEHEALTH SPECIAL

Healthcare solutions to optimise costs, meet H&S requirements and maximise productivity - no matter the location.



04

08

## Welcome

Dear Reader,

Welcome to this special TeleHealth edition of *Hotline*. We have always been keen to keep abreast of technological developments. Innovating TeleHealth services to better meet our clients' requirements. Protecting people no matter where they are.

For 30 years, medical assistance via telephone has been at the heart of our operations. Technology has hugely enhanced this service. First with the advent of video calls and now with the latest diagnostic equipment. Allowing us to transmit a patient's vital signs from far away.

In this edition, we look at some real life examples of TeleHealth in action. From the oil fields of Iraq to vessels in the Arctic Circle. Remote healthcare is playing a vital role in employee health and wellbeing.

The benefits of TeleHealth are not limited to people in challenging places. Every day people fall ill whilst at sea or in the air. Our MedAire

service constantly communicates with on board crews. Helping them diagnose, deliver care, or decide if a diversion is needed. We also look ahead to 2016 and the Olympic Games in Brazil. Behind-the-scenes of our operations, again making use of the latest technologies.

Providing these services is, as ever, a team effort. Our on-site medics and Assistance Centre teams are supported by technologists, medical supply specialists, and many others. It is this end-to-end solution that sets us apart, and we thank you all.

A special thank you to DeepOcean for their kind contributions. Helping us bring to life the challenges that face all who work in extreme environments.

We hope you enjoy this edition. If you have any comments or questions do email us on: [hotline@internationalsos.com](mailto:hotline@internationalsos.com)

**Arnaud Vaissie**  
Co-Founder, Chairman and CEO

**Dr Pascal Rey-Herme**  
Co-Founder, Group Medical Director



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A worker adjusts a valve of an oil pipe as smoke rises from burning excess gas in Zubair oilfield in Basra



# BEHIND THE SCENES: MAJOR SPORTING EVENTS

The 2016 Olympic Games, to be held in Rio de Janeiro, are fast approaching. The world will be watching the triumphs and tribulations of each unfolding performance. Meanwhile, behind the scenes, an army of people will make it all happen.



**At International SOS preparations ahead of this next major event are already underway. Our role is to prepare organisations and their international travellers for this memorable experience.**

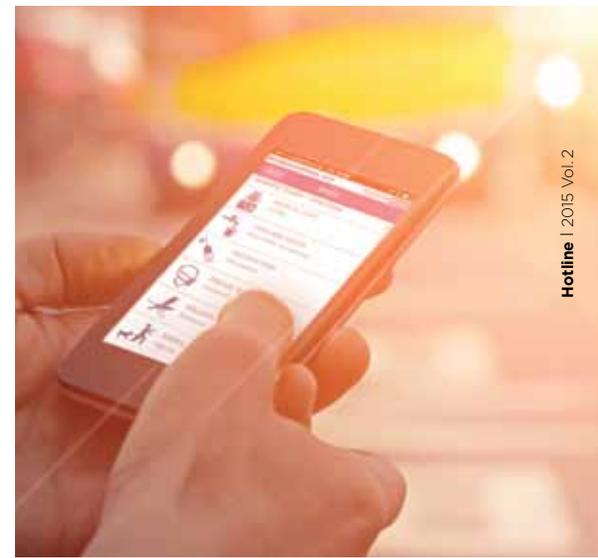
We have an extensive record in providing medical care and assistance seamlessly integrated with our security services at major sporting events. This is giving our members the ability to have a safe and healthy experience, whatever their involvement in the event.

International SOS has been closely involved in many past Olympic Games including Sydney 2000, Athens 2004, Beijing 2008 and London 2012. We were equally involved in the football Confederations Cup 2013 and the World Cup 2014. These were both held in Brazil, further adding to our local knowledge.

### **ANYTHING CAN HAPPEN**

Mike Reedy is Regional Security Manager, Americas, International SOS and Control Risks. He is already helping those clients attending the games develop risk mitigation strategies with the aim of ensuring the safety of all employees and guests.

Now is the intelligence gathering stage. Protests in Brazil are common yet many are wondering if these are likely in 2016. During the Confederations Cup, there was unrest as the protesters wanted to attract attention. In contrast, during the World Cup the protesters remained calm. They wanted to watch their national heroes and had no desire to disrupt the event. Some would say Brazilians may not



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#### **MAIN IMAGE:**

Football fans inside National Mane Garrincha Stadium for World Cup match, Brasilia, Federal District, Brazil

#### **ABOVE:**

International SOS Assistance App

be so keen on the Olympics and that could initiate a different scenario. We are keeping a close watch on social media, especially Twitter. The protesters, anti-government activists and the Government itself are all being carefully monitored.

Furthermore, Brazil is facing its worst drought in 80 years. If water is short, the protesters will be physically unable to protest. This is all taken into account to help clients identify various risks and scenarios.

Keeping clients updated will be another priority. During both football tournaments we reported on events quickly and tied advice to it to keep travellers and their organisations informed. We had people on the ground constantly monitoring the situation including social media. If unrest or any other significant incident occurred we quickly reported it. We advised what precautions to take and which streets to avoid.

As Mike Reedy concludes, *“Companies often presume that they will have easy access to assistance, should they need it. But that isn't always the case. They may only find basic information online, which isn't helpful in an emergency. Whereas we truly can help in a matter of minutes - thanks to our excellent teams in both Philadelphia and Rio.”*

## SPEEDY SOLUTIONS

During the Confederations Cup a senior level corporate client was walking to a match. He suddenly found himself in the middle of a violent protest. He called our Assistance Centre, and we were able to talk him to safety. The call was then handed over to a doctor to check his condition. Luckily he was just bruised and was able to go to the match. The matter had been fully resolved in a few minutes.

Of course, we prefer to prevent such events happening in the first place. We report these protests in our information updates. We advise clients to keep checking these and the local media. Our App is ideal for accessing this information quickly.



**ABOVE:**

Anti-government protests take over streets of Sao Paulo - Brazil

**ABOVE, FAR RIGHT:**

Philadelphia SOS Assistance Centre

## More About Us

**Control Risks** - Our joint venture partner is a global risk consultancy. It helps organisations manage political, integrity and security risks in complex and hostile environments.

**\*International Health Care (IHC)** - Our joint venture partner based in Rio, provides health, advisory and offshore health services.

## VIP SUPPORT

**Our VIP Membership Programme for 2016 includes:**

- Dedicated Local Hotline with medical and security experts on hand.
- Referrals to vetted medical, dental and other healthcare providers.
- Assistance navigating Brazilian healthcare system.
- 24/7 emergency assistance.
- Lost passport, document, legal and translation assistance.
- Cash advance and guarantees of payment to healthcare providers.
- Dynamic website with pre-travel advice and daily updates.

**If you would like to find out more about our VIP support and how your employees can easily access quality care through our on site medical assistance in hotels, please email: [VIPBrazil@internationalsos.com](mailto:VIPBrazil@internationalsos.com)**

## MATCH PROGRAMME? **CHECK.** REPLICIA SHIRT? **CHECK.** SUNSCREEN? **CHECK.** GETTING TO THE BEST HOSPITAL IN TOWN? **CHECK.**

Major events bring their share of illness, accidents and injury. There is also the increased risk of diseases spreading in crowded places. This can easily overburden the local healthcare system. Just getting an ambulance through large crowds and heavy traffic can be a problem. Language and cultural barriers often add to the stress in such situations.

During the World Cup we dealt with 26,000 calls over 57 days. Of these 8,826 were medical cases, of which 251 were medical evacuations. The vast majority of incidents occurred on match days. We are using all that experience to prepare for 2016.

On the ground assistance is key. We will be providing private on-site facilities, in the most popular hotels. Other hotels will have First Aid stations staffed by nurses, backed up by our clinics. Dr Ivan Drummond, CEO, International

Health Care (IHC\*), explains that our clients are closely involved in these plans. They too are suggesting changes based on past experience: "Some of our clients are now interested in combining resources. Instead of having a clinic or ground ambulances dedicated solely to them they want to share. This makes fiscal sense and we are working on it."

We are also looking at again placing Liaison Officers in the key hospitals. For the World Cup we had 48 Liaison Officers in 14 credentialed hospitals across the different locations. They provided 24/7 support (language and otherwise) for any of our members sent to the hospital. Liaison Officers wear badges and special shirts so they stand out. Each must be able to speak Portuguese and English; many speak other languages too. They act as ambassadors, help translate, explain what is happening and bridge any cultural gaps.

## DEFINING THE NEXT GENERATION OF ASSISTANCE

IHC already provides TeleHealth services to many offshore rigs. It is part of our global project to build a digital TeleHealth platform



## MAKING A DIFFERENCE

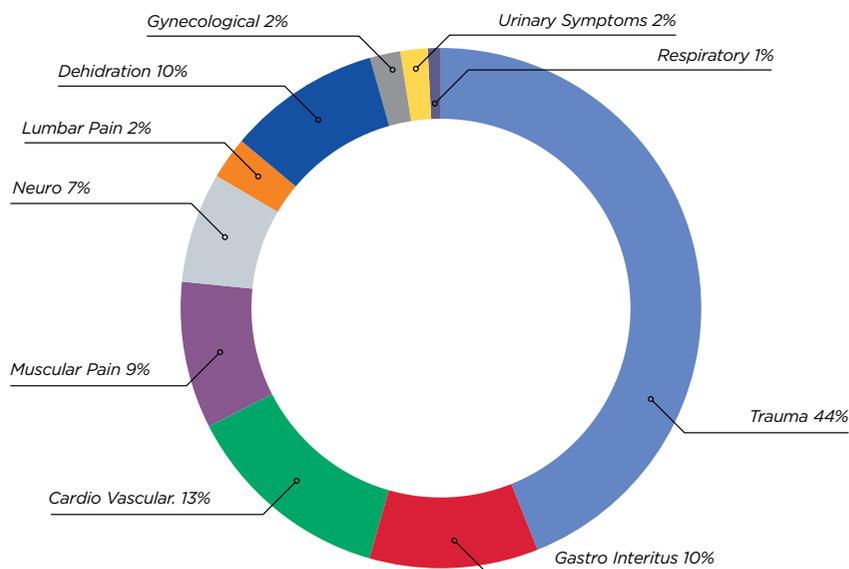
A VIP visitor attending a World Cup semi final had chest pains. The stadium staff, following their usual procedures, arranged to send him to the public hospital. A call was made to the Philadelphia Assistance Centre and his care changed quickly. The International SOS doctor sent him to a more qualified medical facility that had cardiac specialists on hand and spoke to the treating doctor about the member's treatment plan. The patient was given stents in his heart muscle and made a full recovery. Without that call the outcome might have been very different.

### Breakdown of number of cases during the 2014 World Cup



29% of cases happened on non-match days, 71% of cases happened on match days

### Medical evacuations during the 2014 World Cup: Total cases - 251



(see page 8). This will enable members to access assistance via phone, video and messaging. As Dr Drummond explains: "We want to provide a global medical solution. For example, we could use it to link up a Japanese patient in Rio with a Japanese doctor (in our Tokyo Assistance Centre). Being able to access foreign doctors in real time is something our clients are very interested in. Doing this via mobile phone is another advantage."

The Digital Platform is in the planning stages at the moment. The aim is to have it up and running ready for 2016.

Dr Robert Quigley, Regional Medical Director and Senior Vice President, Medical Assistance, Americas, sums up: "We are building on past experience and exploring some excellent new approaches. This includes the latest in tele-assistance, looking at the potential for client collaboration, and supplying even stronger on-the-ground support. The close alignment between our IHC and Philadelphia teams is paying off. Our extensive preparations for 2016 are well underway."

# SUPPORTING WORKERS OFFSHORE



The Arctic Circle is very rich in oil and gas deposits. Finding these resources is done by vessels carrying out seismic surveys. A number of vessels are currently conducting surveys under licence from the Greenland authorities.



The northern part of the Arctic is completely frozen between October and May. Survey vessels can only work in the summer months. Even then, the weather can be unpredictable. Mini icebergs can cause huge damage to survey vessels. One crew member is on permanent duty as an iceberg spotter.

As well as operating in extreme weather conditions, the work itself can be potentially hazardous. The work may require underwater cameras and heavy duty welding and cutting equipment. Cranes are

used for lifting this equipment and very stringent safety procedures are in place. But the potential for injury and accidents can never be fully eliminated. Hypothermia and exposure are ever-present problems too.

From time to time crew members will fall ill but healthcare is very difficult to access. Survey vessels are often more than two days away from the nearest port. Greenland is as large as Western Europe but its population is only 60,000. With an ice sheet covering the centre of the country, people live mainly on the coast. A 'port' could be a village

of a hundred people. Its public health infrastructure might be a civilian without formal medical training.

Organisations have to think carefully about how to care for employees in these circumstances. International SOS helps mitigate the risks of working in these locations.

## **ON-BOARD SOLUTIONS**

Work starts before the vessel even leaves port. We screen everyone before they go on-board to make sure they are fit to work.



### ALL-ROUND CARE

*Companies working in this area are highly conscious of the need to protect the environment. They follow strict procedures to avoid any possible contamination. They look out for local wildlife too. One crew member is on constant watch as a 'mammal spotter'. Their job is to look out for polar bears, dolphins, whales and other large mammals. Vessels stay well away from them and avoid lowering any equipment overboard in their vicinity. It is all about attention to detail.*



**DeepOcean** is an integrated provider of safe, high quality, innovative services and technologies for the subsea industry. Demonstrating an extensive track record, DeepOcean offers a breadth of subsea services including Survey and Seabed-mapping, Subsea Installation, Seabed Intervention, Inspection, Maintenance and Repair (IMR), and Decommissioning.



**LEFT:**  
Dr Jonathan O’Keeffe in the London Assistance Centre

**OPPOSITE PAGE, LEFT:**  
Upernavik settlement

**OPPOSITE PAGE, BELOW LEFT:**  
Polar Bear looking into boat window

Spotting underlying health issues helps employees and avoids complications later on. Our client, DeepOcean, is one of the leading survey companies in the area. It values these medicals highly as Geir Atle Våg, project Manager at DeepOcean, says: *“Pre-deployment medicals are certainly a good investment. They benefit our employees and reduce the operational risk. It’s good for health and brings potential savings.”*

We also carry out Extreme Remote Readiness Assessments. We check the vessel, and audit the sick bay, the medic and first aid team and all procedures. The right equipment and medications are put on board to treat a wide range of conditions. A patient with a serious head injury may need intubation and ventilation. We therefore check that at least two days’ supply of intensive care medication and oxygen is on board. *“We are basically setting up a mini intensive care unit. It requires a lot of planning and attention to detail,”* says Dr Jonathan O’Keeffe, International SOS Regional Medical Director, Northern Europe.

Having the right medical skills on-board is vital. There is no one-size-fits-all solution. We need to take account of the specific skill set and experience of the medic on board. This has to fit with the needs of the vessel and its location. Infectious disease control on board the vessel is also very important. An outbreak of norovirus on a vessel for example can decimate the crew and specialist teams.

DeepOcean adjusts its healthcare provision depending on how far offshore their vessels will be. As Geir Atle Våg explains: *“We normally have a medic on-board for any offshore operations. In remote locations we have introduced telemedicine and added a doctor to the medical team on-board. This helps assure the health and wellbeing of our employees in these locations.”*

## STAYING IN TOUCH

If an incident does occur, vessels can count on the latest technology for specialist support. Our team of specialists at the London Response Centre can be accessed by vessels

24/7. Video communications enable doctors to see how a patient is breathing, their colour and how they are moving. Or they can examine a rash to diagnose if it is eczema or measles. Measles is a contagious disease which can have a serious impact in remote locations.

Dr O’Keeffe enjoys the challenges of supporting these extreme locations and says, *“It’s very exciting to see the new solutions TeleHealth continues to bring. As the technology gets better, more and more data can be transmitted on low bandwidths. It gives us the opportunity to build a healthcare solution that optimises costs, meets HR requirements and maximises a client’s productivity.”*

Geir Atle Våg equally appreciates the benefits of these technologies. *“TeleHealth ensures that any expertise not available physically on the vessel can still be available. It can support the medical team on board in any given situation. TeleHealth equipment is moving towards being standard on offshore vessels.”*

## LOCAL KNOWLEDGE

The Response Centre, part of the Assistance Centre infrastructure, helps medics with immediate treatment and stabilisation. It also works behind the scenes when medical transportation is needed. It communicates with those onshore to prepare for the vessel’s arrival. In Greenland the patient might go to the Upernavik Hospital for treatment. More serious cases might be transported to Nuuk, Greenland’s capital and major airport. Onward transportation is arranged, to Copenhagen or another centre of medical excellence.

In practice, medical transportations are rare. In three years we have only had to carry out one. All other cases – around 100 of them – have been dealt with on-board. This not only helps the patient, it saves valuable local medical resources too.

Dr O’Keeffe concludes: *“Numbers of people working in remote locations are increasing,*

*not just in the oil and gas industry. Our offshore experience is very valuable for our work in other areas. The integration of staffing, supplies, TeleHealth and topside support is critical to our success. It’s a seamless integrated solution that reduces risk.”*

Geir Atle våg agrees: *“Being well prepared and having systems, expertise and equipment in place is a big help. Having an escalation procedure builds confidence and ensures that operations can be carried out in remote locations in a safe manner. Working with International SOS brings those benefits.”*

*“It’s very exciting to see the new solutions TeleHealth continues to bring. As the technology gets better, more and more data can be transmitted on low bandwidths. It gives us the opportunity to build a healthcare solution that optimises costs, meets HR requirements and maximises a client’s productivity.”*

**DR JONATHAN O’KEEFFE,**  
INTERNATIONAL SOS  
REGIONAL MEDICAL DIRECTOR,  
NORTHERN EUROPE

# TELEHEALTH

## USING TECHNOLOGICAL INNOVATION TO SUPPORT CLIENTS ANYWHERE IN THE WORLD

**A business traveller in an unfamiliar city might need a range of medical advice or help in accessing the local health service. A crew member on an oil rig might need emergency treatment. Today, globalisation and modern technology have dissolved traditional borders. More and more employees work in unfamiliar environments. Employers recognise they have a duty to provide assistance when needed.**

Providing assistance has been at the heart of International SOS' operations from the start. We set up our first Assistance Centres in Jakarta and Singapore thirty years ago. At that time the challenge was to install sufficient reliable phone lines. The phone was the chief communication channel between our members and Assistance Centres for many years. We were soon receiving many thousands of calls each year, especially as mobile phone use became widespread and global. Some simply asked for help in renewing a prescription or dealing with a minor ailment. Others could be seeking acute care in an emergency.

### ENHANCED COMMUNICATIONS

When we started assisting remote sites the phone was again at the centre of activities. With the advent of fax and email more comprehensive information could be transmitted. It became common to 'Store and Forward' X-rays or ECG traces, via email. Now on-site medics could share patient cases with colleagues in our onshore Response Centres.

The introduction of video was the next step. As International SOS' Simon Marshall, Senior Manager TeleHealth & Projects - Group Medical Assistance, explains: *"It has meant patients and medics in remote locations can have a visual interaction with our medical specialists onshore. The doctor can see the patient and assess the physical signs. This makes a substantive difference."* The video

and messaging system deployed became very popular. It is HIPAA compliant - thus protecting patient confidentiality - and runs on low bandwidth. Many of our medical professionals on clients' remote offshore sites are enabled to use it - from the Arctic to Australasia.

### ENHANCED DIAGNOSTICS

As the capability and coverage of satellite systems has grown globally, the connectivity and bandwidth has improved at our clients' sites. As our clients operate in increasingly remote environments, this creates a growing opportunity to deploy sophisticated TeleHealth solutions. This enables us to overcome geographical limitations with the quality and scope of diagnostics available on site.

Being able to see a patient is an advantage but it has its limitations. Doctors' diagnoses and treatment rely on being able to monitor the body's vital signs. The next innovation focus was a device to measure and dynamically stream these vital signs, including: Electrocardiogram (ECG), blood oxygen levels, blood pressure and more. This has been a major step for treatment capability in acute cases. In several extreme remote projects, we have gone a step further - providing digital X-ray systems to enhance diagnostic capability. From anywhere in the world - we can successfully transmit X-rays via satellite to specialist radiologists, allowing a specialist professional review of the images

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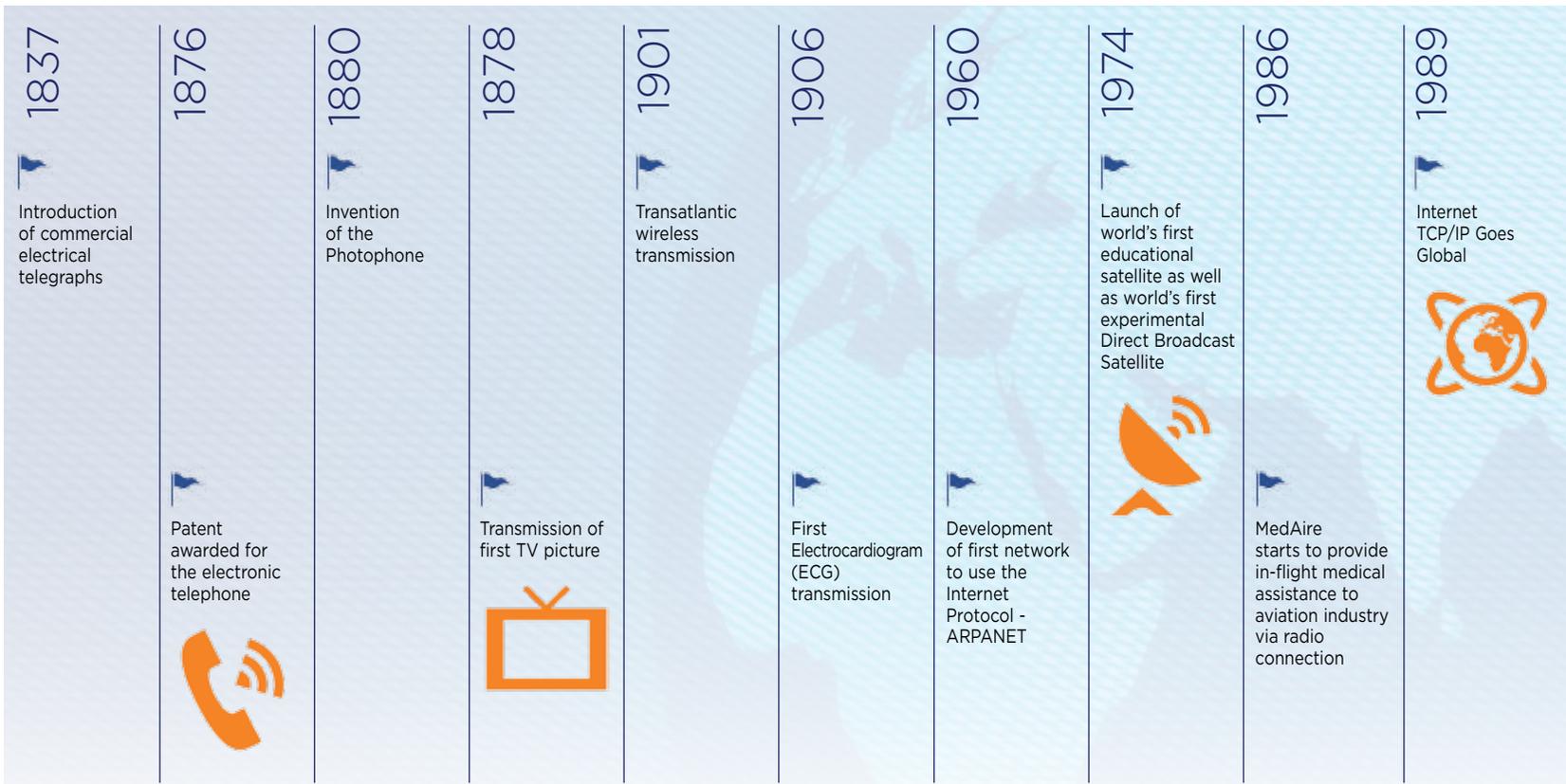
#### OPPOSITE PAGE:

Images from our global Assistance Centres



“It’s important to remember that any form of TeleHealth communication is only as good as the professional providing the medical input. The exceptional medical expertise that we have both in our Assistance Centres and on remote sites is fundamental.”

NEIL NERWICH - GROUP MEDICAL DIRECTOR, ASSISTANCE AT INTERNATIONALS SOS



## THE TELEHEALTH TIMELINE

within minutes. This rapid access has enabled informed diagnosis and treatment decisions despite being hours or even days away from the nearest hospital.

To enhance basic primary care cases, we have focused on deploying high definition medical cameras and peripheral devices. Onshore doctors can now examine a remote patient's throat, ears or eyes before recommending treatment.

Thanks to these advances, patients in remote locations receive enhanced and faster treatment. This can significantly impact the need for urgent medical transportation back to shore. Even if evacuation is required the patient receives optimal care while it is arranged. Plus, better information means the receiving medical team onshore can optimally prepare.

We currently have clients on more than 31 offshore sites using varying levels of advanced TeleHealth equipment.

TeleHealth has provided a great step forward in healthcare delivery, and as International SOS' Neil Nerwich, Group Medical Director - Assistance, points out: *"It's important to remember that any form of TeleHealth communication is only as good as the professional providing the medical input."*

*The exceptional medical expertise that we have both in our Assistance Centres and on remote sites is fundamental. Telemedical developments have enhanced access to this expertise and that is what differentiates our superior medical assistance services."*

### IN THE AIR AND OUT AT SEA

Crew members and passengers in airplanes and at sea also benefit from access to TeleHealth services. Again, communications technology has made all the difference. Ships and planes once relied on radio, now they have advanced satellite communications. Increased bandwidth means they too use more enhanced diagnostic equipment.

International SOS' MedAire emergency response service is provided by a team of emergency physicians based in Phoenix, Arizona. Our MedAire's MedLink doctors support patients - no matter how far from the nearest port or how high up in the air - using TeleHealth capabilities.

### THE DIGITAL TOPSIDE SUPPORT PLATFORM

Our new digital communications platform takes TeleHealth support to a new level. It integrates a variety of communication channels into a single solution, to improve the assistance received by remote sites. Remote site medics will be able to use video and messaging as well as the phone to communicate with our Response Centres. They will be able to securely submit patient files and upload images in advance of consultations. Information and advice will be exchanged instantly, creating fast and effective interaction.

Medics will be able to schedule live calls with Response Centre doctors at mutually convenient times. They will be able to transmit information in advance then discuss cases in real time. As many of our remote cases are not emergencies, this is a far more efficient system. Of course, communication by phone remains an option, especially in urgent scenarios.

The digital platform is currently being piloted in London, Johannesburg, Sydney and Rio.

1998



Our Beijing clinic launches our tele-radiology system for specialist 2nd opinion from Hong Kong

2000



First remote vital signs transmitted from aircraft to medical teams on the ground



2001



ISRO (India) Telemedicine Project

2003



First incident transmission of 12-lead ECG to MedAire



Telerobotic Remote Surgery Service

2008



Our Dalian clinic launches specialist teleconsultation system, with partners including the Mayo clinic and Cleveland clinic



Launch of next generation device for in-flight medical assistance, integrating voice, video and clinical data

2009



Advanced TeleHealth system for topside support deployed to offshore sites in Nigeria, linking to our Johannesburg Assistance Centre

2010



Five major airline fleets using advanced telemedicine equipment to transmit clinical data inflight to MedAire medical teams



2012



Expansion to advanced telemedicine solutions for extreme remote projects - including our sites located inside the Arctic Circle

2015



Over 30 of our remote and offshore sites using advanced telemedicine systems, plus widespread deployment across the aviation and yachting sectors



## What it Means

**TeleHealth** – using information and communication technologies to deliver healthcare services from a distance; increasingly this uses video and digital telemonitoring technologies. The term covers all health related communications between health professionals and / or patients. Certain devices are also used to monitor vital signs and transmit the results. This enhances diagnosis and decision making by doctors and specialists. (Such remote consultation between a doctor and an on-site medical professional, who is attending a patient, utilising these technologies is also referred to as TeleMedicine.)

**HIPAA Compliant** - The Health Insurance Portability and Accountability Act sets standards for protecting patient information. It covers how this information is stored and shared.

## THE WAY FORWARD

People increasingly want to use their smart phones and video to access healthcare. Being able to have virtual consultations with a doctor is growing in demand. It is expected that 18 million video consultations will take place, worldwide, in 2018.

We are already conducting a pilot at our Beijing clinic. Distance and traffic congestion mean patients can spend a lot of time just getting to the clinic. Offering the option of remote consultations is a popular initiative.

Our Assistance App is another highly useful tool and we continue to enhance it. As Philippe Arnaud, International SOS' Group Chief Commercial Officer, points out: "The Assistance App enables our members to call the closest Assistance Centres at the push of a button based on their location. Our vision is to give members a wider range of digital options to connect with an Assistance Centre, including via our Assistance App." These are exciting times and developments are happening fast. As new technologies emerge we will continue to integrate them. Dr Nerwich points out, "Rather than automatically adopting the latest technology in every situation we use our expertise and experience to assess a complex combination of factors and tailor the best workable

solutions for our clients." Our clients may have preferences about what hardware they want and bandwidth availability is a key factor too. We need to assess what can be realistically transmitted in real time. We also take into account where each site is situated.

We weigh up all this to recommend to clients the optimum level of care on-site. We provide the right combination of medical experience, diagnostic equipment and expert telemedical onshore support. Dr Nerwich sums up: "As well as being at the forefront of technology, we have a concrete understanding of all the elements involved in operating in each particular environment. It's all about effectiveness and expertise."

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**THIS PAGE:**

A worker adjusts a valve of an oil pipe as smoke rises from burning excess gas in Zubair oilfield in Basra



The Middle East is a place of high activity. It's very rich in oil and gas, and many other companies are involved in construction, developing infrastructure and servicing the working population. International SOS supports a number of clients in some of the remotest areas of the Middle East.

# MEETING THE NEEDS OF CLIENTS IN REMOTE ONSHORE ENVIRONMENTS

## AN EXTREMELY CHALLENGING ENVIRONMENT

Dr Marie Van Eck knows a lot about working in this part of the world. She previously worked for RMSI and is now International SOS' Medical Director for the Middle East. As Dr Van Eck explains, the working environment in Iraq is *"extreme in all senses."*

We have a presence at 61 different sites in Iraq. These sites are all onshore but they are highly challenging - and not just because of the on-going violence or extreme climate. A site may be only a few miles from a major city, yet it remains 'remote'. Getting to a clinic can be very difficult. Constant security threats mean everyone has to travel in convoys, ideally in armoured vehicles. Body armour and personal security are needed too. Wearing body armour in an ambulance makes it very difficult to tend to a patient. Patients therefore have to be stable before they can undertake any journey. The quality

of the roads is poor and there are frequent road blocks. It can take ages to get through check points and what should be a 30 minute journey can easily take three hours.

Dr Van Eck relies heavily on information and advice from her security colleagues. So far, no one in her team has been involved in any serious incidents. However, they are often subject to lock downs when no one can move off site for security reasons. She recalls a recent incident when she was visiting a client site in Amarah, north of Basrah. A fight between two local tribes erupted nearby and they were stuck for hours. Such conditions make it essential to have the right people and equipment on-site. They have to be fully prepared to care for patients for extended periods. Staff rotations have to be similarly flexible and there is no guarantee that medics can be moved when their rotation is over.



**LEFT:**  
International SOS ambulance on oilfield

**BELOW, LEFT:**  
The Tempus Pro device provides voice and video capability plus real time data feeds of vital signs, such as ECGs, and it can call up medical records.

**RIGHT:**  
Oil Boom in Iraqi Kurdistan

## More About Our Operations

**RMSI** - Our rapid deployment medical and rescue partner. RMSI specialises in working in extreme risk environments, including war zones.

Our **International SOS clinic** (formerly known as the Iraq Energy City (IEC) Clinic) in Basrah services the IEC oil and gas community. It was set up in 2011, is fully equipped with intensive care capabilities, and has been a great success.

A second, satellite clinic services the Basrah Industrial Community (**BIC**). This is another settlement of oil and gas communities, based in the North Rumaila Oil Field in Southern Iraq.



## BUSINESS AS USUAL

Our presence on-site differs according to the client's needs and location. It ranges from providing a paramedic and ambulance to a fully equipped clinic. Inevitably there is a heavy focus on primary healthcare: Coughs, colds, skin rashes, bruises, etc. Our oil industry clients are very safety conscious which minimises incidents and therefore traumas are thankfully a rarity. The biggest risk of injury comes from road traffic accidents. Road safety in Iraq is very poor indeed; "The Rules of the Road are seen as merely suggestions!"

Prevention is another part of our service. This too depends on individual client needs. Our occupational health clinic in downtown Basrah is supporting local nationals who are working for the Oil and Gas companies in their medical fitness for work examinations.



“Our TeleHealth solutions are not only a great way for a client to keep their workforce protected. They also optimise costs and maximise productivity.”

DR MARIE VAN ECK, INTERNATIONAL SOS MEDICAL DIRECTOR MIDDLE EAST

We also administer various ‘Fit for Work’ programmes and prevention projects on individual sites. These include health and hygiene inspections, water testing and disease management protocols.

### EMPOWERING CLIENTS

With advances in technology clients are increasingly looking for better solutions. One such solution is the Tempus Pro Transport monitor with integrated telemedicine. The devices on our sites are directly linked to our Assistance Centre in Dubai.

This is particularly helpful when the paramedic and patient are stuck on-site. As Dr Van Eck says, “At the flick of a button, an on-site medic can get immediate advice from a clinical physician or ICU nurse. Further escalation is available if needed too. Sometimes the best approach is to watch and wait rather than

*transport a patient. In this environment that’s an important option. It gives everyone peace of mind.”*

Even where clients have good bandwidth connectivity, this can rapidly become limited due to security issues. The low bandwidth of the Tempus Pro device is another advantage. Also, the platform is designed to be easy to add-to and upgrade in the field as required – for example point-of-injury ultrasound and video laryngoscopy were launched last year.

One of our clients is a keen advocate of the Tempus Pro Transport monitor with integrated telemedicine. In 2014 an in-depth review looked at the types of cases being referred to the International SOS clinic in Basrah. This data was used to determine the optimum level of medical support required on-site.

A paramedic and local physician with strong emergency care capability were retained on-site. The site was given a Tempus Pro device to access support from our clinic in Basrah. This resulted in a significantly improved service, making the best use of available resources and the client’s employees are now benefiting from this great technology.

In practice the Tempus Pro functionality is not required in all cases. But, as Dr Van Eck concludes: “It’s great to have this exciting technology available. From the client, to our local clinics in Iraq, to the Assistance Centre in Dubai, everyone is on the same page, physically seeing things in real time. It’s the best possible support we can give our staff, our clients and the patients. She also highlights, “Our TeleHealth solutions are not only a great way for a client to keep their workforce protected. They also optimise costs and maximise productivity.”

# IS THERE A DOCTOR ON BOARD?

Have you ever wondered what happens if someone is taken ill on a flight? This thought has probably crossed all our minds at some point whilst flying. It is an understandable concern. Each year many thousands of people need medical assistance during a flight.

The days of asking 'Is there a doctor on board?' are diminishing. Rather than leaving things to chance, airlines prefer to be fully prepared. It is a combination of crew being trained to effectively respond on-board and having ready access to qualified medical experts like the doctors that support MedAire's MedLink service.

Avoiding medical events in the first place is always our starting point. Most airlines train their ground staff and cabin crew to be observant during boarding. They aim to identify anyone who might be medically unfit to travel.

## IN-FLIGHT ADVISORY EXPERTISE AND TELEHEALTH

All in-flight calls from our client airlines are handled by the MedAire team. Dr Paulo Alves, Global Medical Director, Aviation Health, MedAire, explains: "There are two critical elements to call handling: The Communication Specialist and the doctor. They are both highly experienced professionals who work closely together."

The Communication Specialist handles the call initially. In the past, simply receiving a call could be difficult. Messages had to be patched through radio companies from the

aircraft radio. High Frequency radio tended to have a lot of static, making calls difficult to hear. That is much better now, but handling calls still requires skill. The phonetic alphabet (Alpha, Bravo, Charlie) is used to spell the often complex names of medications. There is also a lot of aviation terminology to grasp. MedAire Communication Specialists often come from an aviation background. As Dr Alves says, "They need to be able to understand the environment. They need to have well trained ears."

All MedLink doctors are part of a hospital emergency team. This is no coincidence, as Dr Alves explains. "Emergency doctors are ideally suited to the response centre task. They are used to dealing with total strangers. They have to make decisions with limited information, without the luxury of lots of tests. That is precisely what we do when dealing with in-flight situations."

When the initial information is passed on to the doctor from the Communication Specialist, the doctor then spends time talking to the crew about the passenger's condition and making recommendations for medical support. Whether or not to recommend a diversion is also considered. Depending on the communication system, the doctor speaks directly to the cabin crew or





## EFFECTIVE CREW TRAINING

Some medical events are unavoidable so crew members need to be prepared to respond swiftly and effectively. Civil Aviation Authorities require crew to be trained in First Aid and basic life support. Most airlines have their own training departments.

Each year for the past 30 years, MedAire's education department supports many major airlines, touching more than 200,000 crew members worldwide with Train-the-Trainer programmes and direct training.

As Richard Gomez, MedAire's Vice President, Aviation Education Products - Worldwide, puts it: "Our overall training mission is to instil confidence in crew members to manage all types of on-board medical events should they occur. We often hear from our students that our aviation focused skills based training prepared them for the realities of their job."

## DIVERSIONS - A DIFFICULT CALL

If a passenger or crew member becomes very ill or seriously injured, the necessity for a diversion is considered. Getting a patient to a hospital on the ground can be life-saving. But diversions can pose safety and logistical challenges that the airline may also need to consider.

In the case a diversion is considered, our doctor is evaluating the passenger's medical situation, the benefits of expedited medical care and the level of care available at possible diversion cities while the airline's pilots needs to consider the numerous other factors such as weather conditions, airport capabilities, and safety of flight.

As Dr Alves explains, "Many factors are discussed and we are also engaging with the airline's operational control centre. Sometimes the decision is obvious. Sometimes it's more complicated. We give our medical recommendation, but ultimately it is up to the pilot."

If a diversion is agreed, our response centre communicates with the destination emergency medical service. We communicate what we know about the passenger's medical situation so that all are prepared. This leaves the pilot free to organise the new route and everything else a diversion entails.

Dr Alves sums up: "There are three key components to dealing with these situations: On-the-ground expertise, on-board equipment and properly trained people. It's a three-pronged approach. That's what makes our response centres such a simple but effective solution."

## SHARING OUR EXPERIENCE

Over the last 30 years we have built up a huge body of knowledge and experience. We handled more than 36,000 in-flight cases in 2014 alone. That's around 100 in-flight calls a day.

We want to share this experience with the wider airline community. Dr Alves and his MedAire colleagues frequently speak at airline industry conferences. As he says: "There is no textbook on how to handle in-flight emergencies. It's vital to review every case and find out how to do things better. Regular meetings with our clients are also critical in our learning process. That is the only way to keep moving forward. And that is why we are keen to share our experiences, for the benefit of others."

relays information via the pilot. The doctor then recommends a plan of care and if needed, also advises the crew on using the on-board medical kit.

Some airlines also rely on TeleHealth support, using devices such as the Tempus IC. It uses satellite technology to transmit video images and medical information to doctors on the ground. This includes ECGs, blood sugar levels, blood oxygen levels, pulse rate, blood pressure and temperature. The Tempus IC device is specially designed for use by lay persons such as cabin crew.

MedAire recently assisted a passenger who had a heart attack in flight. The aircraft was equipped with a Tempus IC. The crew was able to transmit an ECG that helped the doctor make a precise recommendation which included diversion. The team then transmitted the ECG to the receiving hospital. This fast action ensured that the passenger received optimum care.

Several airlines are using the Tempus IC. As Dr Alves says, "They are the pioneers. In-flight TeleHealth is still relatively primitive in some ways, but they are getting there."



## More About Us

**MedAire** provides medical and travel safety services to aviation and maritime passengers and crew.

**MedLink** is MedAire's global Response Centre and manages calls from clients in the air and out at sea.

**ABOVE:**  
Tempus IC

**ABOVE LEFT:**  
Flight attendant training on Tempus IC

# A DAY IN THE LIFE OF...



“Offshore medics like Wallace are vital to the smooth running of many client operations. They are the lifeblood of our company.”

LAWRIE CAMPBELL - REGIONAL GENERAL MANAGER, NORTHERN SEAS



Wallace Bruce is a Registered Nurse with specialisms in coronary care, gastro intestinal care and acute assessments. He has spent the last seven years working as an International SOS offshore medic. He has experience of both, oil and gas platforms, and survey vessels. Wallace is currently stationed on an exploratory drilling platform - a jackup cyber rig. The rig is in the Central North Sea area, 157 miles from land.

*Hotline* spoke to Wallace about life and work on the rig.

**HL: Can you describe the conditions on the rig?**

Between November and March the conditions here are quite drastic. The temperature can drop as low as three degrees, the seas are rough and the wind is fierce. In the summer the temperature might reach the low 20's, but it is still rough. Today there are 50 knot gusts of wind outside and that is quite typical. It is an extreme environment to work in.

Just getting here can be a challenge. Everyone travels to and from the rig by helicopter. Flights can be delayed during bad weather. If there is a lot of static, the rotor blades can even trigger lightning. That can cause further delays while we wait for things to calm down.

It is hard for the crew to work in such harsh conditions. Many jobs also involve heavy machinery, bringing the added risk of accident and injury.

**HL: Tell us about your working day and what you do**

The main part of my job is looking after the well-being of everyone on board; that is between 90-110 people. Basically I treat any illness that comes my way. Plus I do a lot to prevent problems arising in the first place. On a rig you have a lot of people living in a small space. So one task is to stop the spread of infectious diseases.

There isn't really a typical day or even a typical offshore medic role. Each day is different and so is each placing. Some medics focus on putting safety procedures in place, others are more administrative. It depends on the environment, the equipment and current priorities.

**HL: Can you tell us more about work related injuries?**

The extreme environment and unusual equipment inevitably brings challenges. Although in this industry risks are kept to an absolute minimum. Over the years I have seen work related stress, back injuries, chemical dermatitis and other conditions. Also, hearing problems from excess noise, and hand vibration problems from power tools.

I have seen some strange injuries and it can be hard to visualise how they happened. So I spend time watching the crew to see exactly what their work involves. Understanding how injuries happen helps prevent them.

I carry out workplace assessments to understand every job from both a health and safety perspective. Occupational Health is a real priority in this industry. It is a big interest of mine too. In fact, I'm close to completing a degree in Occupational Health from Robert Gordon's University.

I have used my work experience in my studies. For example, I analysed what brought people to our Sick Bay. I found that, in 2014, the most

common complaint was muscular conditions. Then I worked with the crew to find safer ways of doing things. It was great. It helped my studies and improved safety on the rig.

**HL: Can you give some more examples of how you work to improve safety?**

Another of my responsibilities is carrying out safety inductions for new crew members. These used to be quite time consuming but I have captured the key messages in a DVD.

The industry continues to learn from experience. For example, following a Civil Aviation Authority review of helicopter safety, there are new rules on the size of oil workers travelling to and from offshore installations by helicopter.

Now, before boarding helicopters, every passenger is measured. Those with broad shoulders sit by the widest windows and exits. This maximises their ability to escape. Measuring passengers and check weighing their bags is another of my tasks.

We perform regular rescue drills too. Crew members from various departments take it in turns to practice casualty rescues. This teaches them some basic life support skills. We also discuss the 'what if' mentality in the event of a real emergency.

In addition, we carry out daily safety checks on our water supplies. We measure water pH, chlorine levels and conductivity at different points on the rig. And we regularly send samples ashore for more detailed analyses.

**HL: Isn't it a challenge to stay fit in the confined spaces of a rig?**

Yes, it is. That's something we have been focusing on with our 'Rig Run' competition. It is an idea I helped introduce. Rig Runs last six weeks. It involves cardio exercise in the gym: on the bikes, rowing machine and cross trainer. Each participant's times and distances are carefully recorded. This creates a competition between all the rigs in the area. We have held four Rig Runs in the last two years. They are a great way to get people active and everyone loves them.

**HL: What external support can you call on?**

I get lots of support from Topside. That is International SOS' specialist team of doctors and other experts. They really know what it is like to work in this industry and in remote areas. On this rig we are supported by the London Topside team.

I might call them to confirm prescribing an antibiotic, or discuss a treatment plan. I sometimes even get patients to talk direct to a doctor. It is very reassuring for the patient to hear the doctor's voice.

I sometimes send Topside photos of an injury or something else I want them to see. Depending on the bandwidth on a rig we offer

“Depending on the bandwidth on a rig we offer different TeleHealth solutions to meet H&S requirements. That means expert care at reduced costs for our clients.”

**WALLACE BRUCE, OFFSHORE MEDIC AND AUDITOR**



different TeleHealth solutions to meet H&S requirements. That means expert care at reduced costs for our clients. It all helps with the diagnosis and treatment.

Topside is key if we have to evacuate anyone. They focus on the logistics while I take care of the patient. Having to evacuate a patient can be quite stressful but thankfully it happens very rarely.

**HL: How would you sum up your job?**

I love my job. Especially the autonomy and the travel to unusual places. No two days are the same. It is challenging, but I am always learning and that is really important to me.

**OPPOSITE PAGE, TOP:**  
Oil rig in the North Sea

**OPPOSITE PAGE, BELOW:**  
Wallace Bruce teaching CPR first Aid training

**ABOVE:**  
Wallace Bruce on the rig

# PROTECTING YOUR PEOPLE IS OUR PRIORITY

**International SOS is the world's leading medical and travel security risk services company. We care for clients across the globe, from more than 850 locations in 92 countries.**

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