



Bringing Decisions to Life



providing real time response  
and management for pandemics,  
bio-threats, natural disasters and  
large scale emergencies

IntefleCS™

# Health Watch

# introducing IntefleCS™ - intelligent and flexible software systems, designed for clinicians by clinicians

Clinical Solutions are creators of intelligent and flexible clinical encounter and medical software solutions. Our ground-breaking NHS Direct software benefits over 50 million people in England and is the largest telephone triage system in the world. Our products support public and private healthcare providers across the UK, Europe, the USA, Australia and New Zealand. We have never rested on our laurels but constantly improve the service we provide, by working closely with our customers to develop software that works in the real world.



**IntefleCS™** is the underlying core software that all CS products are derived from, software that changes the way clinicians and patients access health and social care services.

**IntefleCS™ Telephone Triage**

Quick, safe and consistent outcomes for telephony based clinical assessments.

**IntefleCS™ Face to Face**

Simple, safe and precise assessment and consultation for face to face clinical environments.

**IntefleCS™ Long Term Conditions Management**

A patient centric solution for managing patients with long term medical conditions.

**IntefleCS™ Out of Hours**

Simple, safe and precise assessment and consultation for out of hours triage and the service dispatch market.

**IntefleCS™ Knowledge Management**

A knowledge management application for the storage and retrieval of information and data.

**IntefleCS™ Health Watch**

A web-based dynamic triage tool to deal with pandemics, bio-threats and large scale emergencies.

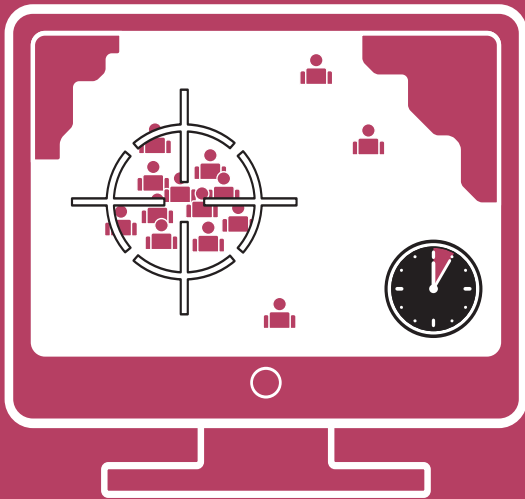
**IntefleCS™ Web Solutions**

Web solutions that allow patients to self assess via a web-based triage and information portal.



## Health Watch

Providing real time response and management for pandemics, bio-threats, natural disasters and large scale emergencies



early detection and identification  
leads to faster containment  
and treatment

## Our solution provides for the early detection and containment of an epidemic or pandemic

### Threats and challenges to health security

#### Pandemic influenza and other emerging epidemic diseases

- Epidemics associated with emerging and re-emerging infectious diseases are now occurring in historically unprecedented numbers
- Since 2001, the World Health Organization (WHO) has verified more than 1,100 epidemics of international importance
- Scientific journals predict that around 20% of the total world population will fall ill during the next influenza pandemic and as many as 28 million people may need hospital care over a relatively short period
- WHO has estimated that up to 7.4 million deaths would occur
- The World Bank has estimated that a pandemic could cost the world economy between \$800 billion and \$2 trillion

#### Natural disasters and emergencies on the increase

- Natural and man-made disasters cause severe human suffering, great loss of life and substantial financial loss
- Since 1990, the Emergency Disasters Data Base has recorded 1,483 events in the WHO European Region, affecting over 42 million people, causing 98,119 deaths and estimated losses of over \$168 billion
- Evidence suggests that climate change is triggering a rise in the frequency and severity of natural disasters
- Since 1990 over 600 major industrial or technological accidents have been reported in the European Region with the loss of almost 17,000 lives
- Unforeseen threats such as terrorist attacks and bio-terrorism are also increasing

**“An influenza pandemic is a unique event. I know of no other health emergency that can spread to every corner of the globe within a few months. Once a fully transmissible pandemic virus emerges, its international spread is considered unstoppable.”** Dr Margaret Chan, Director-General World Healthcare Organization

### Clinical Solutions real time bio surveillance

#### Taking control, containing the threats, minimising the risks

How do you cope with millions of extra patient encounters at a time when clinicians are already dealing with winter pressures? In an emergency situation traditional access to healthcare is not always an option. It can be slow, laborious and often cannot cope with the surge in demand. Also decision makers require information to help monitor and manage the situation and assess healthcare resources in a fast and timely manner within a confidential, secure framework. It was with this in mind that Clinical Solutions developed its telephony and web based, real time, bio surveillance solution based on its **IntefleCS™** application platform.

Already adopted as part of the UK governments contingency plans. Our solution provides for the early detection and containment of an epidemic or pandemic and for the effective means of managing medical resources following an outbreak of disease, or after a large scale emergency. It provides the public with access to immediate clinical expertise allocation of medicines and facilitates the collection and analysis of vital information empowering decision makers to help contain the situation and minimise risk.

**Empowering decision makers and healthcare professionals in emergency situations.**



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### Preparedness is key

The benefits of our solution are real and proven and can provide a vital component in the provision of regional, national and international health emergency strategies.

**The world now has the advantage of advanced warning that a pandemic may be near and this advantage must be fully exploited to enhance global preparedness.**

### The benefits of working with Clinical Solutions...

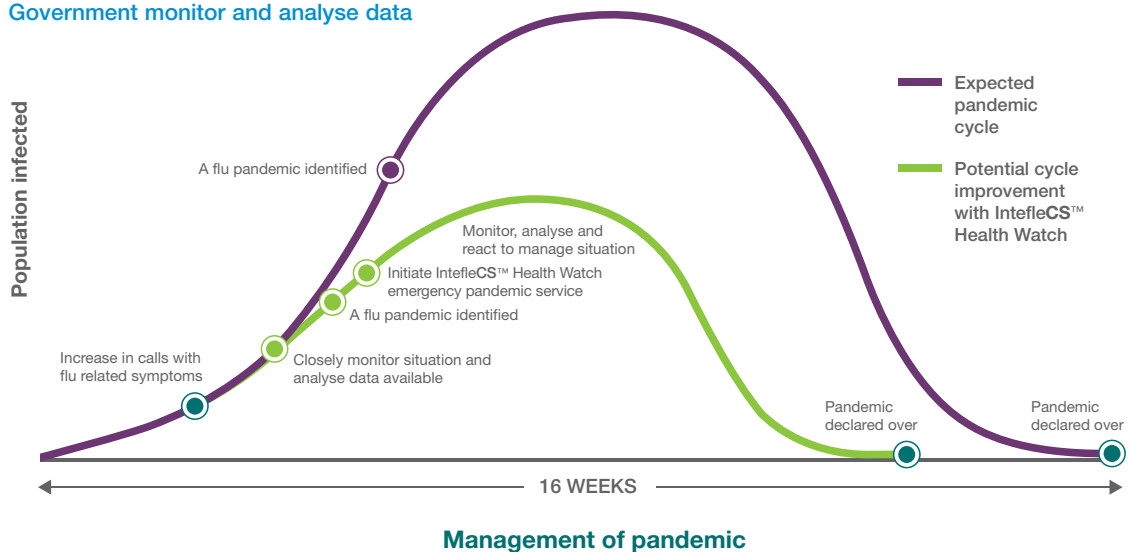
#### Command & Control Centre

When a pandemic or emergency situation strikes, governments need to know that they have full control of the crisis as it progresses. By utilising IntefleCS™ Health Watch it means that a control and command centre can be established to monitor the situation in real time with the facility to change and update, within minutes, the instructions given out by websites and thousands of call operators that communicate with patients. Data can also be fed to other agencies ensuring responses are coordinated and effective.

### Fast and responsive

IntefleCS™ Health Watch provides a tool for quickly and effectively analysing the spread of symptoms and risks and as a means for communicating health advice to those affected or who believe they are. The need for fast deployment to react to patient demand is essential so the system has been designed to enable those responsible for managing the situation to speedily respond to incidents in real time. This includes revising mandatory information required and giving advice or conducting interventions meaning that call operators both clinical and non-clinical can be activated quickly to deal with a large number of calls. Coupled with Clinical Solutions' e-learning, thousands of call operators can be trained to use the system within hours.

### Government monitor and analyse data



## The need for fast deployment to react to patient demand is essential

### Proven clinical content lowers risk

Our solution is built on our algorithm based modules called Teleguides™ which are all clinically validated and fully adapted to reflect best practice. Already proven in large scale implementations, the success in these environments demonstrates its ability to identify symptoms and direct patients to the best level of care which results in a better quality and consistency in patient outcomes. This promotes confidence in all clinical encounters, minimises risk and reduces medical errors.

### Consistency and effective communication

As the system offers advice to those who are at risk during an emergency situation or pandemic, it becomes a vital component of the communications strategy to the general public, the press, service operators, healthcare professionals and the decision makers. Because of this consistency in communication it promotes a confidence in that everything that can be done is being done. This increases patient satisfaction and enables those in authority to monitor and manage the situation to help minimise the risk of panic and lessen the risks of spread of an infection. The multi-channel system also makes access, reporting and sharing of information easy, helping to detect outbreaks earlier leading to faster containment and treatments.

### Peace of mind for the public

By facilitating rapid access to medical assessment and advice our system helps to provide re-assurance and peace of mind to the public. It not only allows patients to seek help in a convenient way, face to face or remotely, but by consistently and effectively referring them to healthcare most appropriate to their situation it can alleviate distress and build confidence.

### Effective support for call operators

When pandemics occur, health workers at the sharp end are put under incredible pressure. By keeping things simple, our intuitive system helps them to cope with the situation. With its ease of deployment and minimal training requirements it ensures that they remain thoroughly informed so that they can give the appropriate advice at any stage of an emergency.

### Managing resources and saving costs

By effectively introducing electronic systems to capture appropriate data, IntefleCS™ Health Watch can reduce the overuse of the wrong health facilities, and improve the management of scarce resources. It can also assist with the preparations for pandemics by providing tools that help with their early identification and containment. By establishing appropriate referral points for patients and assisting with the coordination of services, the system can save money by helping to ensure that resources are used where and when they are most needed. As the system is highly intuitive it reduces the need for intensive training therefore lowering start up times and costs.

### Accessibility of information and ease of use

By providing the medical community with access to consistent information IntefleCS™ Health Watch helps them in supporting their patients. The system has been designed by clinicians in consultation with customers so it is written in a clear, easily understood language. The use of the web interface also ensures effective knowledge-sharing, increases awareness among clinicians and reduces the costs associated with duplication of effort. It means that the system can be accessed from any geographic location where there is access to the internet.

### Flexible, scalable and secure

Based on highly accessible technology the inherent flexibility of the system enables customisation to respond to pandemic outbreaks and emergencies of varying types and severity. It can also be extended to integrate with our other solutions to provide enhanced bio-surveillance capabilities. It provides a very scalable, robust, secure and reliable framework capable of multi-language support for clinical processes, and interworking with other healthcare systems.



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IntefleCS™ Health Watch assists the co-ordination of services between different government departments

## IntefleCS™ Health Watch - making possible accurate, timely assessments and the management of healthcare resources

By incorporating experienced scripted clinical advice and pathways through a series of concise and comprehensive algorithms, IntefleCS™ Health Watch helps clinicians and non-clinicians steer their way through the complex healthcare delivery process of a pandemic or emergency situation. It enables them to deal with patient encounters and determine the most appropriate action ensuring the patient is directed to the most appropriate level of care. With its web based platform the system can be operated and updated in real time by multiple users at disparate locations.

As our solution has been designed to aid the recording and management of pandemics and emergency response situations, it can be used by national call centres and emergency pandemic services utilising thousands of support staff. Similarly it can be utilised by local government planning departments or health protection agencies that have responsibility for preparing and planning responses to cope with such situations as infection, floods, industrial accidents or terrorist threats. It also enables the quick deployment of helplines, delivers a consistent approach to collecting information for decision making and prioritisation of resource allocation and provides advice and educational material to the public as well as instructions to support staff and other relevant agencies. Also to help reduce the impact on call centre resources, our solution incorporates self help assessment tools that enable patients to obtain information and advice either via the web or DiTV.

**“In instances of a pandemic or emergency situation, governments and local agencies need to be able to act immediately and provide the right resources at the right time to help contain and minimise the levels of risks to affected populations. Preparation is everything - having the tools to react quickly and effectively to these situations can make the difference between life and death”** Dr. Dennis McShane, creator of the Teleguide™ Algorithms

### At a glance - IntefleCS™ Health Watch:

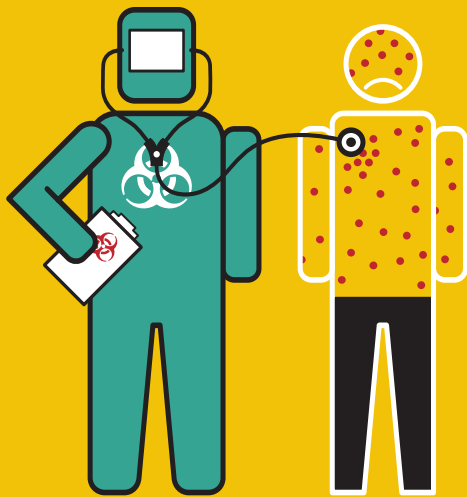
- Provides real time reporting and analysis of symptoms to assist with early detection and identification of when and where a disease outbreak occurs
- Supports the containment of an outbreak, limiting the geographical spread of an infectious disease
- Sustains the effective use of vaccines and antivirals and the cost effective allocation of limited medication
- Steers patients and clinicians through the complex healthcare delivery process, ensuring that patients are assessed, informed and referred to the most appropriate level of care
- Delivers broad access via multi-media channels to support a coordinated regional, national and international approach
- Provides effective patient pathways and guides healthcare professionals through a series of symptom based questions to ensure patient encounters are handled swiftly and appropriately
- Allows fast accessibility to the system by users from any location ensuring full utilisation of available staff
- Delivers a flexible system set up to meet the varying needs of stakeholders and allows for system customisation depending on the severity of and outbreak or emergency situation.

**“Our solution goes a long way to ease the stress associated with uncertainty for service providers and patients alike. Our approach of collecting consistent data sets from the general population and providing consistent advice and interventions reduces a lot of uncertainty and rumours that can be generated in information voids”** Dr. Dennis McShane, creator of the Teleguide™ Algorithms



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IntefleCS™ Health Watch  
software reduces exposure  
of staff to infections

## IntefleCS™ Health Watch - playing a vital role in national planning, surveillance and response strategies

As the threats are real and the risks are so serious governments around the world are investing time, resources and funding into planning and preparing for pandemic and other emergency situations. Preparation is essential not only because of the risk to health but because of the impact upon a society's infrastructure. WHO has issued a series of recommended strategic actions for such situations which includes the Global Outbreak Alert and Response Network and the revised International Health regulations (IHR 2005) which provide a global framework to address these needs through a collective approach to the prevention, detection, and timely response to any public health emergency. It is in response to these demands that Clinical Solutions has developed its real time IntefleCS™ Health Watch solution.

**“WHO has advised and supported all countries to develop pandemic and emergency preparedness. The world requires a global system that can rapidly identify and contain public health emergencies and reduce unneeded panic and disruption.”** Epidemic and Pandemic Alert and Response, May 2006, World Health Organization

### Managing pandemics and emergency situations - the proof...

Today IntefleCS™ Health Watch has demonstrated its value as it is already playing a role in Government initiated national exercises to help with their preparedness in planning for pandemic outbreaks and national emergencies. Already adopted by the Department of Health in the UK in 2008, our solution is a key component to deliver a multi-channel National Pandemic Flu Line Service to the 60 million population. The service will provide rapid web and telephony based assessment, direction of care, advice, guidance and, where appropriate, authorisation of antiviral medicine treatment to the general public. IntefleCS™ Health Watch was originally piloted in 2006 in Exercise Cumpston, Australia's largest ever health simulation exercise. Conducted by the Australian Government Department of Health, the aim was to assess the effectiveness of Australia's planning, surveillance and response capability for a pandemic involving human to human transmission of an infectious virus.

### Exercise Cumpston 06

In 2006, Australia's health and emergency services participated in the largest health exercise in order to test its planned preparations in the event of a pandemic influenza outbreak. The project simulated the arrival of an international flight carrying sick passengers, the emergence of the pandemic in the community and the trial of the health system's capacity to contain and manage a pandemic. The simulation involved 1,500 participants and control staff from a range of government and non-government agencies and their private sector partners.

IntefleCS™ Health Watch was used to power the exercise and determine if a person had been infected, exposed or was simply concerned, and then directed them to the most appropriate point of care. From the data collected patterns could be determined of virus origination and spread.

The exercise has provided a significant test of many response elements contained in the new version of the Australian Health Management Plan for Pandemic Influenza and state and territory pandemic response plans.

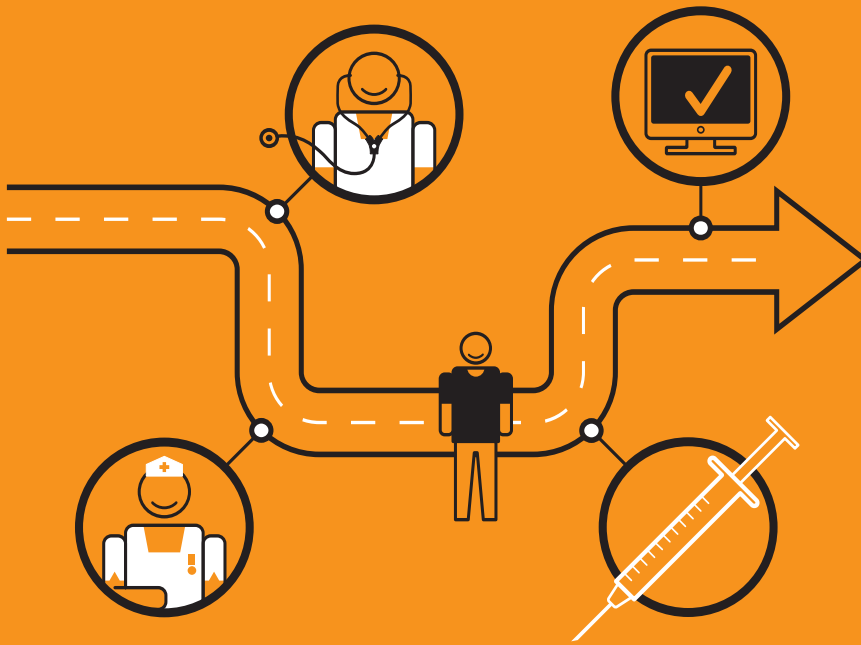
**“The approach used provides a valuable model for future exercises of a similar scale. Australia is better prepared than ever to respond effectively to a pandemic, whether it is a human form of the bird flu virus H5N1, a new influenza strain or other major infectious disease outbreak. The outcomes have also been invaluable in improving Australia's preparation for a range of other large-scale health emergencies.”** Australian Government Department of Health and Ageing

**Investment in strong national alert and response systems is vital for global health security.**



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successfully steers patients  
and clinicians through the complex  
healthcare delivery process

## The underlying framework to our software has been developed using our IntefleCS™ platform

### Our solutions

Clinical Solutions has developed a suite of software applications that provide healthcare organisations with the ability to improve the accessibility of healthcare support and advice to patients. The underlying framework to our software has been developed using our IntefleCS™ platform which provides specialist content and assessment processes using flexible rules-based and algorithm driven models. These offer advanced decision support in either a telephony, web or in-person environment. Recognised as a market leading solution IntefleCS™ is now providing the platform for Clinical Solutions to deliver a range of flexible scalable solutions for the world's healthcare markets

### Lasting technology - agile, scalable, manageable, secure

Based on Microsoft technologies, our solutions ensure the necessary levels of agility, enterprise scalability, manageability and reliability. As the application is built on a Microsoft.NET platform with a flexible, modular framework, this makes it adaptable to suit an organisation's needs, regardless of size or focus. Also being based on Microsoft and SQL technology the application is intuitive, user-friendly, inherently stable and will integrate with existing software applications. This adaptability ensures that the application can be configured to conform to compliance standards and regulations that are relevant within each country where healthcare organisations are based.

### System features include:

- Flexible, multi-lingual and expandable industry standard architecture
- Quick-Access searchable resource directory - utilising our integrated knowledge management system
- Capture of patient's past medical history
- Fully customisable reports
- Flexible centralised queuing - set up to reflect the organisation's workflow
- Unified messaging using Microsoft BizTalk technology - to integrate with other critical medical systems
- Robust failover function



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strong support gives assurance  
of minimal risk and predictable  
outcomes

We take, on average, **less than 10 seconds to answer a call** and help our customers maintain 99.97% availability.

#### Our extensive support offering and service delivery

At Clinical Solutions we are able to provide total support for all our customers. It begins with our account managers and extends right through to our ongoing around the clock maintenance of our solutions. We support our customers by:

- Managing the project from start to finish
- Delivering and configuring the software and hardware needed to run the system
- Managing and configuring the users' desktop hardware with relevant applications such as Microsoft Office, Internet Explorer and Microsoft Exchange
- Training all users in line with your specific requirements and their roles including e-learning programmes
- Protecting your security
- Ensuring confidentiality of patient information
- Providing on-site assistance and a 24/7 helpline

Our helpdesk support services are available 24 hours a day, seven days a week. We take, on average, less than 10 seconds to answer a call and help our customers maintain 99.97% availability.

#### Our Services

At Clinical Solutions we are proud to offer a range of other services to suit the needs of all our customers. These include:

**Managed services** - In order to give our customers the freedom to focus on their operations, we've developed a full suite of managed services which includes delivering and managing all hardware and software required for full operation of our solutions with 24/7 support.

**Consultancy** - We provide clinical, business process and project management consultancy so that we can recommend the best solution to suit your needs. Our experienced consultants and account managers can guide you from concept through to implementation and ongoing evolution of your system.

**Training** - Our highly skilled trainers, both clinicians and non-clinicians, have developed training programmes to guide users through every aspect of our applications. Through our unique combination of hands-on training, e-learning and role plays, users quickly become highly skilled in the use of the Clinical Solutions applications.

**Support services** - Our service centre provides support 24/7, 365 days a year. It is operated by highly trained and qualified professionals who can deal with complex and in-depth issues quickly and efficiently. The centre provides help desk support, second line support, hotline technical support and design support.

**If you want to be prepared for a major health incident like a pandemic or other emergency situations such as natural disasters or terrorist attacks then speak to us.**



**Microsoft**  
GOLD CERTIFIED  
Partner



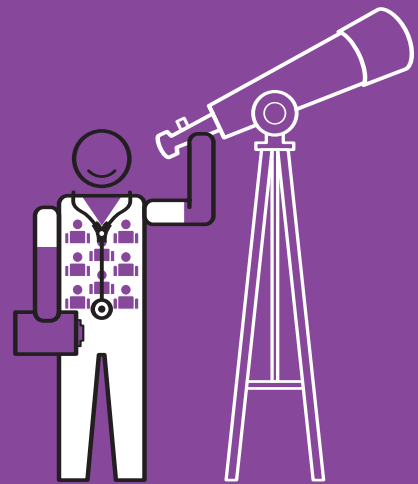
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## Delivering better healthcare, for a better future

We are seeing a revolution in healthcare and we intend to be at the forefront. We want to put our solutions at the heart of healthcare reform. Change is momentous at the frontline of healthcare delivery and our solutions can support that change.

To find out more or to obtain  
a free consultation talk to one  
of our Business Managers on:

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or visit [www.csdss.com](http://www.csdss.com)



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