

Content to consent

The efficiency of production of medico-legal documents by a specialist healthcare information provider has been dramatically enhanced by Miramo® and Interlagos's Advanced Publishing System.

In an increasingly litigious environment, informed consent is a critical plank in healthcare providers' risk management strategy in both the public and private sectors around the world. In the event of an adverse or unforeseen outcome, a verbal description from surgeon to patient of a proposed treatment or procedure and its associated risks and side-effects is not likely to be sufficient from either party's perspective. Since the establishment of the NHS Litigation Authority's Risk Management program in 1999 and the 2002 implementation of the Care Standards Act of 2000, it has been mandatory within the UK for written information to be given to back up informed consent.

It was to provide high quality written information to support the consent process that EIDO Healthcare was established in

"APS and Miramo have delivered a step-change in our capabilities, helping us grow the business and service our customer base much more efficiently."

2000. Viewing informed consent as a process rather than just a signature on a piece of paper, EIDO recognizes that patients need to be properly informed so that they can actively participate in the decision-making process, while clinicians need support to provide timely and comprehensive information to their patients.

Supporting the consent process

The centerpiece of EIDO's Comprehensive Consent range of tools is INFOrm4U, a library of treatment-specific patient information documents describing a wide range of surgical procedures and their attendant risks. These documents improve the doctor-patient

relationship, reduce the risk of litigation, and increase patient satisfaction.

Each of these documents goes through a rigorous development process that typically takes three months or more, from initial drafts by contracted surgeons and specialists through referencing and review by an editorial board, and approval by the relevant specialist colleges and associations.

In the early days of the company, EIDO produced these documents in-house, using Microsoft Word and Adobe Acrobat Distiller to create PDF versions that could be emailed or placed on its Download Center website. EIDO director Owain Tudor explains the choice of PDF thus:

"Information presentation is very important in these documents—illustrations and diagrams have to be in the right place relative to the text. We can't send out a document that prints differently on one printer compared to another. PDF preserves layout exactly, is known and understood within the NHS, and is both simple and reliable to use."

Production bottleneck

Although the attributes of the finished PDF files met the requirements of both EIDO and its customers within the UK's National Health Service and the private sector, producing them soon became a bottleneck. Rapid uptake in 2002 of the initial suite of around 25 documents—covering common operations such as hip and knee replacements and varicose vein removal—led to a fast-growing demand for more documents.

As a result, EIDO contracted out the document layout and PDF preparation process to an external supplier, which enabled another phase of growth in the INFOrm4U product range, but again, a production capacity ceiling was reached. At this point, EIDO looked again for solutions that could provide the level of layout control

PROFILE

EIDO Healthcare

Established in 2000, EIDO Healthcare provides high quality medical information to support the informed consent process in both public and private healthcare sectors. Document preparation involves a rigorous and time-consuming process of authoring and review prior to finished documents being made available to customers in PDF.

Interlagos developed and implemented a database-driven automated publishing solution based on Miramo. This provides rapid, consistent and accurate production of the PDF documents from approved text and image content.

By removing production bottlenecks, Interlagos APS and Miramo have allowed EIDO to expand its document range and meet growing customer demands.

required, but with automated PDF production of finished documents in-house, not just for throughput reasons but also to maintain accuracy.

"We needed a database-driven system to ensure that our carefully prepared and vetted material would be used correctly while meeting our intricate customization requirements," explains Tudor. "Any of our documents could be used in a number of countries, so the details for 'further information' would need to change accordingly, for example. There are also differences in both medical terminology and colloquial usage that we have to reflect."

Developed through the summer of 2007 and fully operational in October of that year, the Interlagos APS and Miramo installation provides database-driven automated document composition using a variety of templates. The system combines approved text elements with carefully-selected images, either created in-house or sourced from specialist medical illustration suppliers, and generates output to PDF. One of the customization options that Interlagos built into the system is the ability to add EIDO's customers' logos to the finished document, in order to provide continuity in branding and presentation.

Once the source material is in place within the Interlagos-developed database, it is simply a case of selecting the appropriate document type and template and clicking the 'publish' button. The finished PDF is available to view in a matter of seconds and can then be placed in the appropriate section of EIDO's Download Center website.

There are now some 30,000 documents in the INFOrm4U library, licensed to around 450 hospitals, representing about half the NHS, most UK private hospitals, and hospitals in Australia, Indonesia and South Africa. Demand for the documents typically runs at some 400 downloads a day, totalling between 10,000 and 12,000 downloads per month. Some customers print documents on demand, while others batch print frequently-used forms such as those for general anaesthetic, using commercial print services.

Annual update

As medical knowledge advances and new drugs and procedures are developed, best practice changes, so EIDO has made it a key policy to review, update and republish its entire document library each year.

"The documents change significantly each year, it's surprising how much," says Tudor. "We have 45 surgeons contracted to us and we have to allow time for them to review material and feed back to us as they're busy people. The Interlagos system helps us by being very quick at the customer file creation stage, it's just a case of pushing the button once the content is agreed. And because it's database-driven, it's totally accurate as there is no opportunity for human error."


R01 Intra-Arterial Angiogram

What is an intra-arterial angiogram?
An intra-arterial angiogram is a procedure to look for any problems with your arteries (blood vessels) using a special dye and x-rays. It is performed by a radiologist (doctor who specialises in x-rays and scans).

Your doctor has recommended an intra-arterial angiogram. However, it is your decision to go ahead with the procedure or not. This document will give you information about the benefits and risks to help you make an informed decision.

If you have any questions that this document does not answer, you should ask your doctor or any member of the healthcare team.

Why do I need an intra-arterial angiogram?
Your doctor is concerned that there may be a problem with the flow of blood around your body. An intra-arterial angiogram will give a detailed picture (like a road map) of your arteries (see figure 1). It is a good way of finding out if there is a problem or not. If the radiologist finds a problem, a member of the healthcare team will discuss the appropriate treatment with you. If the intra-arterial angiogram is normal, you will be reassured. Sometimes other procedures can be carried out at the same time to treat your symptoms (such as inflating a balloon in an artery to unblock it).



A small tube is shown inserted into the femoral artery in your groin.

Figure 1
An angiogram shows where there is a problem with the arteries.

Are there any alternatives to an intra-arterial angiogram?
A Doppler ultrasound (or Duplex scan) can help the doctor to find out if there is a problem. However, it is not as detailed as an intra-arterial angiogram. An MRA (magnetic resonance angiography) and CTA (CT angiography) also give pictures that are similar to a normal intra-arterial angiogram. However, in some people the pictures are not as detailed.

What will happen if I decide not to have the procedure?
Your doctor may not be able to treat your problem and improve your symptoms.

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Ongoing enhancement

Ongoing support and system refinement by Interlagos have been as important to EIDO as initial specification and installation. A range of modifications and enhancements have been made to the publishing system since its inception in late 2007. These have included development and installation of a 'lite' version for documents which contain briefer information, and templates for documents to be used in Australia. An HTML output option was also added to enable easy publishing of a master set of files to be used as the basis for the next year's update; from these, RTF versions can be created for customers who use the content to print bespoke booklets in their house style.

Multi-lingual capabilities are also an important addition to the system. This has been implemented more to meet the requirement for multiple languages within the UK market than for overseas use, but the technology is the same, allowing bilingual Welsh and English documents to be produced.

"We see the additional language support as a 'soft' benefit that will enhance our ongoing relationship with our customers," explains Tudor, adding, "there's a growing pressure for additional languages so we are initially preparing around 20 documents relating to common procedures.

"We've been very pleased with the level of service and responsiveness from Interlagos," he sums up. "APS and Miramo have delivered a step-change in our capabilities."

APS and Miramo control document layout so that diagrams and illustrations are automatically placed next to the appropriate part of the accompanying text.

Miramo[®]

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