

### A Focus on Patient Safety

#### MASSACHUSETTS GENERAL HOSPITAL, MASSACHUSETTS, USA

*“The changes implemented thus far have placed the AMS in a better position to address national objectives pertaining to future quality and safety concerns in our patient population”*

#### RESULTS

DAWN AC assisted the AMS in its **patient safety and quality goals** whilst also providing a means to **increase productivity** within the clinics. Furthermore, robust audit and reporting capabilities enabled **reports to be produced for stakeholder and regulatory bodies** when necessary in addition to assessing internal performance.

The **quantification of outcomes** in terms of thromboembolic bleeding events is facilitated by the DAWN AC system and the data within the system has **played a part in major research work**.

Ultimately, the use of the DAWN AC system for anticoagulation management at MGH has **provided the basis of an effective and efficient service**.

#### Introduction

The Anticoagulation Management Service (AMS) formerly the Anticoagulation Therapy Unit (ATU) at Massachusetts General Hospital has been operating for almost 45 years with the main focus of the service to provide patient education, manage and monitor anticoagulation therapy, and act as a resource for patients and their physicians.

The service manages nearly 4,000 patients who are referred for management of anticoagulation therapy, primarily with Warfarin.

#### The Aim: Improve Patient Safety and Quality of Care

The release of the Institute of Medicines Report bolstered efforts to improve patient safety across the board and provided the catalyst for a number of changes within the AMS which focussed on patient safety and quality improvement for anticoagulation patients. These changes included a hospital-wide program to facilitate timely and safer discharge plans for patients with newly started or resuming anticoagulation therapy; and the development of several transition pathways to provide a seamless transition of care from the inpatient to the outpatient arena.

Within a few years of the ATU being established, a custom built software program was implemented to provide clinical decision support with the goal to make dose adjustments more uniform. INR results were entered one by one into the system, primarily by secretaries but also by nurses and were processed at designated times during the work day. The ATU's database was essentially a stand-alone application and hospital clinicians did not have electronic access to ATU patient information and details contained therein.

This was a growing concern since many of the AMS patients have laboratory services performed by over 200 laboratories in the Greater New England area and therefore, many INR results were known only to AMS staff. A key initiative to implement a new patient management software system for the AMS was launched to address the problems with the original ATU system and meet the objectives of the overall improvement changes taking place within the AMS.

#### The Solution: DAWN AC

An investigation into possible solutions for the new patient management software highlighted the DAWN AC product which was already established in the anticoagulation healthcare market and well supported by 4S DAWN Clinical Software, the company behind the product.

The features of DAWN AC supported many of the changes already implemented by the AMS as well as those planned for the near future.

*“DAWN AC is able to provide the framework and tools to organise, measure and analyse efforts to support our future challenges”*

*“Our staff is very pleased with the DAWN AC system and find the list views and corresponding filters particularly helpful to manage patients in a timely and efficient manner”*

One of the more significant changes to the AMS prior to the launch of DAWN AC was the implementation of a primary nurse model to manage the comprehensive needs of our patients and in DAWN AC, each patient’s primary nurse can be identified by the ‘Preferred Clinic’. Customisation of list views and filters was instrumental in supporting this practice model.

The implementation of DAWN AC provided the means to capitalise on quality and safety concerns as the system’s clinic management features ensured no patients or tasks were overlooked, whilst powerful exception flagging and individual risk assessment capabilities enabled easy identification of patients with complications.

In addition to this, suggested doses and test intervals based on a scientifically validated dosing algorithm along with consistent, clear and logged communication with patients and other healthcare providers, further enhanced patient safety within the AMS.

DAWN AC also provided the means to dispense with paper records for the AMS’ transition pathway patients, which were cumbersome and needed constant handwritten updates. Furthermore, analysis of patient progress was extraordinarily time consuming.

Electronic interfaces with existing hospital information systems were also developed including Lab Results Interface; Hospital Census Interface; and an interface that displays the patient’s latest anticoagulation status on the main hospital electronic medical record system for all hospital users to see.

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*Established in 1984, 4S DAWN Clinical Software are trusted by over 300 healthcare organisations across the world to deliver reliable, disease specific solutions that increase patient safety, facilitate productivity gains and improve quality of care.*

