Overview and History of AMS

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Anticoagulation Management Service
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Anticoagulation Management Service (AMS)

• Location
  – POB, 275 Cambridge Street, Suite 101 (next to Finagle-a-Bagel)

• Hours
  – Nurses available 7 days/week
  – 8 AM – 4:30 PM
  – MD coverage via page after hours
AMS: A specialty out-patient clinic

- Resides within Department of Nursing, Patient Care Services
- Primary goals:
  - Comprehensive education to patients and families
  - Emphasis on timely communication, especially during transitions in care or drug therapy
  - Optimize day-to-day management and monitoring of patients on warfarin (with or without LMWHs)
- What’s Required:
  - Referral (acts as treatment order) from inpatient units or outpatient practices
  - MGH-affiliated physician for long-term management
  - Discharged home
  - Collaborating physicians completes Annual Therapy Review/Order
  - Patient/family attendance at education session with primary nurse
- AMS does not:
  - Perform bloodwork
  - Provide warfarin Rx (warfarin prescribing by patient’s referring physician)
• Printed Guide in English and Spanish
  – English: #85474 (pkgs of 20)
  – Spanish: #85811

• Additional languages in Partners Handbook
  – Partners Handbook → Patient Education Info → MGH
  – Patient Education Discharge Documents → Anticoagulation Therapy
Historical Overview

- **1969**: Organized clinic established (ATU)
- **1982**: Paper to computerized system (MUMPS)
- **1990**: Clinic re-organization – Dept of Nursing – Walter Moulaison Lynn Oertel
- **2002**: Clinical research catalyzes changes on many levels
- **2004**: Implementation of Dawn AC software
- **2006**: Primary Nurse model implemented
- **2008**: Evolve from ATU to AMS
- **2010**: AMS Icon displays mg dosing
- **2012**: First of several TSOACs* approved by FDA

### Key Numbers

- **1953** Patients
- **39,636** INRs / yr
- **1969** Patients
- **333** INRs / yr

* TSOACs = Target Specific Oral AntiCoagulants
Anticoagulation Management Service (AMS)

• Who should be referred?
  – Patients on warfarin AND who have a MGH-affiliated, collaborating physician to provide support to AMS as needed to optimize management

• How to refer patients?
  – Inpatient: POE Consult Referral. AMS supports a safe and timely transition when discharged to home for ALL* patients NEW to warfarin (with or without LMWH). Patient management begins at discharge.
  – Outpatient: Referrals by fax or CRMS. AMS confirms receipt of referral, patient management begins when patient arrives for one-time educational appointment

*‘ALL’ – includes patients new to warfarin but have physician in community who will ultimately be ‘warfarin manager’ – in these cases, AMS will hand-off anticoag care in 7 – 10 days.
AMS patient population

- **Population:** 4444 outpatients, ~200+ patients at any given time in transition/bridge pathways ("Highest" priority)
- **Mean age (yrs):** 69 ± 14 years
- **Gender:** 59% male
- **Top 4 indications:**
  - AF (63%)
  - VTE (18%)
  - MHV (8.5%)
  - Stroke/TIA (7%)
- **Patient Care Delivery Model:** Patient-focused, utilizes a primary nurse model. Use a number of protocols/algorithms for day-to-day decision making.
- **Quality of INR control:** 74% Time in Therapeutic Range (TTR) for majority of patients (90% of patients in 2-3 INR range)
- **Detailed process for patient follow-up (compliance):** few patients discharged for non-compliance
- **Support patient self testing (PST):** ~500 patients self test INRs at home
Unique features of AMS

• **Unique anticoagulation management software (DawnAC):** paperless patient records, dose decision-making support

• **Use LMR** for documenting in patient’s hospital eMR

• **3 electronic interfaces:**
  – **Lab Interface:** approx 40% INRs values electronically entered on Dawn patient record
  – **ADT Interface:** electronic lists update AMS patient activity for hospital admission/discharges, including out-patient procedures and ED
  – **AMS Icon:** outbound message from Dawn records to display patient-specific information

• **Televox reminder calls:** delivers timely phone reminder if late for scheduled INR test

• **Mail or email dose instruction letter** for all maintenance patients
AMS Icon

‘Click It’ to view helpful information

Convenient hyperlinks to communicate with AMS

Patient Clinical Details

Pill Size

Last 4 INRs and dose instructions

<table>
<thead>
<tr>
<th>INR Date</th>
<th>INR</th>
<th>Dose</th>
<th>Instructions (mg/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/30/2014</td>
<td>2.2</td>
<td>22 mg per week</td>
<td>Warfarin</td>
</tr>
<tr>
<td>06/16/2014</td>
<td>2.2</td>
<td>22 mg per week</td>
<td>Warfarin</td>
</tr>
<tr>
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