



(Management Case Study)

**Systematic Change from Poorly-Controlled Warfarin
to a Direct Oral Anticoagulant
within an Established Anticoagulation Service**

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Disclosure

All planners, presenters, and reviewers of this session report no financial relationships relevant to this activity.

Learning Objectives

- Compare the advantages and disadvantages of switching patients from warfarin to a DOAC, considering both operational efficiency and clinical efficacy and safety.
- Design a workflow to quickly identify patients who could potentially benefit switching from warfarin to a DOAC.
- List common reasons patients chose to remain on warfarin when it was recommended to switch to a DOAC, and describe strategies to overcome them.

Self-Assessment Questions

1. (True or False) Clinical management of the DOACs is more time-consuming than warfarin management.
2. (True or False) Certain patients, if properly identified, could benefit switching from warfarin to a DOAC.
3. (True or False) DOACs can have high out-of-pocket costs for some patients, and this is usually the main reason patients choose to remain on warfarin.

Practice Site

University of Utah Health Thrombosis Service

- 2 clinics
 - 8.75 FTE pharmacists
 - 7 FTE technicians
 - 1,984 warfarin patients (1,984/2,275=87%)
 - 291 DOAC patients (291/2,275=13%)
- 1 year later...
- 2,081/2,551=82%
- 470/2,551=18%

Problem

- Some pharmacists weren't as familiar with the DOACs, or as comfortable switching patients
 - Why is this a problem?
 - Lack of consistency for identifying switch candidates
 - Lack of consistency for educating switch candidates

Problem

- Some pharmacists weren't as familiar with the DOACs, or as comfortable switching patients
- Patients on warfarin weren't being assessed routinely or consistently for switching to a DOAC
 - Why is this a problem?
 - DOACs can be more effective and safe than warfarin
 - DOACs are less time-consuming to manage than warfarin

Problem

- Some pharmacists weren't as familiar with the DOACs, or as comfortable switching patients
- Patients on warfarin weren't being assessed routinely or consistently for switching to a DOAC

To address these findings → sought to implement a process to systematically switch patients from poorly-controlled warfarin to a DOAC

Methods

- Obtained a report of all UUH Thrombosis Service patients (n=2,275)
 - Current anticoagulant
 - Individual TTR over last 12 months
 - INR goal
 - CrCl
- Excluded patients considered ineligible
 - Already taking a DOAC (n=291)
 - Well-controlled on warfarin; TTR > 60% (n=1,091)
 - INR goal outside 2-3 (n=97)
 - CrCl < 30 mL/min (n=95)

$$\left. \begin{array}{l} 2,275 - 291 - 1,091 = \\ 893 \text{ pts poorly-controlled on warfarin} \end{array} \right\}$$
$$\left. \begin{array}{l} 893 - 97 - 95 = \\ 701 \text{ pts to evaluate via chart review} \end{array} \right\}$$

Methods

- Set performance-based SMART goal for 12 pharmacists
 - “When given a list of 701 poorly-controlled warfarin patients, assess whether patients may benefit by switching from warfarin to a DOAC. Then, for patients considered to clinically benefit, educate patients on their anticoagulant therapy options, and transition patients to the chosen therapy. This entire process must be documented within an Excel spreadsheet, and completed by 3/30/17.”

Methods

- Excluded patients considered ineligible

- Unapproved indication for DOAC (n=188)
- Previously tried or declined DOAC (n=57)
- Signed off care or deceased (n=53)

701 pts to evaluate via chart review
– 188 – 57 – 53 =
403 pts considered eligible
switching from warfarin to DOAC

- Excluded patients NOT considered to clinically benefit

- Obesity (n=160)
- Major Drug-Drug Interaction (n=20)
- Warfarin non-compliance (n=14)
- Hx gastric bypass surgery (n=9)
- Other (n=9)
- Multifactorial (n=31)

403 – 160 – 20 – 14 – 9 – 9 – 31 =
160 pts considered to clinically benefit
switching from warfarin to DOAC

Methods

- Processed test claims for Apixaban & Rivaroxaban on 160 pts
- Entered note in chart:
 - Copay information
 - “Warfarin → DOAC switch candidate”
- Provided scripting for pharmacists to educate patients
- Created patient handout comparing “blood thinner” options

https://healthcare.utah.edu/thrombosis/pdfs/patient_oac_options.pdf

All UUH Thrombosis Service
(n=2,275)

Pharmacist Chart Review
(n=701)

Only 8% of all 1,984 warfarin pts
Only 18% of 893 poorly-controlled warfarin pts

Excluded by Report
(n=1,574)

- Already on DOAC=291
- TTR > 60%=1,091
- INR goal outside 2-3=97
- CrCl < 30=95

Excluded by PharmD
(n=541)

- Unapproved indication =188
- Previously tried/declined=57
- Signed off care/Deceased=53
- Obesity=160
- Major DDI=20
- Warfarin Non-Compliance=14
- Gastric bypass=9
- Other=9
- Multifactorial=31

Considered to Benefit by Switching
(n=160)

Pt Declined DOAC
(n=127)

- High Cost=58
- Pt Preference=23
- Lack of reversal=17
- Like INR Monitoring=13
- Provider Preference=7
- Pending Decision=6

Only 2% of 1,984 warfarin pts
Only 4% of 893 poorly-controlled warfarin pts

Switched to DOAC
(n=33)

- Rivaroxaban=19
- Apixaban=14

79% declined to switch

Results

Limitations

- ~10% of our total clinic population were already on DOACs
- Exclusion Criteria via Reporting
 - Excluding TTR > 60%
 - Pts may have preferred a DOAC despite being well-controlled on warfarin
 - Individual TTR was a static measurement
 - Excluding INR goal outside 2-3
 - Pts may have had an indication for a DOAC, and may have preferred a DOAC
 - Excluding CrCl < 30
 - Pts could potentially take a DOAC
- PharmD discussion variability

Lessons Learned

- Much fewer patients than we anticipated...
 - Were considered to clinically benefit by switching
 - Chose to switch
 - Cost was the biggest reason
- Obesity and Hx gastric bypass → we didn't originally think to exclude
- EVERY pharmacist gained confidence in their DOAC knowledge and clinical application to become more effective, efficient, and consistent with:
 - Identifying DOAC eligible patients
 - Determining if patients could clinically benefit from a DOAC
 - Educating patients and providers on DOACs
 - Documenting and executing the switch in Epic EMR
- Additional research is warranted to further understand patient- and provider-perceived appropriateness of switching to alternative oral anticoagulant therapy

Key Takeaways

1. To ensure patients on warfarin are routinely and consistently being assessed for optimal anticoagulant therapy, **consider implementing a process** to systematically switch patients from warfarin to a DOAC.
2. **Performance-based SMART goals** help drive collaboration among peers.
3. For daily workflow, I propose using a **stepwise process to quickly identify** patients who could potentially benefit switching from warfarin to a DOAC

See next slide...

Should my patient switch to a DOAC?

Initial Screening

- TTR < 60%
- NVAf or DVT/PE indication
- CrCl \geq 30 mL/min
- BMI < 40 kg/m² (or weight < 120 kg)

Detailed Assessment

- ALL initial screening criteria PLUS all of the following:
 - No contraindicated DDI with DOAC
 - No warfarin compliance concerns
 - No other indications that DOACs not approved for (e.g. MVR)

Patient Discussion

- DOAC may be more effective and safe given low TTR
- INR monitoring not required (why)
- Cost +/- copay assistance cards (consider deductible)
- DOAC irreversibility (but strategies to control major bleeding)
- If DOAC → drug-specific education
- If warfarin → ways to optimize TTR (e.g. offer home monitor)

Discussion Questions

- What are you doing at your site to identify warfarin-to-DOAC switch candidates?
- What other patient populations could be targeted for switching from warfarin to DOAC?