

How good is your local
Anticoagulation Clinic? Audit of
time in therapeutic range of
patients discharged on oral
anticoagulation therapy.

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SCTS 2011

Warfarin

- Half life 40 hours
 - Duration 2-5 days
 - Steady state takes about 1 week
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- AF
 - Mechanical valves

Factors affecting dose / INR

- Age/Gender
- Genetic
- Blood type
- Diet/alcohol/smoking
- Drug interactions
- Impaired liver function/renal disease/hyperthyroidism

How monitored?

- GP
- Anticoagulation clinics
- Self testing



— 10 miles

Objectives

- To analyse the mechanisms by which our patients were monitored and their time in therapeutic range (TTR)
- TTR is an established quality indicator for anticoagulation control (ACCP)

Why? - Risks

- Narrow therapeutic range
- Bleeding
- Thromboembolic

Metaanalysis - AF

- INR<2 OR 3.3 Ischaemic events (p<0.05)
- INR>3 OR 2.34 Major Bleeds (p>0.05)
- INR>4 OR 4 Major Bleeds (p<0.05)

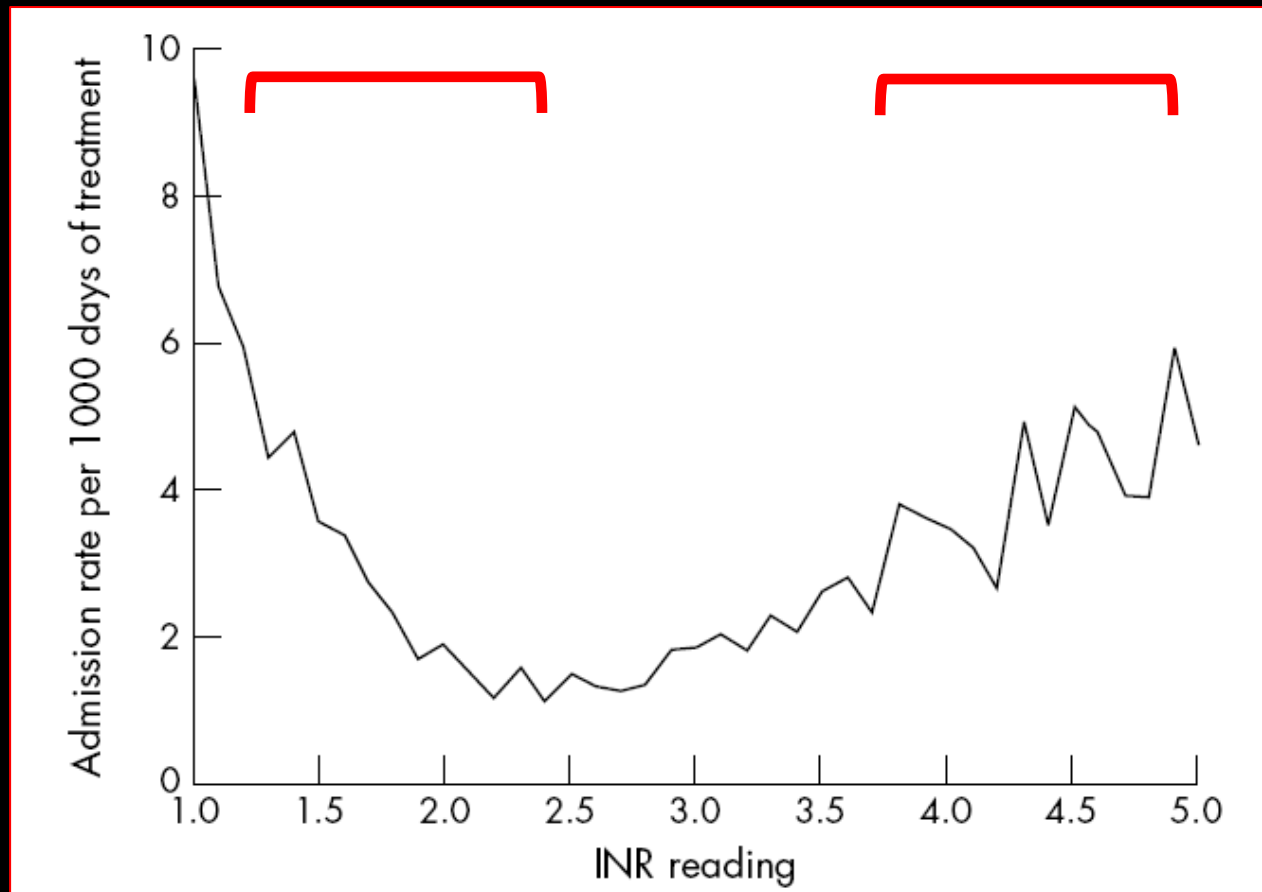
Reynolds Chest 2004

Palareti Lancet 1996

Merli J Thromb 2009H

Hyleck NEJM 2003

Admission rate as a function of INR



What % TTR to be of benefit?

- AF
- TTR 65% for benefit of anticoagulation over antiplatelet therapy

Method

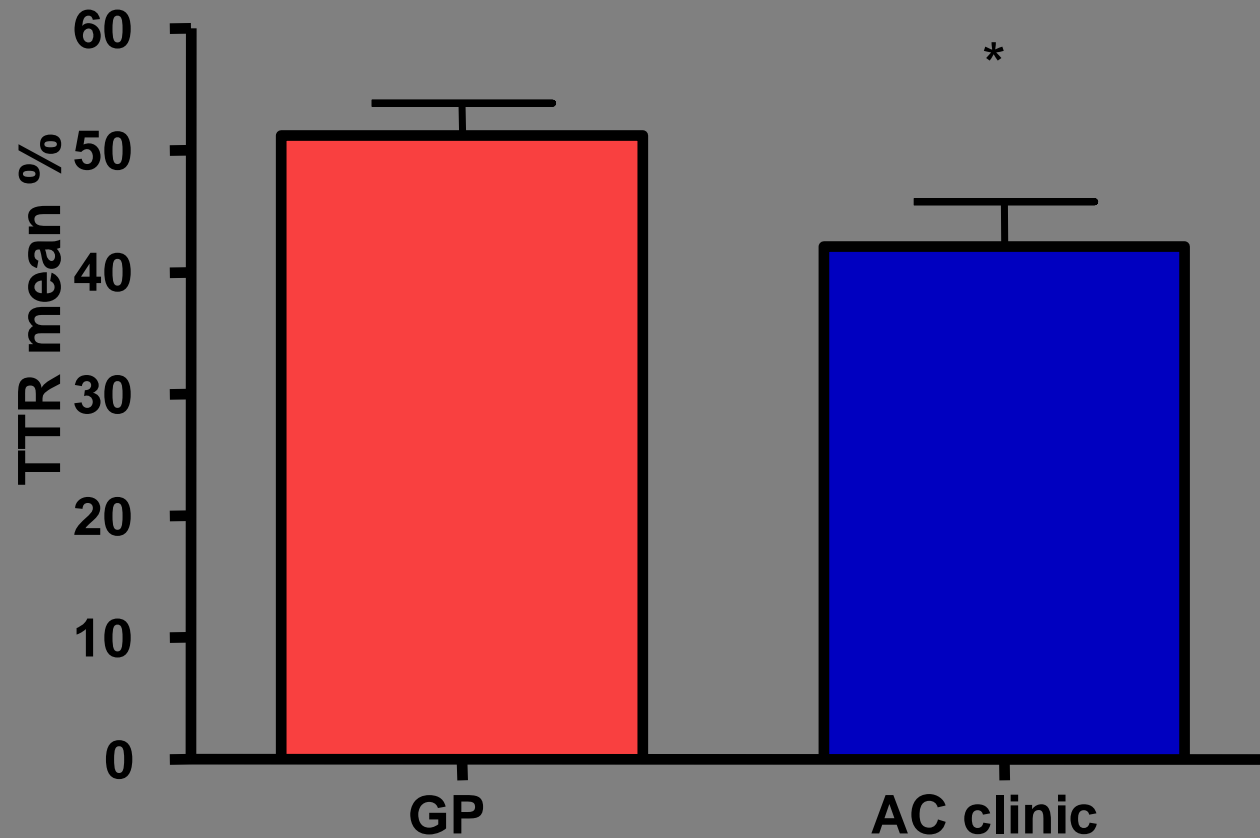
- Retrospective analysis
- 1st 6 months post discharge
- Warfarin
- Mech valve or AF
- Time in Therapeutic Range (TTR)

Results- local GP led service

- n = 30

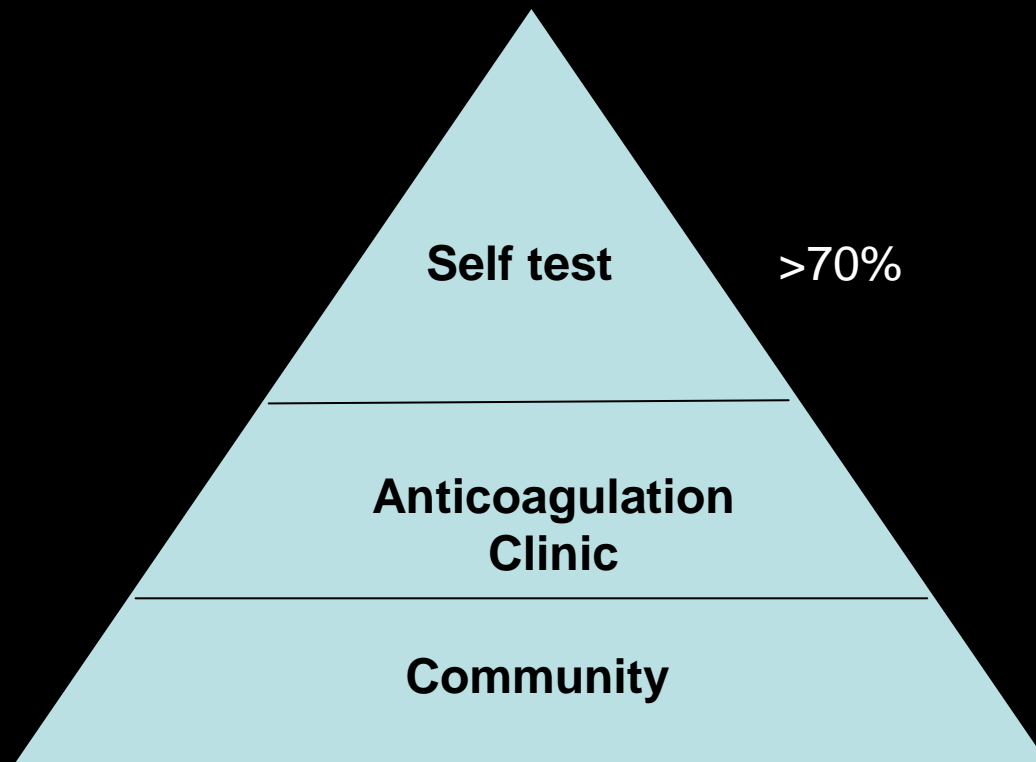
AF	7
Mechanical valve	23
Age	71 (41-79)
TTR (median %)	53 (18-71)
TTR AF (median %)	50 (29-61)
Haem/Thrombosis	0

Comparison of GP vs anticoagulation clinic



Comparison with previous literature

- Median TTR for patients on warfarin =63%



Conclusion

Inadequate control once discharged

Self monitoring

- Significant reduction in T-E events and haemorrhage
- Not feasible in all patients
- Early Self Controlled Anticoagulation Trial



**Convenient
Compliance
Decreased clinic time**

Heneghan Lancet 2006

Koertke Circulation 2003

Other agents

- Stable pharmacokinetics
 - Lower risks of bleeding
 - Safety profiles
 - Fixed dosing regimens
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- Factor Xa
 - Thrombin

Dabigatran

- Phase 2 and 3 trials
- RE-LY study – equivalent to warfarin in AF

- **Rivaroxaban**
- Oral Factor Xa inhibitor
- Phase 3 trials

- **Apixaban**

American College of Chest Physicians Consensus

- “Physicians who manage oral anticoagulation therapy [should] do so in a systematic and coordinated fashion, incorporating patient education, systematic INR testing, tracking, follow up, and good patient communication of dosing and results”.
- TTR

What next

- Continue to liaise with clinics in community
- Explore self monitoring (Point of Care Monitors)
- Newer agents