

DECIDE



GRADE

Developing and Evaluating
Communication strategies to support
Informed Decisions and practice
based on Evidence

Communicating evidence-based recommendations to health professionals

Work package 1



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n° 258583



STUDY PROTOCOL

Open Access

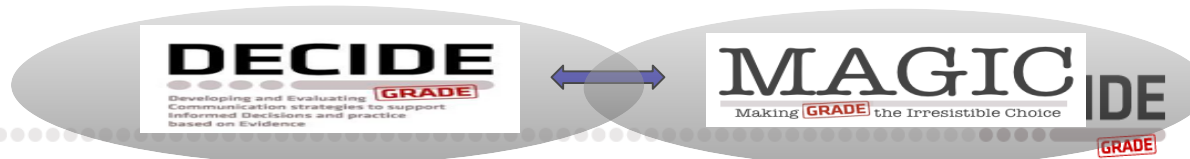
Developing and evaluating communication strategies to support informed decisions and practice based on evidence (DECIDE): protocol and preliminary results

Shaun Treweek^{1*}, Andrew D Oxman², Philip Alderson³, Patrick M Bossuyt⁴, Linn Brandt², Jan Brožek⁵, Marina Davoli⁶, Signe Flottorp², Robin Harbour⁷, Suzanne Hill⁸, Alessandro Liberati⁹, Helena Liira¹⁰, Holger J Schünemann^{5,11}, Sarah Rosenbaum², Judith Thornton³, Per Olav Vandvik², Pablo Alonso-Coello¹² and the DECIDE Consortium

Health care professionals (WP1)

- Strategies-formats developed
 - Need to be based on GRADE
 - Should be organized as multilayered
 - Different needs, different layers
 - Need to be electronic
 - » Static presentation (e.g. pdf)
 - » Interactive moving from layer to layer (e.g. PC, smartphone,...)

- 1. A top layer format**
- 2. A decision aid template**
3. An evidence to recommendation framework



TOP LAYER

Top layer: development of a prototype

Top layer format: what clinicians would want to see next to understand the recommendation (entrance).

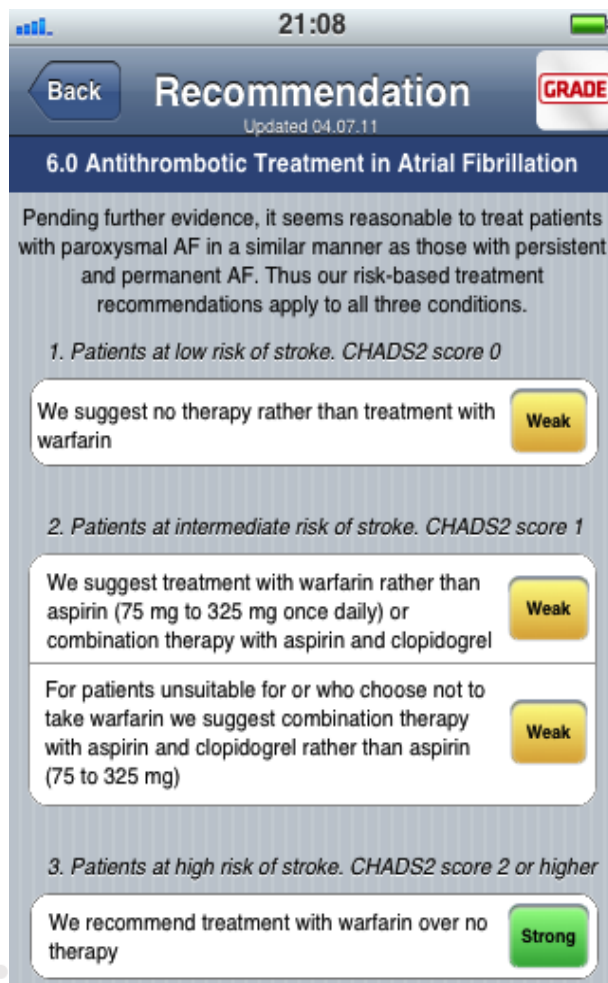
- **Rationale/Justification**

- **Key information (grade factors)**

- The balance between benefits and harms
- The confidence/certainty in the estimates of effect (quality)
- Values and preferences
- Resource considerations
- Other factors

Top layer: template version 1

Recommendation



21:08

Back Recommendation GRADE Updated 04.07.11

6.0 Antithrombotic Treatment in Atrial Fibrillation

Pending further evidence, it seems reasonable to treat patients with paroxysmal AF in a similar manner as those with persistent and permanent AF. Thus our risk-based treatment recommendations apply to all three conditions.

1. Patients at low risk of stroke. CHADS2 score 0

We suggest no therapy rather than treatment with warfarin Weak

2. Patients at intermediate risk of stroke. CHADS2 score 1

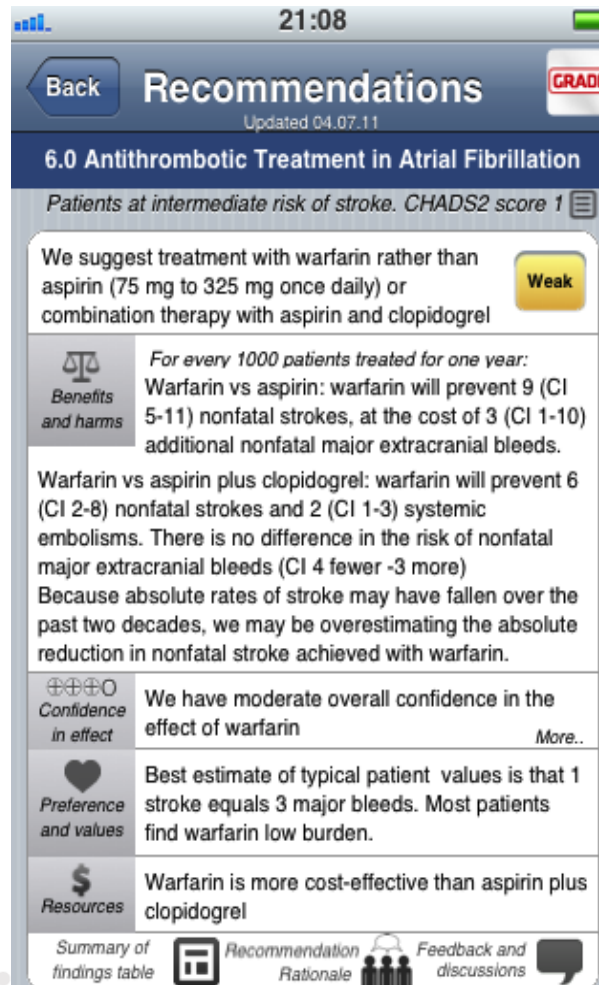
We suggest treatment with warfarin rather than aspirin (75 mg to 325 mg once daily) or combination therapy with aspirin and clopidogrel Weak

For patients unsuitable for or who choose not to take warfarin we suggest combination therapy with aspirin and clopidogrel rather than aspirin (75 to 325 mg) Weak

3. Patients at high risk of stroke. CHADS2 score 2 or higher

We recommend treatment with warfarin over no therapy Strong

Key information



21:08

Back Recommendations GRADE Updated 04.07.11

6.0 Antithrombotic Treatment in Atrial Fibrillation

Patients at intermediate risk of stroke. CHADS2 score 1

We suggest treatment with warfarin rather than aspirin (75 mg to 325 mg once daily) or combination therapy with aspirin and clopidogrel Weak

Benefits and harms

For every 1000 patients treated for one year:
Warfarin vs aspirin: warfarin will prevent 9 (CI 5-11) nonfatal strokes, at the cost of 3 (CI 1-10) additional nonfatal major extracranial bleeds.

Warfarin vs aspirin plus clopidogrel: warfarin will prevent 6 (CI 2-8) nonfatal strokes and 2 (CI 1-3) systemic embolisms. There is no difference in the risk of nonfatal major extracranial bleeds (CI 4 fewer -3 more)
Because absolute rates of stroke may have fallen over the past two decades, we may be overestimating the absolute reduction in nonfatal stroke achieved with warfarin.

Confidence in effect

We have moderate overall confidence in the effect of warfarin More..

Preference and values

Best estimate of typical patient values is that 1 stroke equals 3 major bleeds. Most patients find warfarin low burden.

Resources

Warfarin is more cost-effective than aspirin plus clopidogrel

Summary of findings table Recommendation Rationale Feedback and discussions

Rationale



21:08

Back Recommendation GRADE Updated 04.07.11

6.0 Antithrombotic Treatment in Atrial Fibrillation

Patients at intermediate risk of stroke. CHADS2 score 1

We suggest treatment with warfarin rather than aspirin (75 mg to 325 mg once daily) or combination therapy with aspirin and clopidogrel Weak

Summary of findings table Key Information Feedback and discussions

Rationale

The guideline panel believes that the majority of people will place a greater value on the reduction in stroke over the inconvenience and increase in bleeding risk associated with warfarin.

We graded this a weak recommendation due to the small absolute reduction in stroke, suggesting that many informed individuals would choose not to use warfarin.

For patients unsuitable for or who choose not to take warfarin we suggest combination therapy with aspirin and clopidogrel rather than aspirin (75 to 325 mg) Weak

Many choices involved

TL: Stakeholder feedback/user testing

- 35 individual user tests across 7 countries in 3 iterations:
 - Liked interactive multilayer approach
 - Too crowded, too complex (i.e. out with 95%CI)
 - Symbols were confusing
 - Colors promising.
- Subsequent refined templates received improved feedback

Choice of oral anticoagulation

Weak recommendation

We suggest treatment with dabigatran, rivaroxaban or apixaban rather than warfarin.

[View More Details](#)


Choice of oral anticoagulation

Weak recommendation

It is less clear whether the benefits outweigh the drawbacks. We believe there will be variation in patients preferences

We suggest treatment with dabigatran, rivaroxaban or apixaban rather than warfarin.

[View Less Details](#)

-  Effect estimates
- Key info**
- Rationale**
- Practical advice
- At  ▼

The new oral anticoagulants have equal effect to warfarin with regards to stroke reduction, they lower the incidence of intracranial bleeds and are more convenient to use. We therefore suggest the new oral anticoagulants over warfarin as first treatment of choice.

For patients that are already on warfarin therapy with stable INR values the cost/benefit ratio is similar to treatment with NOACs. We therefore suggest that patients well-established on warfarin therapy continue with this if they wish.

Choice of oral anticoagulation

Weak recommendation

We suggest treatment with dabigatran, rivaroxaban or apixaban rather than warfarin.

[View More Details](#)

Choice of oral anticoagulation

Weak recommendation

It is less clear whether the benefits outweigh the drawbacks. We believe there will be variation in patients preferences

We suggest treatment with dabigatran, rivaroxaban or apixaban rather than warfarin.

[View Less Details](#)

Effect estimates **Key info** Rationale Practical advice Ac

Benefits and harms

New oral anticoagulants versus warfarin per 1,000 patients treated for 1 year:

Death and stroke: No significant difference

Major bleeding: Overall no relevant difference, but the number of intracranial bleeds was halved with dabigatran, resulting in a absolute risk reduction of 2 fewer per 1000 patients

Myocardial infarction: No significant difference. The exception is dabigatran, which increased the risk compared to warfarin. The absolute risk, however, is generally very low: 5/1000 with warfarin, 6/1000 with dabigatran.

Treatment discontinuation (e.g. due to side effects): 31 interrupted with warfarin, 39 with NOAC.

Practical consequences: Daily medication with all. Regular INR controls and dietary restrictions with warfarin.

Quality of evidence

Moderate. The expected effects of NOAC compared with warfarin is taken from a systematic review with heterogeneity, and imprecise results (wide confidence intervals) for death and bleeding. Dabigatran was associated with an increase in myocardial infarction and treatment discontinuation in a reliable subgroup analysis.

Preference and values

Studies on patient preferences and values have shown that the average patient is prepared to suffer three major bleeds to avoid one stroke. These studies have guided our recommendation. They are however deemed to be of low quality and there was a high degree of

Débil

No está tan claro si los beneficios superan claramente los inconvenientes. Esto significa que la mayoría de los pacientes elegirían el tratamiento recomendado. Sin embargo, hay una elevada posibilidad de variabilidad en las preferencias individuales.

Se sugiere el tratamiento con dabigatran, rivaroxaban o apixaban (nuevos anticoagulantes orales) frente a antagonistas de la Vitamina K (warfarina o acenocumarol)

[View Less Details](#)

PICO

Información clave

Justificación

Consejo práctico

Adaptación

Resumen

Discusión (0)

Población

Fibrilación auricular y alto riesgo de ictus (puntuación CHA2DS2-VASc de 2 o más)

Intervención

Nuevos anticoagulantes orales (inhibidores directos de la trombina)

Comparador

Antagonistas de la Vitamina K (warfarina, acenocumarol)

Desenlaces

Mortalidad, ictus, sangrados mayores

Desenlaces

Resumen

Referencias

Desenlaces	Calidad De La Evidencia	Efecto Relativo	Antagonistas De La Vitamina K (Warfarina, Acenocumarol)	Nuevos Anticoagulantes Orales (Inhibidores Directos De La Trombina)	Diferencia Absoluta	Participantes (Estudios), Seguimiento
Mortalidad por cualquier causa (a 1 año)	Alta	RR 0.88 (CI 0.82 - 0.96)	63 per 1000	55 per 1000	8 menos Por 1000 (CI 11 menos - 3 menos)	44.442 (3), 2 años
Ictus isquémico (a 1 año)	Alta	RR 0.89 (CI 0.78 - 1.02)	21 per 1000	19 per 1000	2 menos Por 1000 (CI 5 menos - 0 menos)	44.442 (3), 2 años
Sangrados mayores (a 1 año)	Moderada debido a heterogeneidad	RR 0.88 (CI 0.71 - 1.1)	57 per 1000	50 per 1000	7 menos Por 1000 (CI 17 menos - 6 más)	44.501(3), 2 years

Trials and surveys

- **Multicenter RCT 1:**
 - A randomized trial comparing evidence summaries with and without evidence based recommendations.
- **Survey / RCT 2:**
 - To determine physicians' understanding, attitudes and preferences concerning trustworthy guidelines in traditional and new presentation formats (using clickers)



DECISION AIDS

Implications of weak recommendations

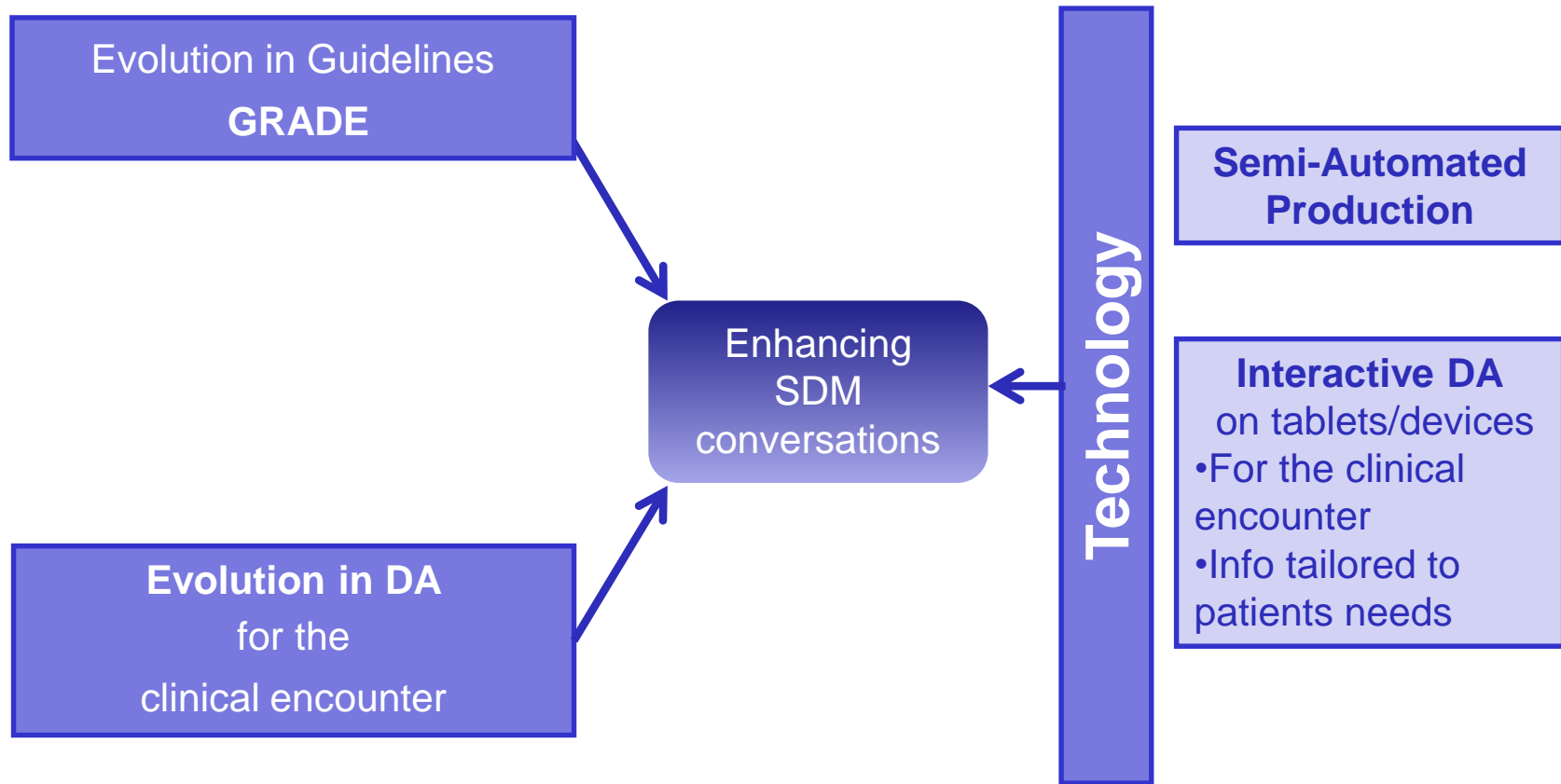
- Many recommendations are weak
 - **Patients:** The majority of people in this situation would want the recommended course of action, but *many would not*.
 - **Clinicians:** Be more prepared to *help patients to make a decision* that is consistent with their own values

Decision aids (SHARE-IT)

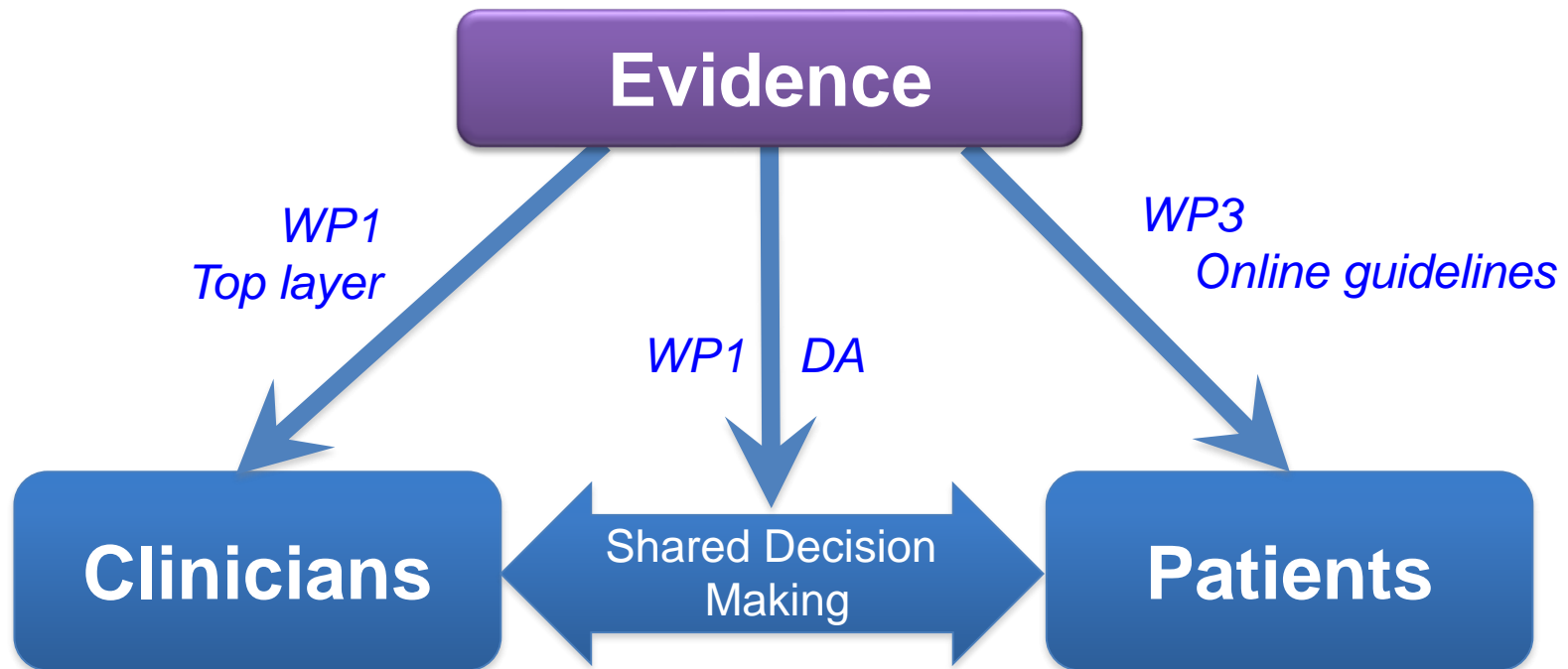


- Weak recommendations warrant shared-decision making, but how?
- ✓ Decision aids linked to GRADE Guidelines
- ✓ Designed to enhance the conversation during the clinical encounter

Decision aids



Evidence & SDM the point of care



Objective A

5 international meetings (2-3 days)

- Framework for generic DA
- Multilayered approach

- Nov 2012: McMaster
- Feb 2013: Rome (GRADE/DECIDE)
- June 2013: Lima (ISDM)
- Dec 2013: Oslo
- Jan 2014: Barcelona (GRADE/DECIDE)
- *Multiple conference calls*

Initial prototype

Field User testing

Observations in clinical encounter

- 15 User-Testings
- 12 ongoing DA
- 2 countries: Canada + Norway
- Soon adding Spain and US
- 3 major iterations
- 22 modifications addressing issues

Modified prototype

Final Decision Aids

Stakeholders endorsement

Integration in GDT and other tools
Evaluation in RCT & Cohort studies (EMR)

Objective C – Implementation in the Magic App

PHASE I

PHASE II

Information one click away

All other patients

Weak

We suggest new oral anticoagulants (dabigatran, rivaroxaban or apixaban) rather than warfarin.

Remark: Patients who are established on warfarin with stable INR values can safely continue with warfarin. New oral anticoagulants (dabigatran and rivaroxaban) are not recommended in patients with severe renal impairment (CrCl <30 mL / min.).

PICO Key info **Decision Aids** Rational Practical advice Tools Discussion (0) Medication

Benefits and Harms

Baseline risk (without treatment) over 1 year : stroke 51/1000 patients, death 41/1000 and major bleeds 10/1000.

Effect of dabigatran, rivaroxaban or apixaban (NOAC) vs warfarin:

Benefits: 65% reduction in number of strokes and 30% reduction in mortality with treatment compared to no treatment. No significant difference in effect between the drugs.

Harms: Double the number of major extracranial bleeds with treatment. No significant difference between the drugs. Number of intracranial bleeds halved from 4 to 2 events/1000 patients with NOAC.

Burden of treatment: Daily medication with NOAC. Regular INR controls and dietary restrictions with warfarin.

Quality of Evidence

Overall the evidence is of moderate quality. The recommendation is based on a systematic review of warfarin vs no treatment of high quality with the exception of imprecise estimates for major bleeds (moderate), and a network metaanalysis of NOAC vs warfarin of moderate quality due to the use of indirect comparisons.

Preference and Values

Studies on patient preferences and values have shown that the average patient is prepared to suffer three major bleeds to avoid one stroke. These studies have guided our recommendation. They are however deemed to be of low quality and there was a high degree of variability in preferences. We therefore suggest that the decision regarding treatment options is made together with the patient.

Resources

Cost did not influence this recommendation.

EVIDENCE TO DECISION FRAMEWORKS

EtD frameworks

- To help guideline panels (and decision makers) move from evidence to a recommendation or decision.
- Builds on previous work from GRADE
- Different frameworks for different types of decisions
 - Clinical, Health system, Coverage, Diagnostic
 - Worked coordinated across WPs
- Interactive and integrated in GDT
- Working on a series

EtD frameworks

GRADE

DECIDE

Interactive Evidence to Decision Framework

User administration | List | About | Help | Logout

Search

Background

Subgroups

Criteria

Problem

Values

Certainty of effects

Desirable effects

Undesirable effects

Balance of effects

Certainty of evidence of required resources

Resources required

Cost-effectiveness

Equity

Conclusions

Evidence profile

References

Footnotes

Dabigatran vs warfarin for atrial fibrillation | Filename | Version

Should dabigatran versus warfarin be used for atrial fibrillation?

Question details

About this framework

Criteria

Problem

Is the problem a priority?

SHOW ALL

JUDGEMENTS

RESEARCH EVIDENCE

ADDITIONAL CONSIDERATIONS

[DETAILED JUDGEMENT]

Values

Is there important uncertainty about or variability in how much people value the main outcomes?

SHOW ALL

JUDGEMENTS

RESEARCH EVIDENCE

ADDITIONAL CONSIDERATIONS

[DETAILED JUDGEMENT]

Certainty of effects

What is the overall certainty of the evidence of effects?

SHOW ALL

JUDGEMENTS

RESEARCH EVIDENCE

ADDITIONAL CONSIDERATIONS

SHOW SUBGROUPS

Desirable effects

How substantial are the desirable anticipated effects?

SHOW ALL

JUDGEMENTS

RESEARCH EVIDENCE

ADDITIONAL CONSIDERATIONS

SHOW SUBGROUPS

Next steps

- Further refinement of top layer
 - User testing
 - Implementation and evaluation in guidelines
- Decision aid template
 - User testing
 - Implementation in GDTs and guidelines
 - Test in RCTs / other designs
- Evidence to decision framework
- Further evaluation in guideline panels
 - Compare with standard less structured processes



Choice of oral anticoagulation

Weak recommendation

We suggest treatment with dabigatran, rivaroxaban or apixaban rather than warfarin.

[View More Details](#)

Choice of oral anticoagulation

Weak recommendation

It is less clear whether the benefits outweigh the drawbacks. We believe there will be variation in patients preferences

We suggest treatment with dabigatran, rivaroxaban or apixaban rather than warfarin.

[View Less Details](#)

Effect estimates **Key info** Rationale Practical advice Ac

Benefits and harms

New oral anticoagulants versus warfarin per 1,000 patients treated for 1 year:

Death and stroke: No significant difference

Major bleeding: Overall no relevant difference, but the number of intracranial bleeds was halved with dabigatran, resulting in a absolute risk reduction of 2 fewer per 1000 patients

Myocardial infarction: No significant difference. The exception is dabigatran, which increased the risk compared to warfarin. The absolute risk, however, is generally very low: 5/1000 with warfarin, 6/1000 with dabigatran.

Treatment discontinuation (e.g. due to side effects): 31 interrupted with warfarin, 39 with NOAC.

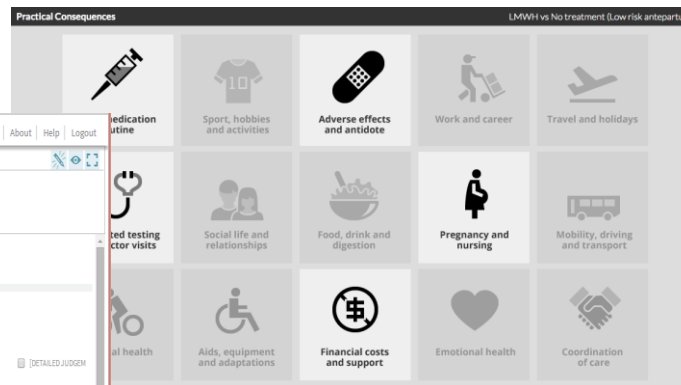
Practical consequences: Daily medication with all. Regular INR controls and dietary restrictions with warfarin.

Quality of evidence

Moderate. The expected effects of NOAC compared with warfarin is taken from a systematic review with heterogeneity, and imprecise results (wide confidence intervals) for death and bleeding. Dabigatran was associated with an increase in myocardial infarction and treatment discontinuation in a reliable subgroup analysis.

Preference and values

Studies on patient preferences and values have shown that the average patient is prepared to suffer three major bleeds to avoid one stroke. These studies have guided our recommendation. They are however deemed to be of low quality and there was a high degree of



GRADE v DECIDE Interactive Evidence to Decision Framework

User administration | List | About | Help | Logout

Search

Background

Subgroups

Criteria

Problem

Values

Certainty of effects

Desirable effects

Undesirable effects

Balance of effects

Certainty of evidence of required resources

Resources required

Cost-effectiveness

Equity

Conclusions

Dabigatran vs warfarin for atrial fibrillation | Filename | Version

Should dabigatran versus warfarin be used for atrial fibrillation?

Question details

About this framework

Criteria

Problem

Is the problem a priority?

SHOW ALL JUDGEMENTS RESEARCH EVIDENCE ADDITIONAL CONSIDERATIONS DETAILED JUDGMENT

Values

Is there important uncertainty about or variability in how much people value the main outcomes?

SHOW ALL JUDGEMENTS RESEARCH EVIDENCE ADDITIONAL CONSIDERATIONS DETAILED JUDGMENT

Certainty of effects

What is the overall certainty of the evidence of effects?

SHOW ALL JUDGEMENTS RESEARCH EVIDENCE ADDITIONAL CONSIDERATIONS SHOW SUBGROUPS

DECIDE



GRADE

Developing and Evaluating
Communication strategies to support
Informed Decisions and practice
based on Evidence

Communicating evidence-based recommendations to health professionals

Workpackage 1



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n° 258583