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for stroke prevention in atrial fibrillation: a systematic review of

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Catherline, Patel, Aasima and Watkins, Carol

It is advisable to refer to the publisher's version if you intend to cite from the work. <https://doi.org/10.1136/bmjopen-2024-097847>

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1 Appendices

2 **Appendix 1.** Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR)

3 Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2-3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	5-6
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	7
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	6
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	7
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	7
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix 2
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	7-8
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether	8

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
		data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	8-9
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	8
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	8-9
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	Figure 2
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	9-10; Appendix 4: References to included and excluded studies
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	n/a
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Available on request
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	11-13 and Appendix 6
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	14-15
Limitations	20	Discuss the limitations of the scoping review process.	14-15
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	14-15
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	17

4 JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

5 * Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

6 † A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and
7 policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

8 ‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data
9 charting.

10 § The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12
11 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used
12 in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).
13

14 *From:* Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* ;169:467–473. doi:
15 10.7326/M18-0850

16

17 **Appendix 2:** Database search strategies

18 **MEDLINE version (adapted for other databases).**

Search Number	Query
1	Stroke/
2	stroke.mp.
3	cerebrovascular event.mp.
4	cerebrovascular accident.mp.
5	Atrial Fibrillation/
6	atrial fibrillation.mp.
7	Heart Valve Diseases/
8	valvular heart disease.mp.
9	structural heart disease.mp.
10	Peripheral Vascular Diseases/
11	peripheral vascular disease.mp.
12	Anticoagulants/
13	anticoagu*.mp.
14	Warfarin/
15	warfarin.mp.
16	non-vitamin K antagonist.mp.
17	noac*.mp.
18	doac*.mp.
19	Rivaroxaban/
20	rivaroxaban.mp.
21	apixaban.mp.
22	Dabigatran/
23	dabigatran.mp.
24	edoxaban.mp.
25	Factor Xa Inhibitors/
26	Platelet Aggregation Inhibitors/
27	platelet aggregation inhibitors.mp.
28	Aspirin/
29	aspirin.mp.
30	antiplatelets.mp.
31	antithrombotics.mp.
32	anti-thrombotics.mp.
33	or/1-32
34	International Normalized Ratio/
35	international normalised ratio.mp.
36	international normalized ratio.mp.
37	inr.mp.
38	time in therapeutic range.mp.
39	ttr.mp.

40	Clinical Decision Making/
41	clinical decision making.mp.
42	Decision Support Systems, Clinical/
43	clinical decision support.mp.
44	Decision Support Techniques/
45	decision aids.mp.
46	"Delivery of Health Care, Integrated"/
47	integrated care.mp.
48	nurse led.mp.
49	nurse managed.mp.
50	pharmacist led.mp.
51	pharmacist managed.mp.
52	Pharmacists/
53	pharmacist*.mp.
54	Pharmacy Service, Hospital/
55	Drug Monitoring/
56	Prescription Drug Monitoring Programs/
57	Electronic Prescribing/
58	Inappropriate Prescribing/
59	Prescriptions/
60	Electronic Health Records/
61	electronic health records.mp.
62	Guideline/
63	Practice Guideline/
64	Practice Guidelines as Topic/
65	Guideline Adherence/
66	Medication Adherence/
67	"Treatment Adherence and Compliance"/
68	Interdisciplinary Communication/
69	Patient Education as Topic/
70	Practice Patterns, Physicians'/
71	Reminder Systems/
72	Patient Compliance/
73	Risk Management/
74	Telemedicine/
75	Self Care/
76	self monitoring.mp.
77	Self-Management/
78	self management.mp.
79	or/34-78
80	Randomized Controlled Trial/
81	Clinical Trial/
82	randomised controlled trial.mp.
83	randomized controlled trial.mp.

84	randomised trial.mp.
85	randomized trial.mp.
86	Retrospective Studies/
87	Prospective Studies/
88	Follow-Up Studies/
89	"before and after".mp.
90	Evaluation Studies/
91	Program Evaluation/
92	Evaluation Studies as Topic/
93	Treatment Outcome/
94	"Outcome Assessment (Health Care)"/
95	Patient Outcome Assessment/
96	Problem-Based Learning/
97	Implementation Science/
98	Quality Improvement/
99	or/80-98
100	33 and 79 and 99
101	limit 100 to yr="2000 -Current"

19

20 EMBASE (OVID) search strategy

1	Stroke/
2	stroke.mp.
3	cerebrovascular event.mp.
4	cerebrovascular accident.mp.
5	Atrial Fibrillation/
6	atrial fibrillation.mp.
7	Heart Valve Diseases/
8	valvular heart disease.mp.
9	structural heart disease.mp.
10	Peripheral Vascular Diseases/
11	peripheral vascular disease.mp.
12	Anticoagulants/
13	anticoagu*.mp.
14	Warfarin/
15	warfarin.mp.
16	non-vitamin K antagonist.mp.
17	noac*.mp.
18	doac*.mp.
19	Rivaroxaban/
20	rivaroxaban.mp.
21	apixaban.mp.
22	Dabigatran/
23	dabigatran.mp.
24	edoxaban.mp.
25	Factor Xa Inhibitors/
26	Platelet Aggregation Inhibitors/
27	platelet aggregation inhibitors.mp.

28	Aspirin/
29	aspirin.mp.
30	antiplatelets.mp.
31	antithrombotics.mp.
32	anti-thrombotics.mp.
33	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32
34	International Normalized Ratio/
35	international normalised ratio.mp.
36	international normalized ratio.mp.
37	inr.mp.
38	time in therapeutic range.mp.
39	ttr.mp.
40	Clinical Decision Making/
41	clinical decision making.mp.
42	Decision Support Systems, Clinical/
43	clinical decision support.mp.
44	Decision Support Techniques/
45	decision aids.mp.
46	Delivery of Health Care, Integrated/
47	integrated care.mp.
48	nurse led.mp.
49	nurse managed.mp.
50	pharmacist led.mp.
51	pharmacist managed.mp.
52	Pharmacists/
53	pharmacist*.mp.
54	Pharmacy Service, Hospital/
55	Drug Monitoring/
56	Prescription Drug Monitoring Programs/
57	Electronic Prescribing/
58	Inappropriate Prescribing/
59	Prescriptions/
60	Electronic Health Records/
61	electronic health records.mp.
62	Guideline/
63	Practice Guideline/
64	Practice Guidelines as Topic/
65	Guideline Adherence/
66	Medication Adherence/
67	Treatment Adherence and Compliance/
68	Interdisciplinary Communication/
69	Patient Education as Topic/
70	Practice Patterns, Physicians'/
71	Reminder Systems/
72	Patient Compliance/
73	Risk Management/
74	Telemedicine/
75	Self Care/
76	self monitoring.mp.
77	Self-Management/
78	self management.mp.

79	34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78
80	Randomized Controlled Trial/
81	Clinical Trial/
82	randomised controlled trial.mp.
83	randomized controlled trial.mp.
84	randomised trial.mp.
85	randomized trial.mp.
86	Retrospective Studies/
87	Prospective Studies/
88	Follow-Up Studies/
89	before and after.mp.
90	Evaluation Studies/
91	Program Evaluation/
92	Evaluation Studies as Topic/
93	Treatment Outcome/
94	Outcome Assessment (Health Care)/
95	Patient Outcome Assessment/
96	Problem-Based Learning/
97	Implementation Science/
98	Quality Improvement/
99	80 or 81 or 82 or 83 or 84 or 85 or 86 or 87 or 88 or 89 or 90 or 91 or 92 or 93 or 94 or 95 or 96 or 97 or 98
100	33 and 79 and 99
101	limit 100 to yr="2000 -Current"

21 **CINAHL Ultimate (EBSCOhost) search strategy**

S1	(MH Stroke)
S2	stroke
S3	cerebrovascular event
S4	cerebrovascular accident
S5	(MH Atrial Fibrillation)
S6	atrial fibrillation
S7	(MH Heart Valve Diseases)
S8	valvular heart disease
S9	structural heart disease
S10	(MH Peripheral Vascular Diseases)
S11	peripheral vascular disease
S12	(MH Anticoagulants)
S13	anticoagu*
S14	(MH Warfarin)
S15	warfarin
S16	non-vitamin K antagonist
S17	noac*
S18	doac*
S19	(MH Rivaroxaban)
S20	rivaroxaban
S21	apixaban
S22	(MH Dabigatran)
S23	dabigatran

S24	edoxaban
S25	(MH Factor Xa Inhibitors)
S26	(MH Platelet Aggregation Inhibitors)
S27	platelet aggregation inhibitors
S28	(MH Aspirin)
S29	aspirin
S30	antiplatelet
S31	antithrombotic
S32	anti-thrombotics
S33	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32
S34	(MH International Normalized Ratio)
S35	international normalised ratio
S36	international normalized ratio
S37	inr
S38	time in therapeutic range
S39	ttr
S40	(MH Clinical Decision Making)
S41	clinical decision making
S42	(MH Decision Support Systems, Clinical)
S43	clinical decision support
S44	(MH Decision Support Techniques)
S45	decision aids
S46	(MH "Delivery of Health Care, Integrated")
S47	integrated care
S48	nurse led
S49	nurse manager
S50	pharmacist led
S51	pharmacist managed
S52	(MH Pharmacists)
S53	pharmacist*
S54	(MH Pharmacy Service, Hospital)
S55	(MH Drug Monitoring)
S56	(MH Prescription Drug Monitoring Programs)
S57	electronic prescribing
S58	(MH Inappropriate Prescribing)
S59	(MH Prescriptions)
S60	(MH Electronic Health Records)
S61	electronic health records
S62	(MH Guideline)
S63	(MH Practice Guideline)
S64	(MH Practice Guidelines as Topic)
S65	(MH Guideline Adherence)
S66	(MH Medication Adherence)
S67	(MH "Treatment Adherence and Compliance")
S68	(MH Interdisciplinary Communication)
S69	(MH Patient Education as Topic)
S70	(MH Practice Patterns, Physicians')
S71	(MH Reminder Systems)
S72	(MH Patient Compliance)
S73	(MH Risk Management)

S74	(MH Telemedicine)
S75	(MH Self Care)
S76	self monitoring
S77	(MH Self-Management)
S78	self management
S79	S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50 OR S51 OR S52 OR S53 OR S54 OR S55 OR S56 OR S57 OR S58 OR S59 OR S60 OR S61 OR S62 OR S63 OR S64 OR S65 OR S66 OR S67 OR S68 OR S69 OR S70 OR S71 OR S72 OR S73 OR S74 OR S75 OR S76 OR S77 OR S78
S80	(MH Randomized Controlled Trial)
S81	(MH Clinical Trial)
S82	randomised controlled trial
S83	randomized controlled trials
S84	randomised trial
S85	randomized trial
S86	(MH Retrospective Studies)
S87	(MH Prospective Studies)
S88	(MH Follow-Up Studies)
S89	"before and after"
S90	(MH Evaluation Studies)
S91	(MH Program Evaluation)
S92	(MH Evaluation Studies as Topic)
S93	(MH Treatment Outcome)
S94	(MH "Outcome Assessment (Health Care)")
S95	(MH Patient Outcome Assessment)
S96	(MH Problem-Based Learning)
S97	(MH Implementation Science)
S98	(MH Quality Improvement)
S99	S80 OR S81 OR S82 OR S83 OR S84 OR S85 OR S86 OR S87 OR S88 OR S89 OR S90 OR S91 OR S92 OR S93 OR S94 OR S95 OR S96 OR S97 OR S98
S100	S33 and S79 and S99 Date limited to 2000-

22

23 PsycINFO (EBSCOhost) search strategy

S1	(MH Stroke)
S2	stroke
S3	cerebrovascular event
S4	cerebrovascular accident
S5	(MH Atrial Fibrillation)
S6	atrial fibrillation
S7	(MH Heart Valve Diseases)
S8	valvular heart disease
S9	structural heart disease
S10	(MH Peripheral Vascular Diseases)
S11	peripheral vascular disease
S12	(MH Anticoagulants)
S13	anticoagu*
S14	(MH Warfarin)
S15	warfarin

S16	non-vitamin K antagonist
S17	noac*
S18	doac*
S19	(MH Rivaroxaban)
S20	rivaroxaban
S21	apixaban
S22	(MH Dabigatran)
S23	dabigatran
S24	edoxaban
S25	(MH Factor Xa Inhibitors)
S26	(MH Platelet Aggregation Inhibitors)
S27	platelet aggregation inhibitors
S28	(MH Aspirin)
S29	aspirin
S30	antiplatelet
S31	antithrombotics
S32	anti-thrombotics
S33	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32
S34	(MH International Normalized Ratio)
S35	international normalized ratio
S36	international normalised ratio
S37	inr
S38	time in therapeutic range
S39	ttr
S40	(MH Clinical Decision Making)
S41	clinical decision making
S42	(MH Decision Support Systems, Clinical)
S43	clinical decision support
S44	(MH Decision Support Techniques)
S45	decision aids
S46	(MH "Delivery of Health Care, Integrated")
S47	integrated care
S48	nurse led
S49	nurse managed
S50	pharmacist led
S51	pharmacist managed
S52	(MH Pharmacists)
S53	pharmacist*
S54	(MH Pharmacy Service, Hospital)
S55	(MH Drug Monitoring)
S56	(MH Prescription Drug Monitoring Programs)
S57	(MH Electronic Prescribing)
S58	(MH Inappropriate Prescribing)
S59	(MH Prescriptions)
S60	(MH Electronic Health Records)
S61	electronic health records
S62	(MH Guideline)
S63	(MH Practice Guideline)
S64	(MH Practice Guidelines as Topic)
S65	(MH Guideline Adherence)

S66	(MH Medication Adherence)
S67	(MH "Treatment Adherence and Compliance")
S68	(MH Interdisciplinary Communication)
S69	(MH Patient Education as Topic)
S70	(MH Practice Patterns, Physicians')
S71	(MH Reminder Systems)
S72	(MH Patient Compliance)
S73	(MH Risk Management)
S74	(MH Telemedicine)
S75	(MH Self Care)
S76	self monitoring
S77	(MH Self-Management)
S78	self management
S79	S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50 OR S51 OR S52 OR S53 OR S54 OR S55 OR S56 OR S57 OR S58 OR S59 OR S60 OR S61 OR S62 OR S63 OR S64 OR S65 OR S66 OR S67 OR S68 OR S69 OR S70 OR S71 OR S72 OR S73 OR S74 OR S75 OR S76 OR S77 OR S78
S80	(MH Randomized Controlled Trial)
S81	(MH Clinical Trial)
S82	randomised controlled trial
S83	randomized controlled trials
S84	randomised trial
S85	randomized trial
S86	(MH Retrospective Studies)
S87	(MH Prospective Studies)
S88	(MH Follow-Up Studies)
S89	"before and after"
S90	(MH Evaluation Studies)
S91	(MH Program Evaluation)
S92	(MH Evaluation Studies as Topic)
S93	(MH Treatment Outcome)
S94	(MH "Outcome Assessment (Health Care)")
S95	(MH Patient Outcome Assessment)
S96	(MH Problem-Based Learning)
S97	(MH Implementation Science)
S98	(MH Quality Improvement)
S99	S80 OR S81 OR S82 OR S83 OR S84 OR S85 OR S86 OR S87 OR S88 OR S89 OR S90 OR S91 OR S92 OR S93 OR S94 OR S95 OR S96 OR S97 OR S98
S100	S33 and S79 and S99 Date limited to 2000-

24

25 Cochrane Database of Systematic Reviews (via Wiley) search strategy

#1	MeSH descriptor: [Stroke] explode all trees
#2	stroke
#3	cerebrovascular event
#4	cerebrovascular accident
#5	MeSH descriptor: [Atrial Fibrillation] explode all trees
#6	atrial fibrillation
#7	MeSH descriptor: [Heart Valve Diseases] explode all trees

#8	valvular heart disease
#9	structural heart disease
#10	MeSH descriptor: [Peripheral Vascular Diseases] explode all trees
#11	peripheral vascular disease
#12	MeSH descriptor: [Anticoagulants] explode all trees
#13	anticoagu*
#14	MeSH descriptor: [Warfarin] explode all trees
#15	warfarin
#16	non-vitamin K antagonist
#17	noac*
#18	doac*
#19	MeSH descriptor: [Rivaroxaban] explode all trees
#20	rivaroxaban
#21	apixaban
#22	MeSH descriptor: [Dabigatran] explode all trees
#23	dabigatran
#24	edoxaban
#25	MeSH descriptor: [Factor Xa Inhibitors] explode all trees
#26	MeSH descriptor: [Platelet Aggregation Inhibitors] explode all trees
#27	platelet aggregation inhibitors
#28	MeSH descriptor: [Aspirin, Dipyridamole Drug Combination] explode all trees
#29	aspirin
#30	antiplatelets
#31	antithrombotics
#32	anti-thrombotics
#33	{or #1-#32}
#34	MeSH descriptor: [International Normalized Ratio] explode all trees
#35	international normalised ratio
#36	international normalized ratio
#37	inr
#38	time in therapeutic range
#39	ttr
#40	MeSH descriptor: [Clinical Decision-Making] explode all trees
#41	clinical decision making
#42	MeSH descriptor: [Decision Support Systems, Clinical] explode all trees
#43	clinical decision support
#44	MeSH descriptor: [Decision Support Techniques] explode all trees
#45	decision aids
#46	MeSH descriptor: [Delivery of Health Care, Integrated] explode all trees
#47	integrated care
#48	nurse led
#49	nurse managed
#50	pharmacist led
#51	pharmacist managed
#52	MeSH descriptor: [Pharmacists] explode all trees
#53	pharmacist*
#54	MeSH descriptor: [Pharmacy Service, Hospital] 3 tree(s) exploded
#55	MeSH descriptor: [Drug Monitoring] explode all trees
#56	MeSH descriptor: [Prescription Drug Monitoring Programs] explode all trees
#57	MeSH descriptor: [Electronic Prescribing] explode all trees
#58	MeSH descriptor: [Inappropriate Prescribing] explode all trees
#59	MeSH descriptor: [Prescriptions] explode all trees

#60	MeSH descriptor: [Electronic Health Records] 1 tree(s) exploded
#61	electronic health records
#62	MeSH descriptor: [Guideline] explode all trees
#63	MeSH descriptor: [Practice Guideline] explode all trees
#64	MeSH descriptor: [Practice Guidelines as Topic] explode all trees
#65	MeSH descriptor: [Guideline Adherence] explode all trees
#66	MeSH descriptor: [Medication Adherence] explode all trees
#67	MeSH descriptor: [Treatment Adherence and Compliance] explode all trees
#68	MeSH descriptor: [Interdisciplinary Communication] explode all trees
#69	MeSH descriptor: [Patient Education as Topic] explode all trees
#70	MeSH descriptor: [Practice Patterns, Physicians'] explode all trees
#71	MeSH descriptor: [Reminder Systems] explode all trees
#72	MeSH descriptor: [Patient Compliance] explode all trees
#73	MeSH descriptor: [Risk Management] explode all trees
#74	MeSH descriptor: [Telemedicine] 3 tree(s) exploded
#75	MeSH descriptor: [Self Care] explode all trees
#76	self monitoring
#77	MeSH descriptor: [Self-Management] explode all trees
#78	self management
#79	{or #34- #78}
#80	MeSH descriptor: [Randomized Controlled Trial] explode all trees
#81	MeSH descriptor: [Clinical Trial] explode all trees
#82	randomised controlled trial
#83	randomized controlled trial
#84	randomised trial
#85	randomized trial
#86	MeSH descriptor: [Retrospective Studies] explode all trees
#87	MeSH descriptor: [Prospective Studies] explode all trees
#88	MeSH descriptor: [Follow-Up Studies] explode all trees
#89	before and after
#90	MeSH descriptor: [Evaluation Study] explode all trees
#91	MeSH descriptor: [Program Evaluation] explode all trees
#92	MeSH descriptor: [Evaluation Studies as Topic] explode all trees
#93	MeSH descriptor: [Treatment Outcome] explode all trees
#94	MeSH descriptor: [Outcome Assessment, Health Care] explode all trees
#95	MeSH descriptor: [Patient Outcome Assessment] explode all trees
#96	MeSH descriptor: [Problem-Based Learning] explode all trees
#97	MeSH descriptor: [Implementation Science] explode all trees
#98	MeSH descriptor: [Quality Improvement] explode all trees
#99	{or #80- #98}
#100	#33 and #79 and #99 Limited by date 2000-

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30 **Appendix 3: Definition of each of the 73 ERIC strategies and their mapping into 9 clusters (as per Waltz et al. 2015).**

Cluster	ERIC strategy	Definition
Train and educate stakeholders: 11 strategies	Conduct educational meetings	Hold meetings targeted toward different stakeholder groups (<i>e.g.</i> , providers, administrators, other organizational stakeholders, and community, patient/consumer, and family stakeholders) to teach them about the clinical innovation
	Conduct educational outreach visits	Have a trained person meet with providers in their practice settings to educate providers about the clinical innovation with the intent of changing the provider's practice
	Conduct ongoing training	Plan for and conduct training in the clinical innovation in an ongoing way
	Create a learning collaborative	Facilitate the formation of groups of providers or provider organizations and foster a collaborative learning environment to improve implementation of the clinical innovation
	Develop educational materials	Develop and format manuals, toolkits, and other supporting materials in ways that make it easier for stakeholders to learn about the innovation and for clinicians to learn how to deliver the clinical innovation
	Distribute educational materials	Distribute educational materials (including guidelines, manuals, and toolkits) in person, by mail, and/or electronically
	Make training dynamic	Vary the information delivery methods to cater to different learning styles and work contexts, and shape the training in the innovation to be interactive
	Provide ongoing consultation	Provide ongoing consultation with one or more experts in the strategies used to support implementing the innovation
	Shadow other experts	Provide ways for key individuals to directly observe experienced people engage with or use the targeted practice change/innovation
	Use train-the-trainer strategies	Train designated clinicians or organizations to train others in the clinical innovation
	Work with educational institutions	Encourage educational institutions to train clinicians in the innovation
Provide interactive assistance: 4 strategies	Centralize technical assistance	Develop and use a centralized system to deliver technical assistance focused on implementation issues
	Facilitation	A process of interactive problem solving and support that occurs in a context of a recognized need for improvement and a supportive interpersonal relationship
	Provide clinical supervision	Provide clinicians with ongoing supervision focusing on the innovation. Provide training for clinical supervisors who will supervise clinicians who provide the innovation

	Provide local technical assistance	Develop and use a system to deliver technical assistance focused on implementation issues using local personnel
Support Clinicians: 5 strategies	Create new clinical teams	Change who serves on the clinical team, adding different disciplines and different skills to make it more likely that the clinical innovation is delivered (or is more successfully delivered)
	Develop resource sharing agreements	Develop partnerships with organizations that have resources needed to implement the innovation
	Facilitate relay of clinical data to providers	Provide as close to real-time data as possible about key measures of process/outcomes using integrated modes/channels of communication in a way that promotes use of the targeted innovation
	Remind clinicians	Develop reminder systems designed to help clinicians to recall information and/or prompt them to use the clinical innovation
	Revise professional roles	Shift and revise roles among professionals who provide care, and redesign job characteristics
Utilise financial strategies: 9 strategies	Alter patient/consumer fees	Create fee structures where patients/consumers pay less for preferred treatments (the clinical innovation) and more for less-preferred treatments
	Alter incentive/allowance structures	Work to incentivize the adoption and implementation of the clinical innovation
	Access new funding	Access new or existing money to facilitate the implementation
	Develop disincentives	Provide financial disincentives for failure to implement or use the clinical innovations
	Fund and contract for the clinical innovation	Governments and other payers of services issue requests for proposals to deliver the innovation, use contracting processes to motivate providers to deliver the clinical innovation, and develop new funding formulas that make it more likely that providers will deliver the innovation
	Make billing easier	Make it easier to bill for the clinical innovation
	Place innovation on fee for service lists/formularies	Work to place the clinical innovation on lists of actions for which providers can be reimbursed (e.g., a drug is placed on a formulary, a procedure is now reimbursable)
	Use capitated payments	Pay providers or care systems a set amount per patient/consumer for delivering clinical care
	Use other payment schemes	Introduce payment approaches (in a catch-all category)
Develop stakeholder interrelationships;16 strategies	Build a coalition	Recruit and cultivate relationships with partners in the implementation effort
	Capture and share local knowledge	Capture local knowledge from implementation sites on how implementers and clinicians made something work in their setting and then share it with other sites
	Conduct local consensus discussions	Include local providers and other stakeholders in discussions that address whether the chosen problem is important and whether the clinical innovation to address it is appropriate
	Develop academic partnerships	Partner with a university or academic unit for the purposes of shared training and bringing research skills to an implementation project
	Develop an implementation glossary	Develop and distribute a list of terms describing the innovation, implementation, and stakeholders in the organizational change

	Identify and prepare champions	Identify and prepare individuals who dedicate themselves to supporting, marketing, and driving through an implementation, overcoming indifference or resistance that the intervention may provoke in an organization
	Identify early adopters	Identify early adopters at the local site to learn from their experiences with the practice innovation
	Inform local opinion leaders	Inform providers identified by colleagues as opinion leaders or “educationally influential” about the clinical innovation in the hopes that they will influence colleagues to adopt it
	Involve executive boards	Involve existing governing structures (e.g., boards of directors, medical staff boards of governance) in the implementation effort, including the review of data on implementation processes
	Model and simulate change	Model or simulate the change that will be implemented prior to implementation
	Obtain formal commitments	Obtain written commitments from key partners that state what they will do to implement the innovation
	Organize clinician implementation team meetings	Develop and support teams of clinicians who are implementing the innovation and give them protected time to reflect on the implementation effort, share lessons learned, and support one another’s learning
	Promote network weaving	Identify and build on existing high-quality working relationships and networks within and outside the organization, organizational units, teams, etc. to promote information sharing, collaborative problem-solving, and a shared vision/goal related to implementing the innovation
	Recruit, designate, and train for leadership	Recruit, designate, and train leaders for the change effort
	Use advisory boards and workgroups	Create and engage a formal group of multiple kinds of stakeholders to provide input and advice on implementation efforts and to elicit recommendations for improvements
	Use an implementation advisor	Seek guidance from experts in implementation
	Visit other sites	Visit sites where a similar implementation effort has been considered successful
Adapt and tailor to the context: 4 strategies	Promote adaptability	Identify the ways a clinical innovation can be tailored to meet local needs and clarify which elements of the innovation must be maintained to preserve fidelity
	Tailor strategies	Tailor the implementation strategies to address barriers and leverage facilitators that were identified through earlier data collection
	Use data experts	Involve, hire, and/or consult experts to inform management on the use of data generated by implementation efforts
	Use data warehousing techniques	Integrate clinical records across facilities and organizations to facilitate implementation across systems
Change infrastructure: 8 strategies	Change accreditation or membership requirements	Strive to alter accreditation standards so that they require or encourage use of the clinical innovation. Work to alter membership organization requirements so that those who want to affiliate with the organization are encouraged or required to use the clinical innovation

	Change liability laws	Participate in liability reform efforts that make clinicians more willing to deliver the clinical innovation
	Change physical structure and equipment	Evaluate current configurations and adapt, as needed, the physical structure and/or equipment (<i>e.g.</i> , changing the layout of a room, adding equipment) to best accommodate the targeted innovation
	Change record systems	Change records systems to allow better assessment of implementation or clinical outcomes
	Change service sites	Change the location of clinical service sites to increase access
	Create or change credentialing and/or licensure standards	Create an organization that certifies clinicians in the innovation or encourage an existing organization to do so. Change governmental professional certification or licensure requirements to include delivering the innovation. Work to alter continuing education requirements to shape professional practice toward the innovation
	Mandate change	Have leadership declare the priority of the innovation and their determination to have it implemented
	Start a dissemination organization	Identify or start a separate organization that is responsible for disseminating the clinical innovation. It could be a for-profit or non-profit organization
Use evaluative and iterative strategies: 10 strategies	Assess for readiness and identify barriers and facilitators	Assess various aspects of an organization to determine its degree of readiness to implement, barriers that may impede implementation, and strengths that can be used in the implementation effort
	Audit and provide feedback	Collect and summarize clinical performance data over a specified time period and give it to clinicians and administrators to monitor, evaluate, and modify provider behaviour
	Conduct cyclical small tests of change	Implement changes in a cyclical fashion using small tests of change before taking changes system-wide. Tests of change benefit from systematic measurement, and results of the tests of change are studied for insights on how to do better. This process continues serially over time, and refinement is added with each cycle
	Conduct local needs assessment	Collect and analyse data related to the need for the innovation
	Develop a formal implementation blueprint	Develop a formal implementation blueprint that includes all goals and strategies. The blueprint should include the following: 1) aim/purpose of the implementation; 2) scope of the change (<i>e.g.</i> , what organizational units are affected); 3) timeframe and milestones; and 4) appropriate performance/progress measures. Use and update this plan to guide the implementation effort over time
	Develop and implement tools for quality monitoring	Develop, test, and introduce into quality-monitoring systems the right input—the appropriate language, protocols, algorithms, standards, and measures (of processes, patient/consumer outcomes, and implementation outcomes) that are often specific to the innovation being implemented
	Develop and organize quality monitoring systems	Develop and organize systems and procedures that monitor clinical processes and/or outcomes for the purpose of quality assurance and improvement
	Obtain and use patients/consumers and family feedback	Develop strategies to increase patient/consumer and family feedback on the implementation effort

Engage consumers: 5 strategies	Purposely reexamine the implementation	Monitor progress and adjust clinical practices and implementation strategies to continuously improve the quality of care
	Stage implementation scale up	Phase implementation efforts by starting with small pilots or demonstration projects and gradually move to a system wide rollout
	Increase demand	Attempt to influence the market for the clinical innovation to increase competition intensity and to increase the maturity of the market for the clinical innovation
	Intervene with patients/consumers to enhance uptake and adherence	Develop strategies with patients to encourage and problem solve around adherence
	Involve patients/consumers and family members	Engage or include patients/consumers and families in the implementation effort
	Prepare patients/consumers to be active participants	Prepare patients/consumers to be active in their care, to ask questions, and specifically to inquire about care guidelines, the evidence behind clinical decisions, or about available evidence-supported treatments
	Use mass media	Use media to reach large numbers of people to spread the word about the clinical innovation

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Appendix 4: References to included and excluded studies

Included studies; references for n= 245 reports (includes sister/ related papers*)

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References to excluded studies (categorised by reason for exclusion):

Excludes

Of the 204 excluded study records:

- 66 studies were excluded due to **absence of implementation**:
 1. Alghadeer S, Alzahrani AA, Alalayet WY, Alkharashi AA, Alarifi MN. Anticoagulation Control of Warfarin in Pharmacist-Led Clinics Versus Physician-Led Clinics: A Prospective Observational Study. *Risk Manag Healthc Policy*. 2020;13:1175-9.
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- 19 studies were excluded due to a **combination of reasons**:
 1. Claudia LG, Virginia SA, Jesica NR, Alicia CG, Maria Jose NV, Ricardo ZM, et al. Dose adjustment of direct oral anticoagulants dose in elderly institutionalized patients. *European Journal of Clinical Pharmacy*. 2020;22:178-82.
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- 17 studies were excluded due to **no relevant outcomes**:

1. Alhmoud E, Abdelsamad O, Soaly E, Enany RE, Elewa H. Anticoagulation clinic drive-up service during COVID-19 pandemic in Qatar. *J Thromb Thrombolysis*. 2021;51(2):297-300.
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17. Zhu Z, Li C, Shen J, Wu K, Li Y, Liu K, et al. New Internet-Based Warfarin Anticoagulation Management Approach After Mechanical Heart Valve Replacement: Prospective, Multicenter, Randomized Controlled Trial. *J Med Internet Res*. 2021;23(8):e29529.

- 16 studies were excluded due to **duplicate record**:

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 11. Miele C, Taylor M, Shah A. Assessment of direct oral anticoagulant prescribing and monitoring pre- and post-implementation of a pharmacy protocol at a community teaching hospital. *Hospital Pharmacy.* 2017;52(3):207-13.
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- 6 studies were excluded due to **wrong drug**:
 1. Li A, Del Olmo MG, Fong M, Sim K, Lymer SJ, Cunich M, Caterson I. Effect of a smartphone application (Perx) on medication adherence and clinical outcomes: a 12-month randomised controlled trial. *BMJ Open.* 2021;11(8):e047041.

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 3. Jones AE, McCarty MM, Brito JP, Noseworthy PA, Cavanaugh KL, Cameron KA, et al. Randomized evaluation of decision support interventions for atrial fibrillation: Rationale and design of the RED-AF study. *Am Heart J*. 2022;248:42-52.
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 1. Neshewat J, Wasserman A, Alexandris-Souphis C, Haymart B, Feldeisen D, Kong X, et al. Reduction in epistaxis and emergency department visits in patients taking warfarin after implementation of an education program. *Thromb Res*. 2021;199:119-22.
 2. Reinhardt SW, Desai NR, Tang Y, Jones PG, Ader J, Spertus JA. Personalizing the decision of dabigatran versus warfarin in atrial fibrillation: A secondary analysis of the Randomized Evaluation of Long-term anticoagulation therapy (RE-LY) trial. *PLoS ONE*. 2021;16(8):e0256338.
 3. Woo BFY, Tam WWS, Rangpa T, Liao WF, Nathania J, Lim TW. A Nurse-Led Integrated Chronic Care E-Enhanced Atrial Fibrillation (NICE-AF) Clinic in the Community: A Preliminary Evaluation. *Int J Environ Res Public Health*. 2022;19(8).
 - 3 studies contained **no disaggregated data**:
 1. Najafi H, Rakhshan M. Effect of self-management interventions on complications of atrial fibrillation: A clinical trial. *Biomedical Research (India)*. 2018;29(12):2484-9.
 2. Xu N, Wang C, Wan J, Liu X, Li Z, Chen M. Effectiveness of pharmacist intervention in the management of coronary artery disease after index percutaneous coronary intervention: A single center randomized controlled trial. *International Journal of Clinical and Experimental Medicine*. 2019;12:7760-5.
 3. Zhang ZX, Schroeder-Tanka J, Stooker W, Wissen S, Khorsand N. Management of combined oral antithrombotic therapy by an antithrombotic stewardship program: A prospective study. *Br J Clin Pharmacol*. 2022;88(9):4092-9.

- 3 studies were **beyond review scope**
 1. Piccini JP, Xu H, Cox M, Matsouaka RA, Fonarow GC, Butler J, et al. Adherence to Guideline-Directed Stroke Prevention Therapy for Atrial Fibrillation Is Achievable. *Circulation*. 2019;139(12):1497-506.
 2. Wan LH, Zhang XP, You LM, Ruan HF, Chen SX. The Efficacy of a Comprehensive Reminder System to Improve Health Behaviors and Blood Pressure Control in Hypertensive Ischemic Stroke Patients: A Randomized Controlled Trial. *J Cardiovasc Nurs*. 2018;33(6):509-17.
 3. Spyropoulos AC, Giannis D, Cohen J, John S, Myrka A, Inlall D, et al. Implementation of the Management of Anticoagulation in the Periprocedural Period App Into an Electronic Health Record: A Prospective Cohort Study. *Clin Appl Thromb Hemost*. 2020;26:1076029620925910.
- 2 studies excluded due to **wrong timeframe**:
 1. Sawicki PT, Glaser B, Kleespies C, Stubbe J, Schmitz N, Kaiser T, Didjurgeit U. Long-Term Results of Patients' Self-Management of Oral Anticoagulation. *Journal of Clinical and Basic Cardiology*. 2003;6(1-4):59-62.
 2. White RH, McCurdy SA, von Marensdorff H, Woodruff DE, Jr., Leftgoff L. Home prothrombin time monitoring after the initiation of warfarin therapy. A randomized, prospective study. *Ann Intern Med*. 1989;111(9):730-7.
- 2 studies were **abstract only**:
 1. Goudie BM, Danskin KL, Al-Agilly SS, Fairfield G, Cunningham AD, McGregg JE, Cachia PG. Near Patient Monitoring of Anticoagulant Therapy in General Practice. *Scott Med J*. 2016;49(2):70-.
 2. Viswanathan K, Beith C, Pittaway L, Veevers W, Vickers C. An integrated multi-professional approach to AF management: Initial experience and short-term outcomes of a new rapid access clinic in secondary care. *Europace*. 2018;20 (Supplement 4):iv54.
- 1 study was a **secondary analysis**:
 1. Christensen TD, Maegaard M, Sorensen HT, Hjortdal VE, Hasenkam JM. Self- versus conventional management of oral anticoagulant therapy: effects on INR variability and coumarin dose in a randomized controlled trial. *Am J Cardiovasc Drugs*. 2007;7(3):191-7.

Appendix 5: Examples of limited and detailed descriptions of implementation strategies.

- *Salient content in italics.*

Limited:

Each patient was provided with a CoaguChek XS monitor (Roche Diagnostics NZ Ltd). The testing devices and test-strips were provided free by Roche Diagnostic for the trial period. The patients were taught how to perform an INR test using a finger prick blood sample. The patients used an online decision support package (INR Online Ltd, Palmerston North, NZ) to assist with dose recommendations. Each patient had access to a secure website protected by username and password. Access was free for the trial period. (Harper, 2011)

Detailed:

The pharmacists were trained in the use of the CoaguChek S INR monitor and given educational material relating to warfarin. The training typically involved approximately 2–3h with the pharmacists discussing anticoagulation and the use of the INR monitor. Pharmacists were shown how to conduct INR tests and were also observed conducting tests on consenting subjects or pharmacy staff. Problems or difficulties encountered by the researchers [through previous research activities (17, 18) and personal experience] were raised with the pharmacists and potential solutions to these difficulties were discussed. The pharmacists were provided with a laminated colour brochure on the INR monitor, and ongoing assistance if needed. Pharmacists were provided with INR monitors, tests strips and other consumables free of charge for the duration of the trial.

Local GPs were visited, informed of the availability of the CoaguChek S monitor in their region, and were invited to refer their patients to the pharmacy for POC testing. During the visits to the GPs, the accuracy of the CoaguChek S monitor (17, 18) and its use in several overseas countries was discussed.

Patients referred to the pharmacy or who were identified as taking warfarin were given an information sheet and gave written informed consent to undergo fingerprick testing at the pharmacy. Patients could have two types of testing performed in the pharmacy: comparison testing was defined as a pharmacy-based test taken within 4 h of conventional laboratory testing, and additional testing was a pharmacy-based test with no direct comparison laboratory test taken. All results were sent to the patient's GP via a specially designed fax form. The results of the testing, such as INR, time taken, outcome of test (dosage changes) were recorded. It was recommended to pharmacists that all results were recorded for patients in the standard warfarin educational booklet.

Pharmacists and GPs were instructed that this type of testing was not to replace conventional pathology testing. The service was offered free of charge to patients for the duration of the trial. Pharmacies were remunerated at a rate of \$4 per test for the duration of the trial. (Jackson, 2005)

Appendix 6: Table 4: Factors associated with the use of implementation strategies based on ERIC Clusters

	Engage consumers		Use evaluative & iterative strategies		Change infrastructure		Adapt & tailor to the context		Develop stakeholder interrelationships		Utilise financial strategies		Support clinicians		Provide interactive assistance		Train & educate stakeholders	
	N (%)	aOR (95% CI)	N (%)	aOR (95% CI)	N (%)	aOR (95% CI)	N (%)	aOR (95% CI)	N (%)	aOR (95% CI)	N (%)	aOR (95% CI)	N%	aOR (95% CI)	N (%)	aOR (95% CI)	N (%)	aOR (95% CI)
Study outcomes																		
Favourable	52 (33.3)	1.2 (.5-2.7)	56 (35.9)	1.9 (.8-4.7)	46 (29.5)	1.4 (.6-3.5)	37 (23.7)	1.9 (.7-4.9)	46 (29.5)	1.3 (.6-3.0)	31 (19.9)	.5 (.2-1.1)	60 (38.5)	1.5 (.5-2.5)	50 (32.1)	3.9 (1.5-9.7)*	108 (69.2)	1.1 (.5-2.6)
Identifies as an implementation study																		
Yes	14 (23)	.7 (.3-1.6)	30 (49.2)	1.7 (.8-4)	26 (42.6)	1.8 (.8-4)	22 (36.1)	2.6 (1.2-6.1)*	24 (39.3)	1.4 (.7-3)	18 (29.5)	1.0 (.4-2.3)	28 (45.9)	1.3 (.7-2.7)	17 (27.9)	.9 (.4-1.9)	32 (52.5)	.4 (.2-.8)*
Year of publication																		
2000-2004	10 (45.5)	ref	3 (13.6)	ref	3 (13.6)	ref	3 (13.6)	ref	1 (4.5)	ref	1 (4.5)	ref	6 (27.3)	ref	3 (13.6)	ref	19 (86.4)	ref
2005-2009	11 (37.9)	1.0 (.3-3.5)	5 (17.2)	2.5 (.4-14.2)	5 (17.2)	1.2 (.2-6.5)	5 (17.2)	1.2 (.2-6.4)	5 (17.2)	4.3 (.4-42.9)	2 (6.9)	1.5 (.1- 19.4)	8 (27.6)	.8 (.2-3.0)	3 (10.3)	.9 (.2-5.1)	22 (75.9)	.4 (.1-2.2)
2010-2014	12 (29.3)	.77 (.2-2.7)	10 (24.4)	3.6 (.7-18.9)	8 (19.5)	1.9 (.4-10)	3 (7.3)	.40 (.1-2.5)	11 (26.8)	5.91 (.7-53.3)	4 (9.8)	1.3 (.1-13.9)	11 (26.8)	.8 (.2-2.8)	13 (31.7)	4.5 (1.0-19.9)*	29 (70.7)	.4 (.1-1.7)
2015-2019	12 (20.7)	.5 (.1-1.9)	14 (24.1)	1.8 (.3-10.1)	15 (25.9)	2.0 (.4-10.3)	11 (19)	.8 (.2-4.1)	20 (34.5)	7.3 (.8-65.8)	13 (22.4)	3.0 (.3-29.3)	26 (44.8)	1.3 (.4-4.6)	20 (34.5)	6.0 (1.3-27.6)*	36 (62.1)	.3 (.1-1.6)
2020-2023	25 (37.9)	1.2 (.3-4.6)	39 (59.1)	11.1 (2.0-61.1)*	26 (39.4)	3.4 (.7-17.6)	24 (36.4)	1.6 (.3-8.0)	22 (33.3)	6.6 (.7-60.8)	28 (42.4)	8.9 (.9-84.2)	26 (39.4)	.9 (.3-3.4)	21 (31.8)	5.7 (1.2-27.2)*	41 (62.1)	.5 (.1-2.8)
Study Design																		
Observational	13 (27.7)	ref	23 (48.9)	ref	18 (38.3)	ref	17 (36.2)	ref	17 (36.2)	ref	14 (29.8)	Ref	22 (46.8)	ref	13 (27.7)	ref	25 (53.2)	ref
Quasi Experimental	22 (27.2)	.7 (.3-2.0)	29 (35.8)	1.2 (.4-3.2)	23 (28.4)	.90 (.3-2.3)	15 (18.5)	.34 (.1-1.0)*	28 (34.6)	.88 (.4-2.2)	21 (25.9)	1.1 (.4- 3.1)	33 (40.7)	.7 (.3-1.7)	25 (30.9)	1.0 (.4-2.6)	60 (74.1)	2.0 (.8-5.1)
RCT or variant-RCT	35 (39.8)	1.2 (.4-3.2)	19 (21.6)	.7 (.2-2.1)	16 (18.2)	.7 (.3-2.0)	14 (15.9)	.5 (.2-1.5)	14 (15.9)	.4 (.2-1.2)	13 (14.8)	.4 (.1-1.2)	22 (25)	.4 (.2-1.0)*	22 (25)	1.2 (.5-3.4)	62 (70.5)	1.1 (.4-2.9)
Type of OAC																		

VKAs only (Warfarin)	47 (33.6)	ref	35 (25)	ref	33 (23.6)	ref	24 (17.1)	ref	31 (22.1)	ref	23 (16.4)	ref	45 (32.1)	ref	37 (26.4)	ref	103 (73.6)	ref
VKAs and DOACS	14 (35)	1.6 (.5-4.5)	25 (62.5)	9.2 (2.8-30.4)**	14 (35)	1.1 (.4-3.3)	11 (27.5)	1.5 (.5-4.6)	15 (37.5)	1.2 (.4-3.3)	15 (37.5)	1.6 (.5-4.6)	21 (52.5)	1.6 (.6-4.1)	13 (32.5)	1.0 (.4-2.7)	25 (62.5)	.6 (.2-1.8)
DOACs only	6 (26)	.9 (.2-3.3)	10 (43.5)	2.1 (.5-7.8)	7 (30.4)	.6 (.2-2.0)	9 (39.1)	1.6 (.5-5.3)	10 (43.5)	2.7 (.9-8.4)	8 (34.8)	1.3 (.4-4.3)	6 (26.1)	.5 (.2-1.7)	6 (26.1)	1.0 (.3-3.6)	11 (47.8)	.5 (.2-1.7)
Population																		
AF + other indication	35 (33.7)	ref	35 (33.7)	ref	32 (30.8)	ref	23 (22.1)	ref	24 (23.1)	ref	19 (18.3)	Ref	39 (37.5)	ref	30 (28.8)	ref	72 (69.2)	ref
AF only	18 (29)	.91 (.4-2.2)	15 (24.2)	.3 (.1-1.0)*	13 (21)	.5 (.1-1.2)	13 (21)	1.2 (.4-3.0)	19 (30.6)	1.5 (.6-3.8)	13 (21)	1.5 (.5-4.2)	22 (35.5)	.8 (.3-1.7)	17 (27.4)	1.1 (.5-2.8)	43 (69.4)	1.8 (.7-4.5)
NVAF	4 (40)	.8 (.1-4.0)	5 (50)	.5 (.1-3.4)	4 (40)	1.3 (.2-6.7)	3 (30)	1.0 (.2-5.0)	4 (40)	1.7 (.4-8.4)	6 (60)	3.9 (.8-19.7)	5 (50)	2.3 (.5-12.0)	3 (30)	.6 (.1-3.2)	5 (50)	.4 (.1-1.8)
Other indications	6 (33.3)	.9 (.3-3.2)	7 (38.9)	2.8 (.8-10.7)	2 (11.1)	.3 (.0-1.5)	1 (5.6)	.2 (.0-2.3)	5 (27.8)	2.0 (.5-7.2)	4 (22.2)	3.0 (.7-13.2)	3 (16.7)	.3 (.1-1.4)	5 (27.8)	1.0 (.3-3.7)	13 (72.2)	.8 (.2-3.2)
Setting																		
Primary and secondary care	12 (40)	ref	15 (50)	ref	8 (26.7)	ref	5 (16.7)	ref	7 (23.3)	ref	5 (16.7)	ref	11 (36.7)	Ref	5 (16.7)	Ref	15 (50)	ref
Secondary care	45 (33.6)	1.4 (.4-4.5)	38 (28.4)	2.7 (.8 – 8.8)	30 (22.4)	.9 (.3-2.8)	29 (21.6)	.6 (.1-1.8)	34 (25.4)	.6 (.2-2.0)	26 (19.4)	.3 (.1-1.1)	43 (31.1)	.8 (.3-2.2)	39 (29.1)	.5 (.1-1.6)	98 (73.1)	.3 (.1-.9)*
Primary care	13 (25)	.8 (.3-2.0)	18 (34.6)	.5 (.2 – 1.4)	19 (36.5)	.8 (.3-1.8)	12 (23.1)	1.11 (.4-2.9)	18 (34.6)	.7 (.3-1.5)	17 (32.7)	.3 (.1-.7)*	23 (44.1)	.8 (.4-1.8)	16 (30.8)	.8 (.3-1.8)	34 (65.4)	.9 (.4-2.0)
Number of interventions tested																		
M (SD) Range [1-6]		1.4 (1.0-2.1)		1.1 (.7-1.7)		1.0 (.7-1.6)		1.1 (.7-1.7)		1.51 (1.0-2.2)*		1.30 (.9-2.0)		1.2 (.9-1.8)		1.3 (.3-2.0)		1.4 (.9-2.2)
Intervention type																		
Service Reorganisation	9 (20)	ref	12 (26.7)	ref	14 (31.1)	ref	6 (13.3)	ref	18 (40)	ref	9 (20)	ref	21 (46.7)	ref	13 (28.9)	ref	32 (71.1)	ref
Provider-focused	9 (13.2)	.5 (.2-1.6)	29 (42.6)	2.2 (.7-6.4)	25 (36.8)	1.3 (.5-3.4)	21 (30.9)	2.4 (.7-7.7)	18 (26.5)	.4 (.1-1.0)*	16 (23.5)	.90 (.3-2.9)	27 (39.7)	.7 (.3-1.8)	11 (16.2)	.4 (.1-1.1)	33 (48.5)	.4 (.2-1.1)
Patient-focused	43 (48.9)	3.7 (1.4-9.7)*	23 (26.1)	1.3 (.5-4.0)	10 (11.4)	.3 (.1-.9)*	14 (15.9)	1.5 (.4-5.2)	19 (21.6)	.4 (.2-1.2)	19 (21.6)	1.1 (.3-3.9)	23 (26.1)	.5 (.2-1.1)	31 (35.2)	1.6 (.6-4.2)	70 (79.5)	1.3 (.5-3.5)
Multi-category	9 (60)	3.9 (.9-16.4)	7 (46.7)	4.8 (.8-30.2)	8 (53.3)	3.4 (.8-14.8)	5 (33.3)	2.3 (.4-12.1)	4 (26.7)	.3 (.1-1.6)	4 (26.7)	.9 (.2-5.2)	6 (40)	.8 (.2-3.2)	5 (33.3)	.9 (.2-4.3)	12 (80)	1.2 (.2-6.4)

Note; * $p \leq 0.05$ ** $p \leq 0.001$. Key: aOR: adjusted Odds Ratio; CI: Confidence Interval; DOACs: Direct Oral Anticoagulants; M: Mean; NVAF: Non-Valvular Atrial Fibrillation; OR: Odds Ratio; SD: Standard Deviation; RCT: Randomised Controlled Trial; VKAs: Vitamin K Antagonists