

## Supplementary Tables

### Absolute numbers

Supplementary Table 1: Number of incident AF-patients with a high risk of stroke

	No OAC initiation according to guidelines	OAC initiation according to guidelines	Total
Danish origin	126,603	127,983	254,586
Western origin	3,364	3,309	6,673
Non-Western origin	2,085	1,672	3,757
<b>Total</b>	132,052	132,964	265,016

Supplementary Table 2: Number of incident AF-patients with a high risk of stroke divided according to guidelines

	Number of incident AF-patients with no OAC initiation according to guidelines	Number of incident AF-patients with OAC initiation according to guidelines
<i>Guideline valid from 1998-2001</i>		
Danish origin	22,500	12,216
Western origin	585	271
Non-Western origin	241	103
<i>Guideline valid from 2001-2006</i>		
Danish origin	40,248	29,583
Western origin	1,011	733
Non-Western origin	553	279
<i>Guideline valid from 2006-2011</i>		
Danish origin	25,353	18,377
Western origin	646	490
Non-Western origin	426	265
<i>Guideline valid from 2011-2013</i>		
Danish origin	15,826	17,966
Western origin	473	485
Non-Western origin	314	281
<i>Guideline valid from 2013-2017</i>		
Danish origin	22,676	49,841
Western origin	649	1,330
Non-Western origin	551	744
<i>Guideline valid from 2013-2017, NOAC treatment</i>		
Danish origin	38,849	33,668
Western origin	1,007	972
Non-Western origin	770	525
<i>Guideline valid from 2013-2017, VKA treatment</i>		
Danish origin	54,214	18,303
Western origin	1,559	420
Non-Western origin	1,047	248

### IRR results in tables

Supplementary Table 3: Unadjusted and adjusted IRR of OAC initiation according to origin for the guideline from 1998

	Unadjusted IRR [95% CI]	Adjusted* IRR [95% CI]
Danish origin (ref.)	1	1
Western origin	0.90 [0.81;0.99]	0.94 [0.85;1.03]

<b>Non-Western origin</b>	0.85 [0.72;1.00]	0.75 [0.63;0.88]
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Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, and antiplatelet drugs

Supplementary Table 4: Unadjusted and adjusted IRR of OAC initiation according to origin for the guideline from **2001**

	<b>Unadjusted IRR [95% CI]</b>	<b>Adjusted* IRR [95% CI]</b>
<b>Danish origin (ref.)</b>	1	1
<b>Western origin</b>	0.99 [0.94;1.05]	0.99 [0.93;1.05]
<b>Non-Western origin</b>	0.79 [0.72;0.87]	0.73 [0.66;0.80]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, and thyrotoxicosis

Supplementary Table 5: Unadjusted and adjusted IRR of OAC initiation according to origin for the guideline from **2006**

	<b>Unadjusted IRR [95% CI]</b>	<b>Adjusted* IRR [95% CI]</b>
<b>Danish origin (ref.)</b>	1	1
<b>Western origin</b>	1.03 [0.96;1.10]	0.99 [0.91;1.07]
<b>Non-Western origin</b>	0.91 [0.83;1.00]	0.80 [0.72;0.90]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, thyrotoxicosis, and coronary artery disease

Supplementary Table 6: Unadjusted and adjusted IRR of OAC initiation according to origin for the guideline from **2010**

	<b>Unadjusted IRR [95% CI]</b>	<b>Adjusted* IRR [95% CI]</b>
<b>Danish origin (ref.)</b>	1	1
<b>Western origin</b>	0.95 [0.89;1.01]	0.96 [0.90;1.02]
<b>Non-Western origin</b>	0.89 [0.81;0.97]	0.89 [0.82;0.97]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, major bleeding, renal disease, liver disease, peripheral artery disease/aortic plaque, NSAID

Supplementary Table 7: Unadjusted and adjusted IRR of OAC initiation according to origin for the guideline from **2012**

	<b>Unadjusted IRR [95% CI]</b>	<b>Adjusted* IRR [95% CI]</b>
<b>Danish origin (ref.)</b>	1	1
<b>Western origin</b>	0.98 [0.95;1.00]	0.99 [0.96;1.0]
<b>Non-Western origin</b>	0.84 [0.80;0.88]	0.88 [0.84;0.92]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, major bleeding, renal disease, liver disease, peripheral artery disease/aortic plaque, NSAID

Supplementary Table 8: Unadjusted and adjusted IRR of OAC initiation according to origin for the guideline from **2012** with NOAC as treatment

	<b>Unadjusted IRR [95% CI]</b>	<b>Adjusted* IRR [95% CI]</b>
<b>Danish origin (ref.)</b>	1	1
<b>Western origin</b>	1.06 [1.01;1.11]	1.06 [1.01;1.11]
<b>Non-Western origin</b>	0.87 [0.82;0.93]	0.95 [0.89;1.01]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, major bleeding, renal disease, liver disease, peripheral artery disease/aortic plaque, NSAID

Supplementary Table 9: Unadjusted and adjusted IRR of OAC initiation according to origin for the guideline from 2012 with VKA as treatment

	Unadjusted IRR [95% CI]	Adjusted* IRR [95% CI]
<b>Danish origin (ref.)</b>	1	1
<b>Western origin</b>	0.84 [0.77;0.92]	0.87 [0.80;0.95]
<b>Non-Western origin</b>	0.88 [0.68;0.85]	0.75 [0.67;0.84]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, major bleeding, renal disease, liver disease, peripheral artery disease/aortic plaque, NSAID

**Results stratified by sex**

Supplementary Table 10: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by sex for the guideline published in **1998**

	Unadjusted IRR [95% CI]		Adjusted* IRR [95% CI]	
	Male	Female	Male	Female
<b>Danish origin (ref.)</b>	1	1	1	1
<b>Western origin</b>	0.94 [0.82;1.07]	0.92 [0.80;1.06]	0.95 [0.84;1.08]	0.92 [0.80;1.06]
<b>Non-Western origin</b>	0.80 [0.65;0.99]	0.92 [0.72;1.18]	0.74 [0.60;2.40]	0.76 [0.59;0.98]

Adjusted for: age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, and antiplatelet drugs

Supplementary Table 11: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by sex for the guideline published in **2001**

	Unadjusted IRR [95% CI]		Adjusted* IRR [95% CI]	
	Male	Female	Male	Female
<b>Danish origin (ref.)</b>	1	1	1	1
<b>Western origin</b>	1.03 [0.96;1.11]	1.00 [0.92;1.09]	1.00 [0.93;1.07]	1.00 [0.92;1.09]
<b>Non-Western origin</b>	0.76 [0.67;0.85]	0.84 [0.72;0.98]	0.72 [0.63;0.82]	0.74 [0.63;0.87]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, and thyrotoxicosis

Supplementary Table 12: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by sex for the guideline published in **2006**

	Unadjusted IRR [95% CI]		Adjusted* IRR [95% CI]	
	Male	Female	Male	Female
<b>Danish origin (ref.)</b>	1	1	1	1
<b>Western origin</b>	1.07 [0.98;1.17]	1.03 [0.93;1.14]	1.00 [0.90;1.11]	1.00 [0.88;1.12]
<b>Non-Western origin</b>	0.78 [0.68;0.89]	1.09 [0.96;1.24]	0.74 [0.64;0.87]	0.87 [0.75;1.05]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, thyrotoxicosis, and coronary artery disease

Supplementary Table 13: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by sex for the guideline published in **2010**

	Unadjusted IRR [95% CI]		Adjusted* IRR [95% CI]	
	Male	Female	Male	Female
<b>Danish origin (ref.)</b>	1	1	1	1
<b>Western origin</b>	0.94 [0.87;1.03]	0.97 [0.89;1.07]	0.94 [0.87;1.03]	0.97 [0.88;1.06]
<b>Non-Western origin</b>	0.87 [0.77;0.97]	0.91 [0.80;1.04]	0.87 [0.79;0.99]	0.90 [0.79;1.03]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, major bleeding, renal disease, liver disease, peripheral artery disease/aortic plaque, NSAID

Supplementary Table 14: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by sex for the guideline published in **2012**

	Unadjusted IRR [95% CI]		Adjusted* IRR [95% CI]	
	Male	Female	Male	Female

<b>Danish origin (ref.)</b>	1	1	1	1
<b>Western origin</b>	1.00 [0.96;1.04]	0.96 [0.92;1.01]	1.01 [0.97;1.05]	0.97 [0.93;1.02]
<b>Non-Western origin</b>	0.82 [0.77;0.88]	0.85 [0.80;0.91]	0.87 [0.81;0.92]	0.90 [0.84;0.96]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, major bleeding, renal disease, liver disease, peripheral artery disease/aortic plaque, NSAID

**Results stratified by age groups**

Supplementary Table 15: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by age groups for the guideline published in **1998**

	Unadjusted IRR [95% CI]			Adjusted* IRR [95% CI]		
	Age <65	Age >64 & <75	Age >74	Age <65	Age >64 & <75	Age >74
<b>Danish origin (ref.)</b>	1	1	1	1	1	1
<b>Western origin</b>	0.93 [0.78;1.11]	0.96 [0.84;1.10]	0.82 [0.68;1.00]	0.98 [0.83;1.16]	0.98 [0.86;1.23]	0.83 [0.68;1.01]
<b>Non-Western origin</b>	0.74 [0.59;0.92]	0.64 [0.49;0.84]	0.95 [0.62;1.47]	0.83 [0.66;1.04]	0.68 [0.52;0.89]	0.98 [0.64;1.51]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, and antiplatelet drugs

Supplementary Table 16: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by age groups for the guideline published in **2001**

	Unadjusted IRR [95% CI]			Adjusted* IRR [95% CI]		
	Age <65	Age >64 & <75	Age >74	Age <65	Age >64 & <75	Age >74
<b>Danish origin (ref.)</b>	1	1	1	1	1	1
<b>Western origin</b>	1.00 [0.92;1.07]	1.01 [0.92;1.10]	0.90 [0.77;1.06]	1.00 [0.93;1.07]	1.03 [0.93;1.13]	0.89 [0.75;1.06]
<b>Non-Western origin</b>	0.72 [0.64;0.81]	0.68 [0.56;0.82]	0.52 [0.30;0.88]	0.77 [0.68;0.86]	0.76 [0.62;0.93]	0.53 [0.31;0.90]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, and thyrotoxicosis

Supplementary Table 17: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by age groups for the guideline published in **2006**

	Unadjusted IRR [95% CI]			Adjusted* IRR [95% CI]		
	Age <65	Age >64 & <75	Age >74	Age <65	Age >64 & <75	Age >74
<b>Danish origin (ref.)</b>	1	1	1	1	1	1
<b>Western origin</b>	0.98 [0.90;1.07]	1.00 [0.90;1.11]	1.11 [0.85;1.44]	1.00 [0.90;1.10]	0.97 [0.84;1.12]	0.93 [0.63;1.35]
<b>Non-Western origin</b>	0.76 [0.68;0.85]	0.80 [0.66;0.97]	1.19 [0.66;2.12]	0.81 [0.72;0.92]	0.74 [0.56;0.17]	1.25 [0.62;2.52]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, thyrotoxicosis, and coronary artery disease

Supplementary Table 18: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by age groups for the guideline published in **2010**

	Unadjusted IRR [95% CI]			Adjusted* IRR [95% CI]		
	Age <65	Age >64 & <75	Age >74	Age <65	Age >64 & <75	Age >74

<b>Danish origin (ref.)</b>	1	1	1	1	1	1
<b>Western origin</b>	0.97 [0.91;1.04]	0.86 [0.74;1.00]	0.70 [0.43;1.16]	0.99 [0.92;1.05]	0.88 [0.75;1.01]	0.73 [0.43;1.22]
<b>Non-Western origin</b>	0.82 [0.75;0.90]	0.94 [0.77;1.15]	0.43 [0.07;2.76]	0.88 [0.80;0.96]	0.96 [0.77;1.18]	0.39 [0.09;1.70]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, major bleeding, renal disease, liver disease, peripheral artery disease/aortic plaque, NSAID

Supplementary Table 19: Unadjusted and adjusted IRR of OAC initiation according to origin stratified by age groups for the guideline published in 2012

	Unadjusted IRR [95% CI]			Adjusted* IRR [95% CI]		
	Age <65	Age >64 & <75	Age >74	Age <65	Age >64 & <75	Age >74
<b>Danish origin (ref.)</b>	1	1	1	1	1	1
<b>Western origin</b>	0.98 [0.92;1.01]	0.95 [0.88;1.02]	1.07 [0.86;1.32]	0.99 [0.96;1.02]	0.95 [0.89;1.03]	1.11 [0.90;1.37]
<b>Non-Western origin</b>	0.81 [0.77;0.85]	0.88 [0.77;1.00]	1.19 [0.77;1.83]	0.86 [0.82;0.91]	0.89 [0.78;1.03]	1.32 [0.87;1.99]

Adjusted for: sex, age, income, work adherence, educational level, heart failure, hypertension, diabetes, prior stroke/TIA/thromboembolism, myocardial infarction, antiplatelet drugs, major bleeding, renal disease, liver disease, peripheral artery disease/aortic plaque, NSAID

## Codes

Supplementary Table 20: ICD-10 codes, ATC codes, and NCSP codes for included diseases, medications, and procedures

Disease, medication, or procedure	ICD-10	ATC	NCSP
AF	DI48	A10	
Vitamin K antagonists (VKA)		B01AA03, B01AA04	
Oral Anticoagulants (OAC)		B01AA03 B01AA04 B01AF01 B01AF02 B01AF03 B01AX06	
Dabigatran		B01AE07	
Diabetes	DE10-14; DE249; DE250		
Hypertension	DI10-15	C02; C03; C07; C08; C09	
Heart failure	DI50		
Prosthetic heart valve	DZ952; DI05, DI342		KFCA60; KFGE00; KFJF00; KFKD00; KFMD00; KFKA
Prior stroke	DG458, DG459		
Transient Ischemic Attack (TIA)	DG45		

Systemic embolus	DI74		
Myocardial infarction	I21, I22, I23		
Antiplatelet drugs			B01AC06, N02BA01 B01AC04 B01AC22 B01AC24 B01AC07, B01AC30
Thyrotoxicosis	E05	H03B	
Coronary artery disease	I20-25		
Major bleeding	I60-62 D500; D62  I850; I864A  K250; K252; K254; K256; K260; K262; K264; K266; K270; K272; K274; K276; K280; K282; K284; K286 K290; K298A; K625; K920; K921; K922 J942; R04 N02; R31 R58		
NSAID		M01A	
Peripheral artery diseases and aortic plaque	I700; I702; I739		
Renal disease	N00-N05; N07; N11; N14; N17; N18; N19; Q61, I12; I13		
Liver disease	B15.0; B16.0; B16.2; B19.0; I85; K70.4; K72; K76.6		