

2019

DynaMed Plus®

EBSCO Health Professional Services

CKN – What works?

August 2019

What we will cover today

Queensland Health Clinical Knowledge Network
Clinical Engagement & What works?
Shared Decision Making in Australia
Clinical case

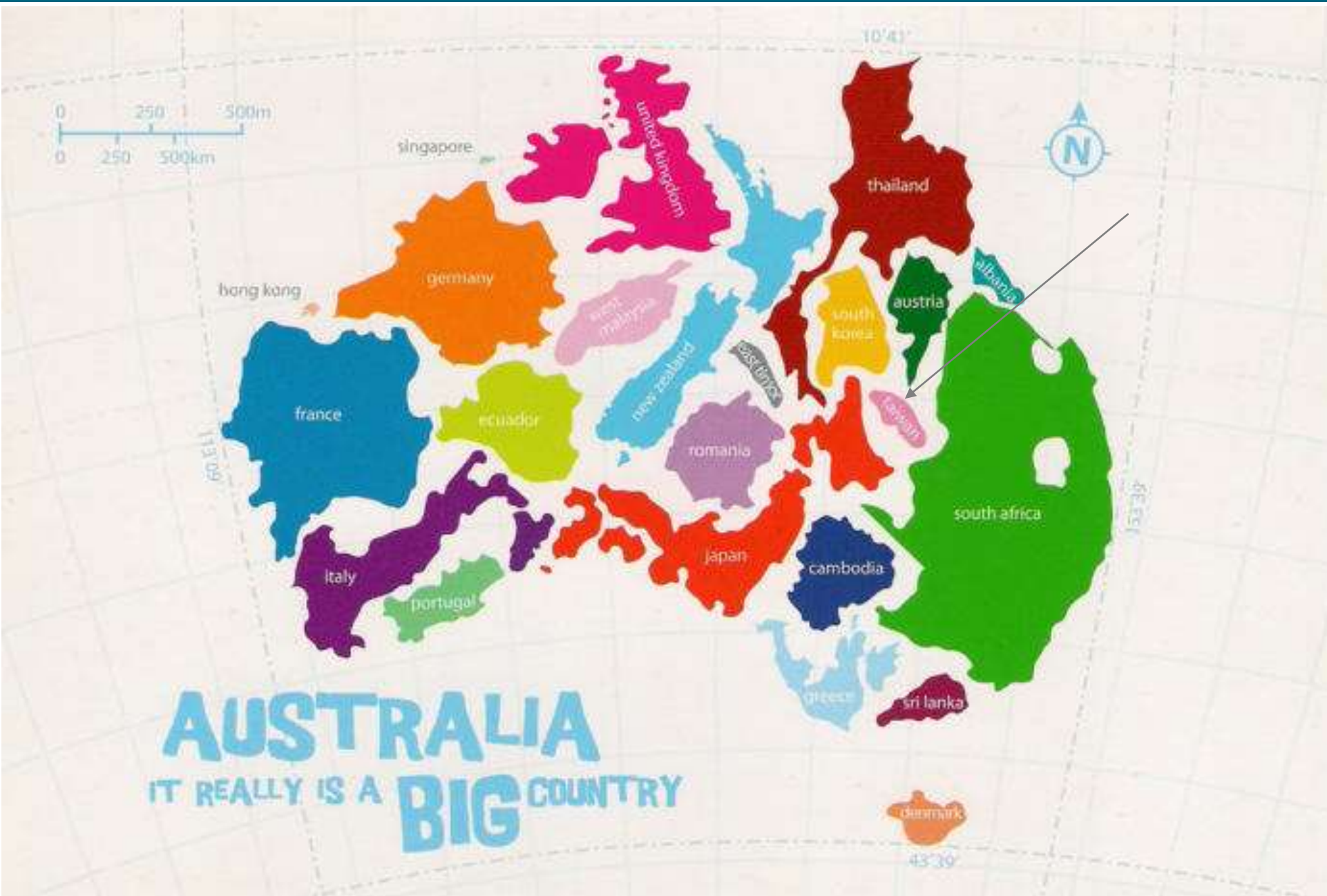
Australia

- Population 24.5 Million
- Medicare
- Ranked 8th Bloomberg's Healthcare Efficiency Score
- Aging population
- Rise in chronic disease

Taiwan

- Population 23.5 Million
- NHI
- Ranked 9th Bloomberg's Healthcare Efficiency Score
- Aging Population
- Rise in chronic disease

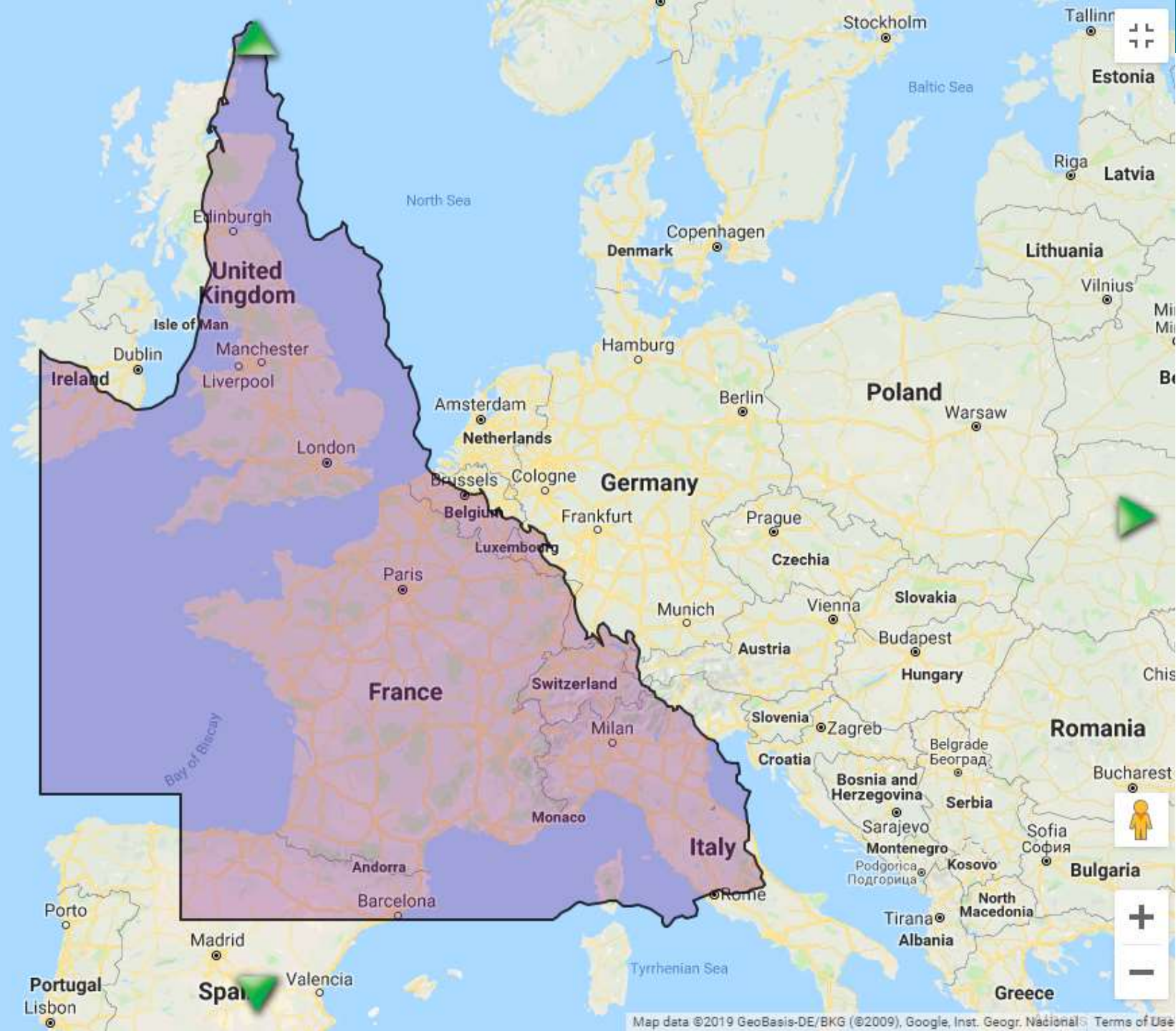


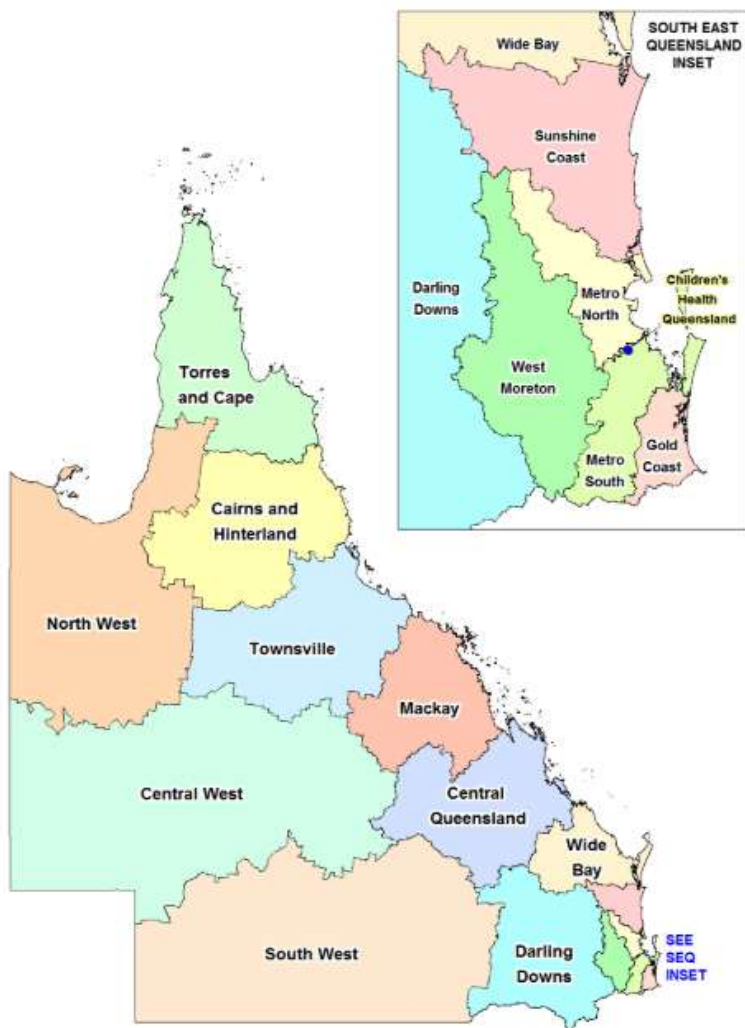


Map

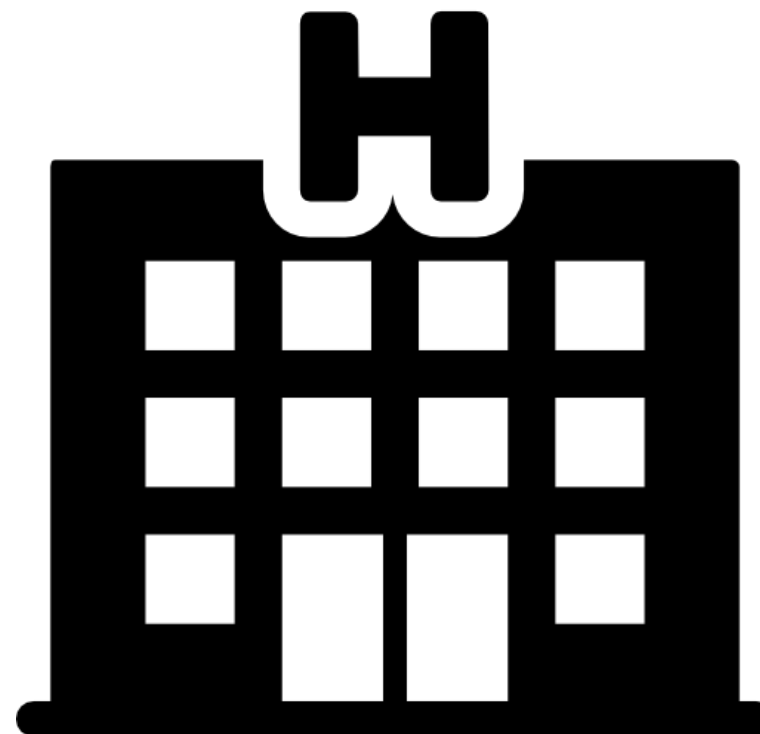
Satellite

QLD
Size 1.85 Million Km2
Population 5 Million





16 Hospital and Health Services



106 Hospitals

QLD Health Clinical Staff



6,548



20,360



6,230



4,120

Total 37,258

What works?

- Access outside of CKN portal
 - Mobile App
 - Remote Access
 - Desktop Links
 - EMR Link

What works?

- Access outside of CKN
- Engaging Medical Education
 - Orientation Programs
 - Interns
 - Residents/HMOs/PHOs
 - Registrars
 - Junior Medical Officer training days
 - Development Days

What works?

- Access outside of CKN
- Engaging Medical Education Units
- Engaging Clinical Educators
 - Nursing and Allied Health Educators
 - Orientation Programs
 - Development Days
 - In-session training
 - Ward Rounds

What works?

- Access outside of CKN
- Engaging Medical Education Units
- Engaging Clinical Educators
- Engage other State-wide Clinical Networks
 - Rural & Remote Clinical Support Unit
 - Clinical Excellence Division
 - eHealth Queensland
 - Queensland Ambulance Division

What works?

- Access outside of CKN
- Engaging Medical Education Units
- Engaging Clinical Educators
- Engage other State-wide Clinical Networks
- Sponsorships
 - Grand Rounds
 - Junior Medical Officer continuing development sessions
 - Career Days

What works?

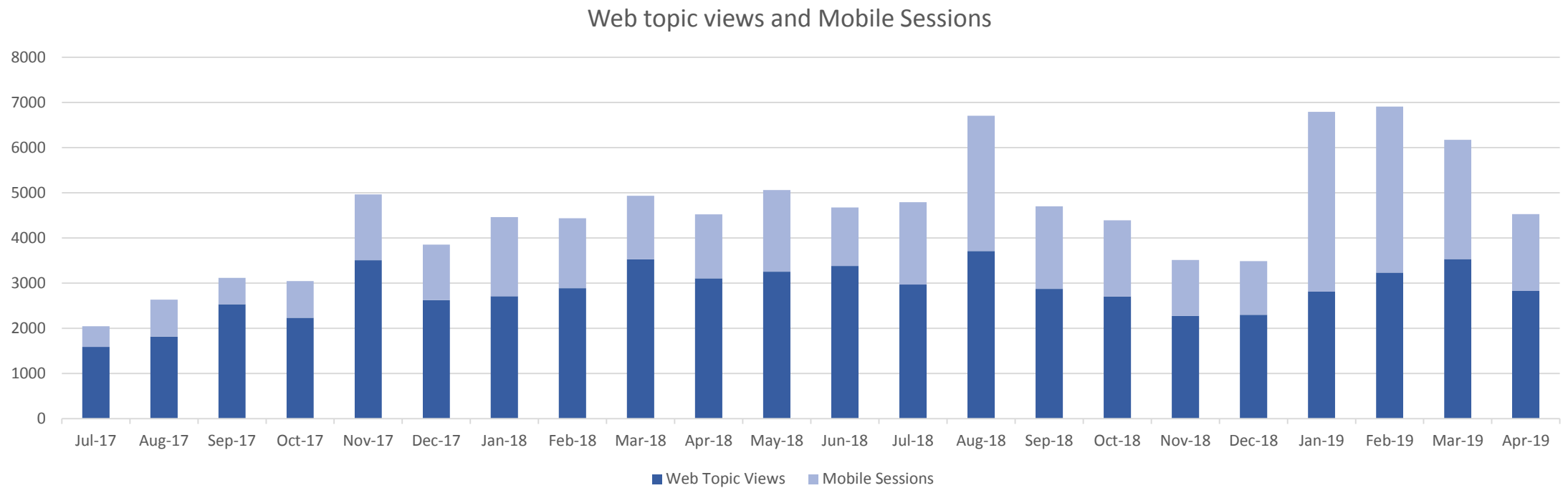
- Access outside of CKN
- Engaging Medical Education Units
- Engaging Clinical Educators
- Engage other State-wide Clinical Networks
- Sponsorships
- Super Users
 - Onsite “expert”
 - Conduct “peer-to-peer” sessions
 - 5 active Super Users
 - Director of Clinical Training
 - Resident
 - Pharmacist
 - Clinical Nurse Educator
 - Medical Research Assistant



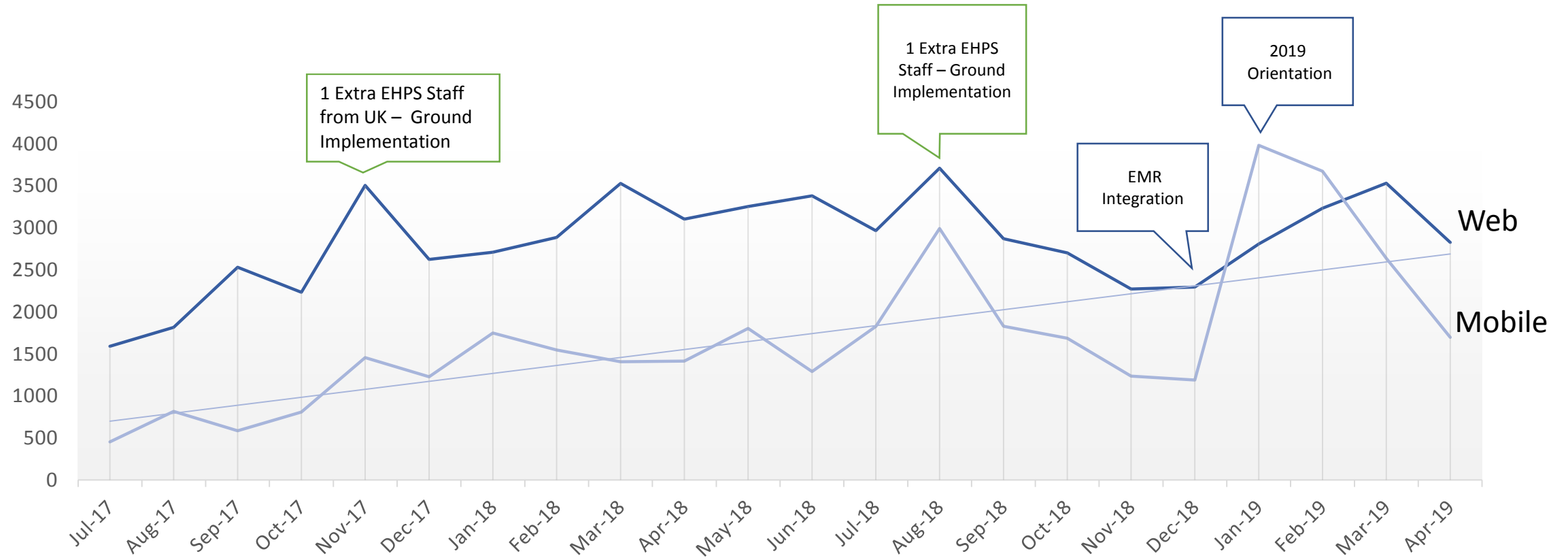
Challenges?

- QLD political environment
- Internal politics within CKN & HHSs
- EMR integration process

Total CKN Usage July 17 to April 19



CKN Mobile vs Web Usage July 17 to April 19



What works ?

Great success in Taiwan

- Mobile session grows from 42,316 to 58,245 and it's 38% increasing.(2018/1~7 & 2019/1~7)
- Top 6 country in the worldwide.
- DynaMed Success Story in China Medical University(will be published in 2019)
- Embed DynaMed with Hospital HIS System
 - China Medical University(Key Word)
 - Chi Mei Hospital(Key Word)
 - Taipei Veterans General Hospital(EBM Portal)
 - Kuo General Hospital(Key Word & ICD-10)
 - Ten-Chen Medical Group(icon)
 - Yonghe Cardinal Tien Hospital(icon)
 - Tzu Chi University & Buddhist Tzu Chi General Hospital(Teaching Portal)

Chi Mei Hospital

病歷號	姓名	IC卡號	部分負擔	12 . 一般健保	生日	年	月	日	
SOAP[F3]			處方[F4]		瀏覽繪圖				
Major Problems and History	smoking (+), alcohol drinking (+), dyslipidemia, hyperglycemia [過敏史]: 食物(無已知過敏史); 非食物(無已知過敏史); 藥物(無已知過敏史) 1061031 Lumbar spine: Mild disc space narrowing of L3/4 and L4/5.							出院診斷 SDM	
重要病史 196	insomnia improved after medicine. denied polydipsia, denied body weight loss, denied claudication (+).							全選 新增[A] 刪除[D] 修改[U] 巨集[M]	
S									
主述 138									
O1	2018/01/19: 血壓 135/82 mmHg 2016/12/30: 血壓 137/78 mmHg 2016/07/15: 血壓 104/65 mmHg BP: 121/74 --> 114/69 --> 117/74 --> 132/80 --> 138/77 --> 127/73 --> 141/76 --> 147/85 --> 135/98 --> 139/82 --> 130/80 --> 161/86							全選 巨集[M]	
身體檢查發現 291	106-03-25, HbA1c[5.8], Glucose A.C.[109], S-GPT(ALT)[48], Cho. Total[217], Cho. LDL[118], Cho. HDL[33], TG[305], Uric acid[9.0] 106-06-19, Creatinine[0.94], Na[141.0], K[4.32], CRP/hs-CRP[43.1] 106-06-19, W.B.C.[9.6], R.B.C.[5.12], Hb[15.0], Hct[45.5]							全選 DITTO F1: 巨集 F2: 代號	
O2									
檢驗檢查結果 252									
A									
鑑別診斷、病情及療效 290	BP: 129/84 mmHg, 110610 e: Mild disc space narrowing of L3/4 and L4/5, insomnia improved after medicine, suggest smoking quit, suggest lifestyle modification, suggest rehabilitation (+). suggest rehabilitation (+) 衛教, 自我健康管理及自行車 期: 04/13/2018(永康)							全選 常用 癌用 常用 確認[Q]	
P									
診療計畫									
診斷代碼	1300.00	2780.5	4	5	6				
中文	(慢)焦慮狀態	睡眠	性高脂						
ICD10	F419	3479	DynaMed檢索						
ICD10常用項	(慢)非特定的焦慮	(慢)睡眠障礙	(慢)混合型憂鬱						

KUO General Hospital

CUZ200 同診作業

病歷資料 病史紀錄 報告查詢 手術及輸血 預掛及住院 證明書及表單 參考資料 IC卡 雲端藥歷 其他 線上資料庫 癌症管理

年齡 052 生日 055/10/02 ☐ 欠卡 卡號 IC 身份 21_健保 折扣

☒ IC ☐ 欠IC卡 ☐ IC例外就醫 ☐ IC偏遠 部負 C10_一般門診 就醫類別 新生兒 註記 IC卡

資源共享 轉入院所 轉出院所

主訴與病史

案件別 09_西醫其它 給付別 4_普通疾病

TOCC發旋問診

重要檢查

52 歲7 月28 天

診斷碼 **疾病名稱** **疾病簡碼** 注意事項 治療效果 重大傷病

線上資料庫 癌症管理

開啟DynaMed Plus

依「學名」

依「商品名」

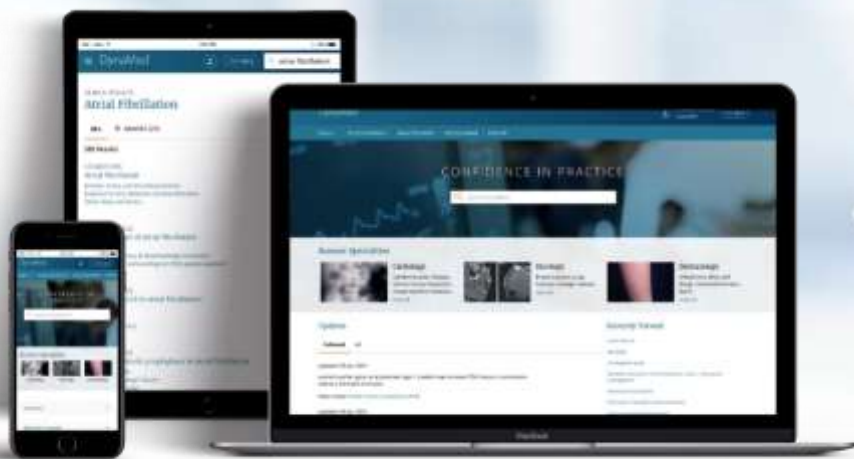
依【診斷碼名稱】

Ten-Chen Medical Group

ICD10	健促	菸檳行為	吸菸：否、喝酒：否、嚼檳榔：否			
全選		代號	品名	醫囑(P)	單位	次
全清						
反相						
上						
下						
\$						
刪除						
整批						
雲端						
化療						
拒做						
轉回診						
TOCC						
教學	DMP	診斷ICD10	請輸入理學 或 按F1 開窗查詢或 按"片			
檢傷	主訴集	診斷	藥品	前次處方	報告	預約掛號
急診病歷	理學集	組套	Lab報告	手術記錄	處置	取消預約

DynaMed®

IMPROVING PATIENT OUTCOMES
By Transforming Clinical Decision Support



The Most Useful Information



BEST EVIDENCE

- Systematic literature surveillance
- Critically appraised
- Synthesized
- Current



BEST GUIDANCE

- Recommendations based on the most recent clinical practice guidelines
- Backed by the best evidence
- Minimize bias

Complex Clinical Scenario

Clinical scenario:

75 y.o. female with new onset atrial fibrillation with a history of hypertension and diabetes mellitus.

What is her risk of stroke?

What is her bleeding risk?

What are her options for stroke prevention?

What are the relative risks and benefits of each of those options?

Thromboembolic prophylaxis in atrial fibrillation

TOPIC UPDATES



Overview and Recommendations

Background

Evaluation

> Management

Related Summaries

Overview

Definitions

> Recommendations

> Assessing Embolic and Bleeding Risk

> Risk-Based Approach to Antithrombotic Therapy

> Vitamin K Antagonists (VKAs)

> Direct Oral Anticoagulants (DOACs)

> Antiplatelet Therapy

Anticoagulant plus Antiplatelet

> Left Atrial Appendage Closure

> Thromboembolic Prophylaxis For Patients Undergoing Cardioversion

> Adverse Effects of Thromboembolic Prophylaxis

> Quality Improvement

Overview and Recommendations

Background

- Thromboembolism is a major complication of atrial fibrillation which may result in stroke or death.
- The risk of thromboembolism can be significantly reduced by an appropriate use of antithrombotic therapy but at a somewhat increased risk of bleeding.
- Most patients with atrial fibrillation are at increased risk of stroke and should receive thromboembolic prophylaxis in order to lower that risk.
- The net clinical benefit (risk of thromboembolism vs. risk of bleeding) needs to be considered in making a decision about what type of thromboembolic prophylaxis is used.

Evaluation

- Determine the patient's risk of stroke and major bleeding using a validated risk score such as (Strong recommendation):
 - CHA2DS2-VASc score for risk stratification of stroke risk
 - HAS-BLED score to predict the risk of bleeding
 - EBSCO Health A FIB decision support [\[link\]](#) for combining both calculators

Management

Treatment Based on Risk

- Consider using a shared decision making [patient decision aid](#) to select thromboembolic prophylaxis options and discuss individualized benefits and harms with your patient to inform patient preferences.

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Produced in collaboration with American College of Physicians



1. Complete Risk Scores

2. Select Options to Compare

Sex

Female

Age

75 Years or More

- ☐ Heart failure or left ventricular dysfunction
- ☒ Diabetes mellitus type 2
- ☒ Hypertension
- ☐ Previous stroke, TIA or thromboembolism
- ☐ Vascular disease (prior MI, PAD or aortic plaque)
- ☐ Alcohol Abuse
- ☐ Bleeding tendency or predisposition
- ☐ Abnormal liver function
- ☐ Abnormal renal function
- ☐ Labile INRs in patients taking warfarin
- ☐ Use of antiplatelet agents or NSAIDs

Risk of thromboembolism (mostly ischemic stroke) per year without treatment

CHA2DS2-VASc Score: 5

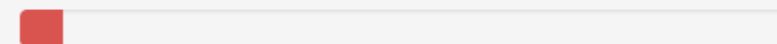
Risk: 15.26%



Risk of major bleeding per year without treatment

HAS-BLED Score: 2

Risk: 1.4%



1. Complete Risk Scores

2. Select Options to Compare

Sex

Female

Age

75 Years or More

- ☐ Heart failure or left ventricular dysfunction
- ☒ Diabetes mellitus type 2
- ☒ Hypertension
- ☐ Previous stroke, TIA or thromboembolism
- ☐ Vascular disease (prior MI, PAD or aortic plaque)
- ☐ Alcohol Abuse
- ☐ Bleeding tendency or predisposition
- ☐ Abnormal liver function
- ☐ Abnormal renal function
- ☐ Labile INRs in patients taking warfarin
- ☐ Use of antiplatelet agents or NSAIDs

Risk of thromboembolism (mostly ischemic stroke) per year without treatment

CHA2DS2-VASc Score: 5

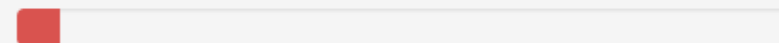
Risk: 15.26%



Risk of major bleeding per year without treatment

HAS-BLED Score: 2

Risk: 1.4%



1. Complete Risk Scores

2. Select Options to Compare

Brand name(s)	Co	Warfarin	Apixaban	Aspirin
Mechanism of action	Vit	Warfarin	Apixaban	Aspirin
Evidence for stroke prevention	Wa	Warfarin	Apixaban	Aspirin
RR for ischemic stroke (vs. no treatment)	0.3	Warfarin	Apixaban	Aspirin
Patient's annual risk for stroke with this treatment	5.3	Warfarin	Apixaban	Aspirin
NNT for reducing ischemic stroke	11 per year	Warfarin	Apixaban	Aspirin

Choose a treatment to add to the comparison grid:



Choose 2-3 to compare:	Annual Stroke Risk	Annual Bleeding Risk	Add/Drop
Anticoagulants	3.5% to 5.3%	2.9% to 5%	<input type="checkbox"/>
Warfarin	5.3%	4.2%	<input checked="" type="checkbox"/>
NOAC	3.5% to 5.3%	2.9% to 5%	<input type="checkbox"/>
Dabigatran	3.5% to 4.9%	3.4% to 3.9%	<input type="checkbox"/>
Rivaroxaban	4.7% to 5%	4.2% to 5%	<input type="checkbox"/>
Apixaban	4.9%	2.9%	<input checked="" type="checkbox"/>
Edoxaban	5.3%	3.4%	<input type="checkbox"/>
Antiplatelet Agents	7.3% to 15.3%	1.5% to 2.4%	<input type="checkbox"/>
Aspirin	10.7% to 15.3%	1.5%	<input checked="" type="checkbox"/>
Clopidogrel plus Aspirin	7.3% to 10.4%	2.4%	<input type="checkbox"/>
Left Atrial Appendage Closure	8.4%	1.5% to 2.3%	<input type="checkbox"/>

Close

Evidence for complications	Warfarin	Apixaban	Aspirin
	Warfarin may increase risk of major bleeding (level 2 [mid-level] evidence) ^{see DynaMed Plus for details}	Apixaban may have lower risk of major bleeding compared to warfarin (level 2 [mid-level] evidence) ^{see DynaMed Plus for details}	Aspirin might slightly increase risk for major bleeding (level 2 [mid-level] evidence) ^{see DynaMed Plus for details}

1. Complete Risk Scores

2. Select Options to Compare

Add/Change Options

	Warfarin	Apixaban	Aspirin
Brand name(s)	Coumadin, generic	Eliquis	Generic
Mechanism of action	Vitamin K antagonist	Factor Xa inhibitor	Platelet aggregation inhibitor

	Warfarin	Apixaban	Aspirin
Evidence for stroke prevention	Warfarin reduces risk of stroke (level 1 [likely reliable] evidence) ^{see DynaMed Plus for details}	Apixaban may reduce risk for ischemic stroke as effectively as warfarin (level 2 [mid-level] evidence) ^{see DynaMed Plus for details}	Aspirin might reduce risk for ischemic stroke (level 2 [mid-level] evidence) ^{see DynaMed Plus for details}
RR for ischemic stroke (vs. no treatment)	0.35	0.32	0.7-1.00 ^(explanation)
Patient's annual risk for stroke with this treatment	5.34% (Compare to baseline 15.26%)	4.88% (Compare to baseline 15.26%)	10.68% to 15.26% (Compare to baseline 15.26%)
NNT for reducing ischemic stroke	11 per year	10 per year	Infinity to 22 per year

	Warfarin	Apixaban	Aspirin
Evidence for complications	Warfarin may increase risk of major bleeding (level 2 [mid-level] evidence) ^{see DynaMed Plus for details}	Apixaban may have lower risk of major bleeding compared to warfarin (level 2 [mid-level] evidence) ^{see DynaMed Plus for details}	Aspirin might slightly increase risk for major bleeding (level 2 [mid-level] evidence) ^{see DynaMed Plus for details}
RR for major bleeding (vs. no treatment)	3	2.1	1.1
Patient's annual risk for major bleeding with this treatment	4.20% (Compare to baseline 1.4%)	2.94% (Compare to baseline 1.4%)	1.54% (Compare to baseline 1.4%)
NNH for increasing major bleeding	35 per year	64 per year	714 per year

	Warfarin	Apixaban	Aspirin
Side effects (nonbleeding)	Uncommon	Uncommon	Uncommon
Typical dosing	Once daily with dose titrated to maintain INR 2-3	5 mg twice daily	75-325 mg once daily
Renal dosing	No adjustment needed	2.5 mg twice daily if 2-3 of age ≥ 80 years, body weight ≤ 60 kg, or serum creatinine ≥ 1.5 mg/dL	No adjustment needed
Drug interactions	Many (and drug-food interactions)	Fenofibrate, fluconazole, nefazodone, orlistat, simeprevir, SNRIs, SSRIs, tipranavir; dual CYP3A4 and P-glycoprotein inhibitors	Cyclosporine, digoxin, diuretics, duloxetine, feverfew, ginkgo, lithium, methotrexate, oral hypoglycemics, SSRIs, tacrolimus, tricyclic antidepressants, venlafaxine
Antidote for reversal	Prothrombin complex concentrates and vitamin K	Not available	Not available

For supporting evidence, see DynaMed Plus ([Thromboembolic prophylaxis in atrial fibrillation: Comparing Treatment Options](#)).

Why should consumers buy DynaMed?

- Provide clinicians with latest clinical evidence and clinical practice guidelines to provide them with the knowledge they need to provide the best care
- Provide support for clinical decision making in normal workflow
- Improve clinical outcomes and quality of care
- Reduce cost

Policy making for healthcare at the hospital and governmental levels

Dynamed provides

- Large number of recommendations with clear distinction of which are strongly supported by clinical evidence
- Linking to over 20,000 clinical practice guidelines
- Appraisal of evidence behind Quality Measures

