Auditing CVD Risk Factors in Secondary Prevention- SURF
A flagship project of the European Association of Preventive Cardiology and of the ESC

Ian Graham, Diederick Grobbee, Min Zhao, Kerstin Klipstein-Grobush, Ilonca Vaartjes, Marie-Therese Cooney
for the SURF investigators
Trinity College, Dublin and University Medical Centre, Utrecht

https://surfriskfactor-audit.com/
The challenge-

How well are risk factors recorded and managed at present in persons with proven CHD?
Clinical audit

“A quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change”.

Completing the audit cycle implies implementing change [such as standard operating procedures (SOPs) and care pathways]- and re-auditing to measure the effect of the change.

It should be a positive process improvement tool, not a threat or a criticism.

Increasingly it is required for accreditation and training purposes
SURF—Survey of Risk Factors: a simplified audit

Prof. Ian Graham
Trinity College Dublin
Guidelines: Prevention as an example

SCORE, HeartScore, Evidence based reviews

Research
Guidelines
Audit
Implementation

EuroAspire
SURF

Prevention Implementation Committee
EuroAspire- the Gold Standard

- Well known European audit of risk factor management
- Two hospitals per country
- Standardised methods, both of data collection and laboratories
- Centralised analysis
- Very detailed assessments
- Attendance at a dedicated clinic/assessment unit might allow selection bias
- Sometimes presented- not by the primary investigators!- as if representative of the whole country
- Major commitment in terms of time and money limits participation to large, well resourced centres
- **Would it be possible to complement EuroAspire with a very simple, quick and economical audit that might be widely applied and represent practice throughout Europe and internationally?**
Audits: EuroAspire and SURF

Both study ACS, CABG, PCI. SURF also includes stable AP

- **EuroAspire**: Well known, high quality, standardized methodology, detailed, 2 hours per patient. Expensive.
- **SURF**: Similar diagnostic groups. Core information only, 90 secs per patient. One page data collection sheet, now electronic. Minimal costs.
- **SURF data**: Demographics, diagnosis, risk factor history, risk factor measurements, drug treatment (classes only)
- The two are intended to be complementary, not in competition, to allow more centres to participate to improve representativeness

- Overall, both show considerable potential for improved risk factor control
Survey of Risk Factors (SURF)

Dr. Ilonca Vaartjes, Julius Center for Health Sciences and Primary Care, UMC Utrecht, The Netherlands
Outline

- Aim: SURF CHD
- SURF 1
- SURF phase II
- Other members of the SURF family
Aim SURF

To simplify the assessment of the recording and control of coronary heart disease risk factors in different countries and regions.
## Data collection

### Demographics

<table>
<thead>
<tr>
<th>Initials:</th>
<th>Date of birth:</th>
<th>Hospital Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td></td>
<td>MRN:</td>
</tr>
<tr>
<td>□ Male</td>
<td></td>
<td>Date of examination:</td>
</tr>
<tr>
<td>□ Female</td>
<td></td>
<td>□ Public patient</td>
</tr>
</tbody>
</table>

Was the patient admitted to hospital in the last year with a CHD related reason? □ Yes □ No

### Risk factor history

<table>
<thead>
<tr>
<th>Smoking history</th>
<th>Physical activity</th>
<th>At what age did the patient complete full time education?</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Current smoker</td>
<td>□ Less than below</td>
<td>___ Years</td>
</tr>
<tr>
<td>□ Ex smoker</td>
<td>□ Moderate (walking or equivalent, 3 to 5 times per week)</td>
<td></td>
</tr>
<tr>
<td>□ Never smoked</td>
<td>□ More than this</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Known history of (Patient was told of diagnosis previously)</th>
<th>Most recent risk factor measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes □ No □ Hypertension</td>
<td>Fasting total chol mmol/l</td>
</tr>
<tr>
<td>□ □ □ Dyslipidaemia</td>
<td>Fasting LDL chol mmol/l</td>
</tr>
<tr>
<td>□ □ □ Diabetes type 2</td>
<td>Fasting HDL chol mmol/l</td>
</tr>
<tr>
<td>□ □ □ Diabetes type 1</td>
<td>Fasting triglycerides mmol/l</td>
</tr>
</tbody>
</table>

Did the patient ever participate in cardiac rehab? □ Yes, fully or in part □ No

### Medications

<table>
<thead>
<tr>
<th>Any anti-platelet</th>
<th>Any beta-blocker</th>
<th>Any ACE inhibitor</th>
<th>Any nitrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Any statin</td>
<td>Any Ca antagonist</td>
<td>Any diuretic</td>
<td>Any insulin</td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Any other lipid lowering agent</td>
<td>Any other anti-hypertensive</td>
<td>Any ARB</td>
<td>Any oral hypoglycaemic agent</td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
SURF – SUrvey of Risk Factor management: first report of an international audit

MT Cooney¹, Z Reiner², W Sheu³, L Ryden⁴, J de Sutter⁵, D De Bacquer⁶, G DeBacker⁶, A Mithal⁷, N Chung⁸, YT Lim⁹, A Dudina¹, A Reynolds¹, K Dunney¹ and I Graham¹ (for the SURF investigators and the Prevention, Epidemiology and Population Science Section of the European Association for Cardiovascular Prevention and Rehabilitation)
Belgium: 609  
Croatia: 1515  
Denmark: 300  
Ireland: 1831  
Italy: 1223  
North Ireland: 166  
Romania: 625  
Russia: 464  

China: 1152  
Taiwan: 735

10,186 from 79 centres in 11 countries
1. Cardiac rehab: Asia and the Middle East<2%
2. Diabetes: the Middle East>70%, Asia=40%
3. Central obese: the Middle East>50%
4. Targets: stricter LDL in all three regions<30%
Simplifying the audit of risk factor recording and control: A report from an international study in 11 countries

Min Zhao¹, Marie Therese Cooney², Kerstin Klipstein-Grobusch¹,³, Ilonca Vaartjes¹,⁴, Dirk De Bacquer⁵, Johan De Sutter⁶, Željko Reiner⁷, Eva Prescott⁸, Pompilio Faggiano⁹, Diego Vanuzzo¹⁰, Hussam AlFaleh¹¹, Ian BA Menown¹², Dan Gaita¹³, Nana Pogosova¹⁴, Wayne H-H Sheu¹⁵, Dong Zhao¹⁶, Huijuan Zuo¹⁷, Diederick E Grobbee¹,⁴ and Ian M Graham¹⁸

Quality assurance and the need to evaluate interventions and audit programme outcomes

Min Zhao¹, Ilonca Vaartjes²,³, Kerstin Klipstein-Grobusch¹,⁴, Kornelia Kotseva⁵,⁶, Catriona Jennings⁷, Diederick E Grobbee¹,³ and Ian Graham¹
SURF to date

• Pilot: n=1,000. Proved feasibility
• Phase 1: n=10,000, 79 centres, 11 countries
• Fewer smokers, more diabetes in Middle East
• Minimal access to cardiac rehabilitation in Asia and the Middle East
• High levels of inactivity
• Less overweight and abdominal obesity in Asia
• 30% at LDL target of 1.8mmol/l, 13% in Asia
• Statin and beta-blocker usage lower in Asia, calcium antagonists and nitrates higher

• PHASE II NOW STARTING AND WE INVITE MUCH WIDER PARTICIPATION
SURF Phase II

• Phase I mostly by personal contact
• **Phase II now formalized under the ESC Global Affairs Committee (Diederick Grobbee)**
• National CVD Prevention Co-ordinators (NCPCs) invited to lead nationally
• But existing National Co-ordinators asked to continue!
• Aim for many more centres (up to 300) internationally to increase representativeness.
• 57 NCS, 51 NCPCs, 47 ANCS
• Extending to nearly all geographic regions
• Patients per centre (50-100++)
• Data collection electronic only (RedCap) on PC, MAC, Tablet or Smartphone
• A few extra items
• Using multiple networks (e.g. ESC network) to invite cardiologists/centres to participate
SURF Phase II 15 November 2019

• 44 centres
• 24 countries
• 4 Regions – Europe, Asia, Middle East, S. America
• n=884
2018 Status participating countries SURF II
Growing rapidly
Wider international participation sought!
SURF study team

Prof. Ian Graham  
Trinity College Dublin

Prof. Diederick Grobbee  
Julius Centre, UMC

Dr. Marie-Therese Cooney  
University College Dublin

Dr. Kerstin Klipstein-Grobusch  
Julius Centre, UMC

Dr. Ilonca Vaartjes  
Julius Centre, UMC

Min Zhao  
Julius Centre, UMC

Original SURF collaborators
Dirk De Bacquer (Belgium), Johan De Sutter (Belgium), Željko Reiner (Croatia), Eva Prescott (Denmark), Pompilio Faggiano (Italy), Diego Vanuzzo (Italy), Hussam AlFaleh (KSA), Ian Menown (N.Ireland), Dan Gaita (Romania), Dan Gaita (Romania), Wayne H-H Sheu (Taiwan), Dong Zhao (China), Huijuan Zuo (China)
Why participate in SURF?

- You become part of an international collaboration
- National coordinators join the steering committee and are authors on international publications
- We return centre and country results with appropriate pooled (local and international) data to facilitate and encourage local, first author publications
- Audit is increasingly required for training and accreditation purposes – if we don’t do it, it will be done to us.
- Quick, easy and very cost-effective.

- PHASE II HAS NOW STARTED AND WE INVITE MUCH WIDER PARTICIPATION
The SURF family is growing

- **SURF CHD** and overall harmonization of protocols - Utrecht and Dublin
- **SURF RA** - Oslo, Anne-Grete Semb
- **SURF Stroke** - Pilot Dublin, Phase I likely Australia and UK
- **SURF COPD** - pilot Dublin
Participate?
M.Zhao@umcutrecht.nl
Thank you and
Contact information

- Min Zhao  M.Zhao@umcutrecht.nl
- Ilonca Vaartjes  C.H.Vaartjes@umcutrecht.nl
- Kerstin Klipstein-Grobusch  K.Klipstein-Grobush@umcutrecht.nl
- Ian Graham  ian@grahams.net
- Rick Grobbee  D.E.Grobbee@umcutrecht.nl