# Do we need a closer collaboration between stroke research networks?

**Professor Gary Ford, CBE, FRCP, FESO, FBPhS, FMedSci**
**Chief Executive Officer, Oxford Academic Health Science Network**
**Consultant Stroke Physician, Oxford University Hospitals**
**Visiting Professor of Clinical Pharmacology, Oxford University**

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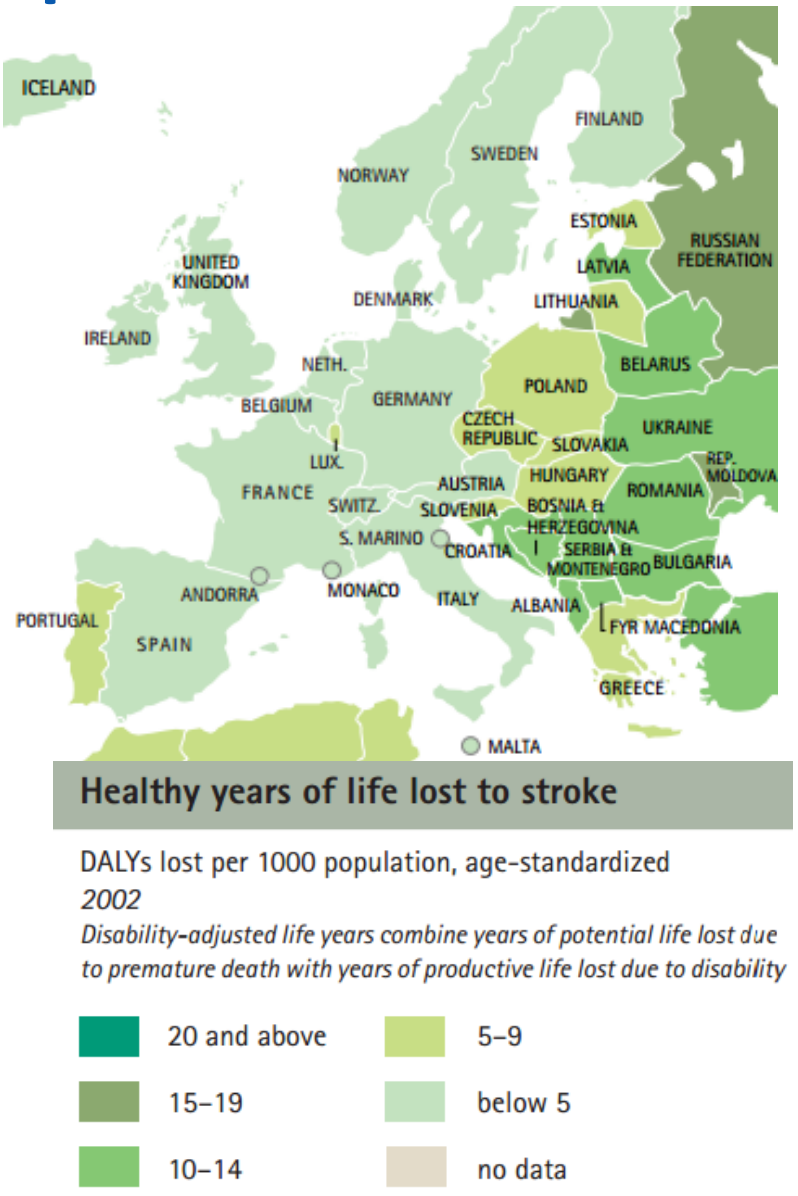
# The Burden of Stroke in Europe

- Each year 15 million people suffer a stroke worldwide
- ~ 2 million in Europe each year
- Third die, third permanently disabled
- EU cost of stroke 45 billion euros
- 3.7 million stroke survivors
- Stroke 24% increase in global years of life lost between 1990 and 2013
- Moving from 5th to 3rd leading cause




*GBD 2013 Mortality and causes of death collaboration, Lancet 2015*

# 650,000 deaths from stroke each year in Europe

***Standardised death rates for cerebrovascular diseases in Bulgaria were almost seven times as high as in France***

In 2013, the highest standardised death rates for cerebrovascular diseases were recorded in Bulgaria, Romania, Latvia, Lithuania, Croatia, Hungary and Slovakia,

Lowest rates were recorded in France, Spain, Luxembourg, Austria and Belgium.

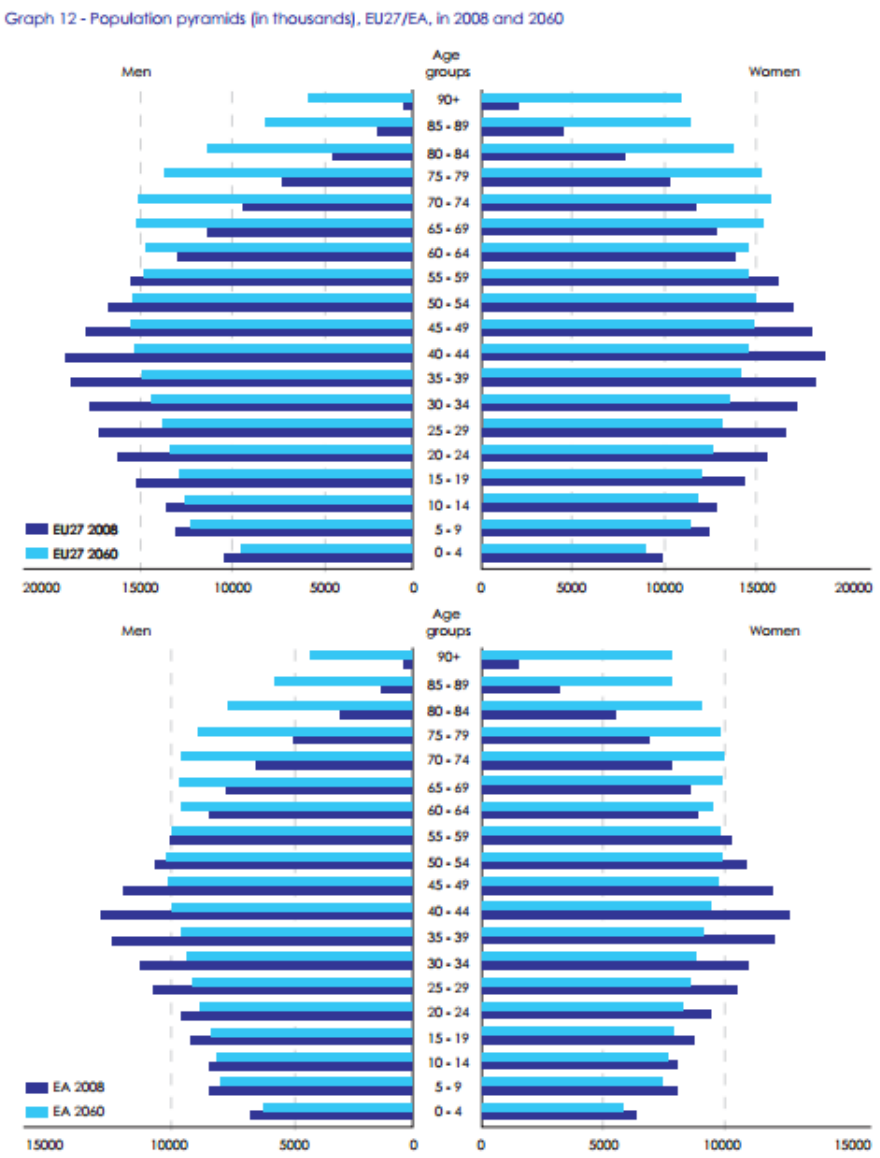
Low rates for women in Denmark and for men in the Netherlands, United Kingdom and Cyprus.

Very low death rates in Switzerland.

*http://ec.europa.eu/eurostat/statistics-explained/index.php/Cardiovascular_diseases_statistics*

# Ageing Demographics European Union 2008 to 2060

- Eurostat's population projections
- EU population will be slightly higher in 2060, 517 million
- Age structure of the population will be much older than it is now.
- Median age of the EU-27's population is projected to rise to 47.6 years.
- Those ≥ 65 years will account for 29.5 % of the population by 2060 (17.4 % in 2010).
- Proportion > 80 years projected to triple between 2010 and 2060.




http://www.aal-europe.eu/about/demographicchange/#sthash.0C5eu1a6.dpuf

# Acute Stroke Evidence Based Treatments - 1993

One evidence based treatment

Langhorne meta-analysis of stroke unit trials - Lancet 1993

First RCT 1962

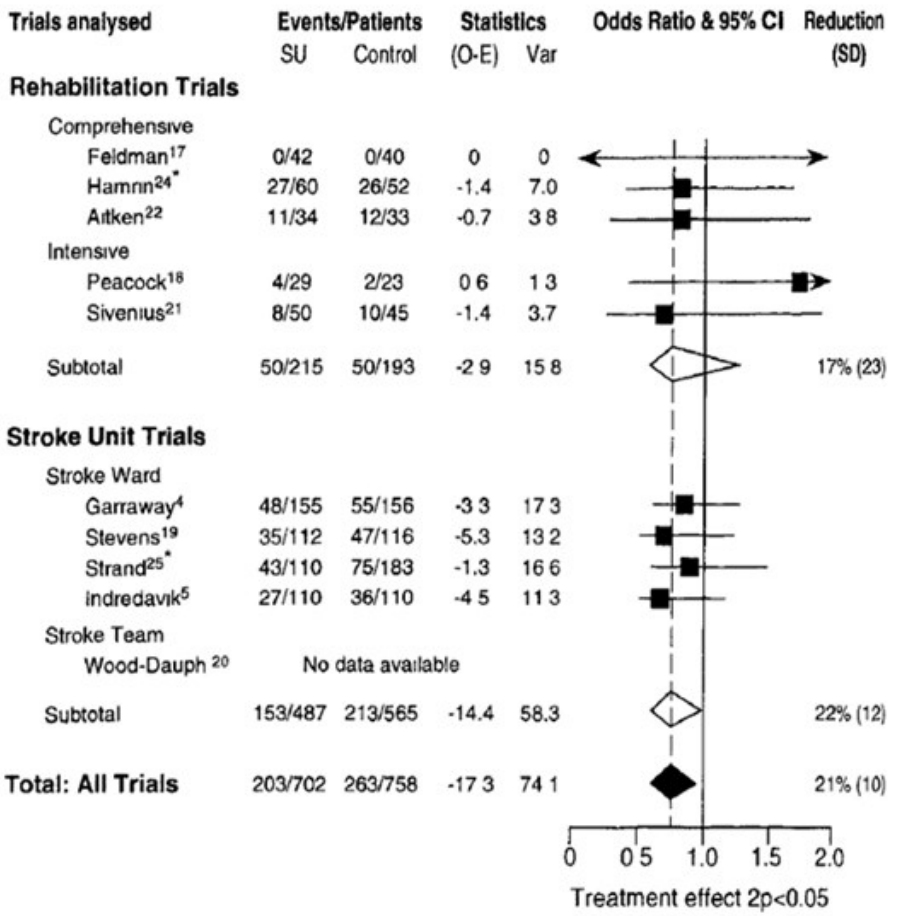



Figure 2: **Mortality within 1 year of a stroke: stroke unit (SU) *vs* general wards (control)**

# Acute Stroke Evidence Based Treatments - 2017

| | % ischaemic stroke patients that benefit | Prevention death/dependency per 100 treated | Prevention death/dependency per 100 admitted |
|---|---|---|---|
| Acute Stroke Unit | 100% | 5 | 5 |
| Thrombolysis 0-3 hr | 15% | 12 | 1.8 |
| Thrombolysis 3-4.5 hr | 3% | 7 | 0.2 |
| Thrombectomy 0-6 hr | 10% | 15 | 1.5 |
| Aspirin 0-48 hr | 65% | 1 | 0.5 |
| IPC Stockings 0-72 hr | 50% | 3 (death) | 1.5 |
| Hemicraniectomy 0-48 hr | 0.5% | 22 | 0.1 |

*Adapted from Gilligan AK et al. Cerebrovascular Diseases 2005*

# Europe has a highly productive stroke research community

**Stroke research 2001-2011** Clinical and Epidemiology articles

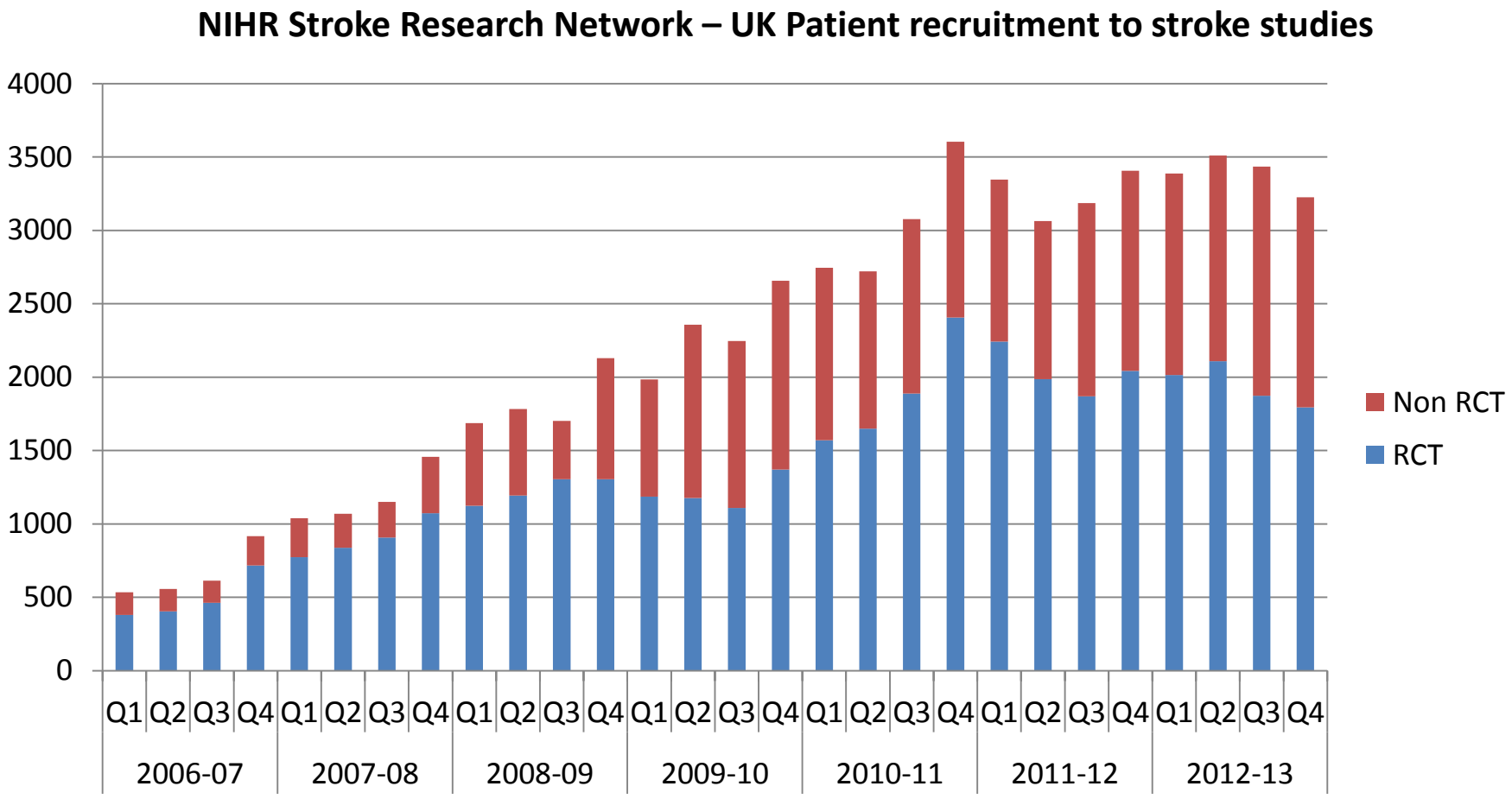
| | USA | UK | Japan | Germany |
|---|---|---|---|---|
| Published articles | 28.3% | 8.3% | 8.0% | 7.1% |
| Citations | 36.2% | 11.4% | 4.6% | 7.9% |
| H-index | 197 | 134 | 70 | 120 |

Citation per billion $US GDP

| | |
|---|---|
| Sweden | 5.48 |
| UK | 5.08 |
| USA | 2.48 |
| Germany | 2.39 |
| Japan | 0.84 |

*Asplund et al, Stroke 2012*

# Research networks can increase recruitment to clinical trials



# What are the challenges to the European Stroke Research Community?

- We need to generate high quality research to inform our health systems and stroke services how to reduce the future burden of stroke in Europe.
- It needs to be relevant to those populations that are most affected – Eastern Europe, very elderly.
- Treatments need to be able to be implemented across all European countries.
- Low level of European funding for stroke research. Most funding is from single country government or charity funders. Little funding of research infrastructure.
- Collaboration across European research groups but focused on collaborative research grants.
- Challenging regulatory systems to navigate for multi national trials.
- Very few European led, European wide clinical trials.

# Background to today's workshop

- Previous meetings (NIHR SRN/ StrokeNet) to discuss potential collaboration between national stroke research networks

  ESOC 2015 Glasgow; ESC 2014 Nice

- Global Alliance of Independent Networks focused on Stroke trials (GAINS) workshop (Nov 2016) with objectives:

  To collaboratively develop capacity and capability for international stroke clinical trial research across the continuum of care by:

  a) Identifying synergies and areas of focus across international stroke clinical trial networks that would accelerate stroke clinical trial activity and enrollment worldwide;

  b) Identifying simple and pragmatic opportunities to encourage effective application of novel research techniques;

  c) Initiating the establishment of a pathway to obtaining research funding through multiple agencies in multiple countries.

- ESO Clinical Trials committee held successful workshops on:

  Patient recruitment and retention in stroke trials, ESOC 2015
  Research Waste, ESOC 2016

# Purpose of Todays Workshop

- What can we do across Europe to improve funding, recruitment to and quality of clinical stroke trials / studies?
- What could an ESO based European Alliance do?
  - *What are the challenges for stroke research in Europe?*
  - *What should be the purpose of a European alliance?*
  - *What could be the structure of a European alliance?*
  - *What could be the next steps and goals/easy wins?*
- Form basis for a proposal to ESOC Executive
- We are <u>not</u> here to discuss:
  - Which clinical trial(s) to do next
  - Discuss how we work with other international clinical networks (for a future discussion)