

South West Anaesthetic Research Matrix

SWARM; a new model for trainee
research

SWARM

Peninsular Deanery

SWARM; who are we?

- * A Research and Audit collaborative
- * Anaesthetic STs (1-7) with Consultant support
- * Covers the geographical area of Devon, Cornwall and Somerset
- * 6 separate trusts

‘.....to conduct high quality, trainee lead, multi-centred research and audit across the peninsular deanery for the benefit of patients and their future care.....’

SWARM; The inspiration

- * (*My*) Frustration
- * Lack of opportunities
- * Lack of training / research education
- * Role of evidence based medicine
- * Current (local) culture around Audit
- * West Midlands Research Collaborative

SWARM; Our structure

- * Central committee (Trainee and Consultant members)
 - To manage SWARM
- * Local Trust Trainee and Consultant leads
 - Facilitate SWARM projects at local level
- * SWARM trainee membership covering / rotating through all peninsular sites
 - To do the work!!

TRURO

NICK BOYD
KATE SHARP
JONATHAN PADDLE

EXETER

JULIE LEWIS
SANDEEP KURSE
MATT RUCKLIDGE

PLYMOUTH

TOM CLARK
DANIELLE FRANKLIN
GARY MINTO

TAUNTON

BORYS TOPOR
ANDREW DONOVAN

COMMITTEE

TORBAY

CLARE HAMER
DAVE PORTCH
JANE MONTGOMERY
TOD GUEST

BARNSTAPLE

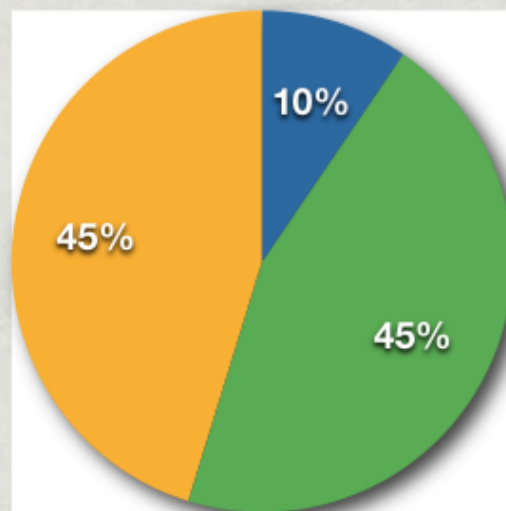
MATT BROWN
GUY ROUSSEU



SWARM; The membership

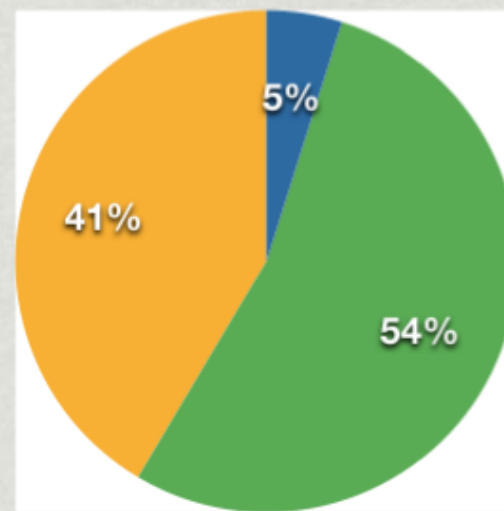
- * 46 trainees
- * 58% not been involved in clinical research
- * 13% not been involved in audit

Have you had good opportunity to do clinical research?



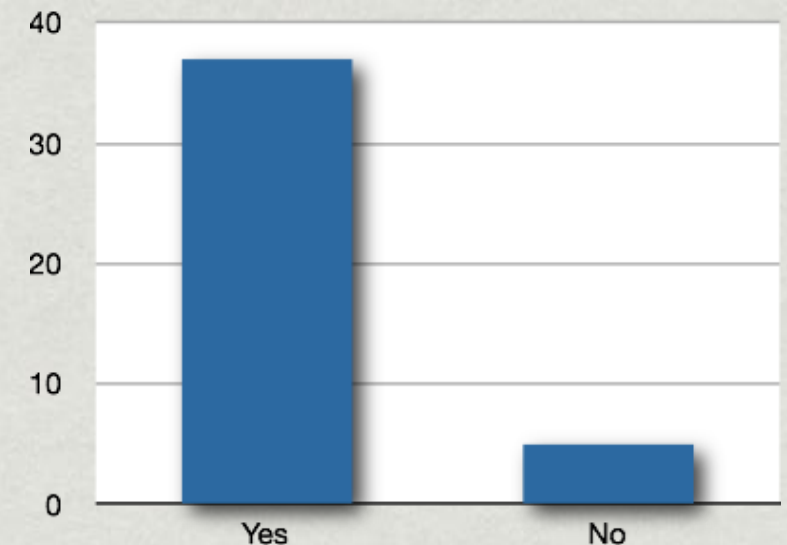
● Yes ● Some ● No

Have you had training in clinical research / EBM?



● Yes ● Some ● No

Would you like further training in EBM?



Yes No

SWARM; Timeline

6 month journey

- * 29/3/12; First email - all Consultants in 6 trusts.
- * 11/4/12; Second email - all Peninsular Trainees.
- * 04/12; SWARM committee formed.
- * 27/4/12; Meeting with SWARM President
- * 8/5/12; Third email - all Trainees via departments
- * 24/5/12; Presentation at Specialist Training Committee

SWARM; Timeline

- * 29/5/12; SWARM membership list (31 trainees)
- * 31/5/12; Inaugural SWARM committee meeting
- * Constitution including ***authorship rules*** agreed
- * June 12; Local trust leads nominated
- * June 12; Design of SWARM AP 1
- * 25/6/12; SWARM AP 1 Pilot in 3 trusts

SWARM; Timeline

- * July 12; LAS VEGAS expression of interest
- * 2/7/12; SWARM AP 1 pilot feedback
- * 10/7/12; Regional presentation at PFSD
- * 9-20/7/12; Departmental presentations at 6 sites
- * 16-30/7/12; SWARM AP 1 data collection.
- * 31/7/12; Innovation fund application
- * 27/9/12; NIAA presentation!

THE PLAN.....

Regional audit

Recruit for a 'NIHR-badged' trial

Home-grown, multi-centred research study

SWARM AP 1

Percentage of patients undergoing 'emergency' surgery who are at risk of post-operative pulmonary complications

Timing of emergency surgery on the 24-hour clock

SWARM AUDIT PROJECT 1

1. The percentage of patients undergoing emergency surgery who are at risk of post operative pulmonary complications
2. The timing of emergency surgery on the 24 hour clock (RCoA 2004)

SWARM AP 1

- * ***Proof of concept***, to engineer the *matrix*
- * ***Snap audit***, Rapid 2 week window
- * ***Pilot phase***; 1 day period of data collection in 3 trusts
- * ***Audit phase***; 2 week period of data collection in 6 trusts

SWARM-AP 1 - Context

- * PROVHILO; an international, multi-centred RCT is nearing completion
- * Investigating the effect of two ventilatory strategies on risk of adverse pulmonary outcome
- * Uses the ARISCAT score to define risk of post-operative pulmonary complications
- * SWARM-AP 1 allowed us to define the extent of this problem in our region

SWARM-AP 1 - Context

- ✱ LAS VEGAS; Local Assessment of Ventilatory Management during General Anesthesia for Surgery
- ✱ International, multi-centred observational cohort study to characterise mechanical ventilation practices during general anaesthesia for surgery
- ✱ ESA clinical trial network supported. NIHR portfolio badged
- ✱ SWARM will act as a recruiting body for this study

SWARM-AP 1 - Context

- ✱ RCoA 'Raising the Standard; a compendium of audit recipes' (2006) will recently be replaced with a new edition
- ✱ There is a possibility that these new audits may be centralised at a college level
- ✱ SWARM could provide a model for this with SWARM-AP 1 using the old (section 4.2 2006) 'Timing of emergencies on the 24 hour clock' recipe.

SWARM-AP I

SWARM data collector:

Date:

Patient no.:	M F	Procedure:
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ASA:	1	2	3	4	5
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Modified RCRI score

ARISCAT Risk Index

Independent variable	Tick if YES	Risk score
Age (yr)		
≤ 50		
51 – 80		3
> 80		16
Preoperative SpO₂, %		
≥ 96		
91 – 95		8
≤ 90		24
LRTI in the last month		17
Pre-op Hb ≤ 10 (g/dL)		11
Surgical incision		
Peripheral		
Upper abdominal		15
Intrathoracic		24
Duration of surgery, h		
≤ 2		
> 2 to 3		16
> 3		23
Emergency procedure		8
ARISCAT score		

Risk factors	Tick if YES
Hx IHD	
Hx CCF	
Hx TIA / CVA	
Hx DM	
Hx Cr > 177	
Age > 70	

	Tick if YES
NCEPOD	
Immediate	
Urgent	
Expedited	
Elective	
Anaesthetist grade	
ST 1-2	
ST 3-7	
Consultant / Staff grade	
Surgeon grade	
ST 1-2	
ST 3-7	
Consultant / Staff Grade	

Time of operation	Tick if YES
Start	
8:00 to 18:00	
18:00 to 24:00	
00:00 to 08:00	
End	
8:00 to 18:00	
18:00 to 24:00	
00:00 to 08:00	

Patient History	Tick if YES
Undergoing laparoscopic surgery	
Age < 18	
BMI > 40	
Previous lung surgery	
Immunosuppression medication	
Pregnant	
Ventilated in the last 30 days	
ALI / ARDS	
Severe COPD	
NYHA 3/4	
Severe ACS	
Any neuromuscular disease	

Post-op care	Tick if YES
Ward	
Extended recovery	
HDU	
ICU (level 3, I+V)	
Planned pre-op?	

'Timing of emergency surgery on the 24 hour clock'

Suggested indicators

% of emergency cases performed between 0800 h and 1800 h.

% of emergency cases performed between 1800 h and 2400 h.

% of emergency cases performed between 2400 h and 0800 h.

% of cases started after midnight which are true emergencies as defined by NCEPOD (immediate life-saving operations, where resuscitation is simultaneous with surgical treatment).²

Number of urgent or other non-emergency cases as defined by NCEPOD started after midnight with reasons.

Proposed standard or target for best practice

The suggested target of best practice should be that 60% or more of emergency cases are started between 0800 h and 1800 h, with 5% or fewer emergency cases starting between 2400 h and 0800 h.

100% cases starting after 2400 h should be classified as an 'emergency' as defined by NCEPOD or reasons for variance documented.

These targets may be redefined after the initial audit.

Prediction of Postoperative Pulmonary Complications in a Population-based Surgical Cohort

Jaume Canet, M.D., Ph.D.,* Lluís Gallart, M.D., Ph.D.,† Carmen Gomar, M.D., Ph.D.,‡
Guillem Paluzie, M.D.,§ Jordi Vallès, M.D.,† Jordi Castillo, M.D., Ph.D.,† Sergi Sabaté, M.D., Ph.D.,||
Valentín Mazo, M.D.,# Zahara Briones, M.Math.,** Joaquín Sanchis, M.D., Ph.D.††; on behalf of the
ARISCAT Group‡‡

- * 7 point score to objectively sign-post risk of PPC
- * A PPC increased length of stay
- * A PPC increased 30 day and 90 day mortality
- * An ARISCAT score of > 26 indicated a moderate risk of PPC
- * An ARISCAT score of > 45 a high risk of PPC

SWARM AP 1

- * Recruited 437 patients
- * Recruitment rate of 85%
- * 112 patients (25%) at intermediate or high risk of PPC
- * 37 pts. (8%) operated on after midnight
- * 17 (46%) non-immediate surgery

SWARM

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Implementation

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KEY concepts of *the plan.....*

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TRAINEE INVOLVEMENT

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MOMENTUM

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SELF-PROMOTION

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SWARM; The difficulties

- ✱ The Idea (WMRC)
- ✱ Trainee interest / support

‘.....you’ll either need a **big carrot** or a **big stick**.....probably both....’

‘....make it so NOT to be involved
makes you stand out..’

‘.....critical mass.....’

SWARM

Principles of authorship

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SWARM; The difficulties

- * The Idea (WMRC)
- * Trainee interest / support
- * Consultant / Deanery support
- * Communication

SWARM; communication

- * Recognised as a key obstacle to the collaborative
- * Requires novel use of technology
- * Local reps act as conduits b/w committee and membership

SWARM; The difficulties

- * The Idea (WMRC)
- * Trainee interest / support
- * Consultant / Deanery support
- * Communication
- * Fairness / Transparency
- * Recognition
- * Project selection / implementation

SWARM

SUSTAINABILITY

MOMENTUM

TRAINEE BUY-IN

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SWARM AP 1; The difficulties

- * The idea; *non-confrontational*, relevant
- * Study design; *simple*, repeatable
- * Logistics of organising 6 centres; communication
- * *Compliance*
- * Pilot, Project, Feedback.....‘cycles of assessment’
- * *Plan, Do, Study, Act*

SWARM; The Future

- * SWARM-AP 1
- * LAS VEGAS
- * AGM 12/11; project selection
- * 2013; SWARM-AP 2, SWARM-ICU-AP 1

SWARM

Thank-you

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