People can be put into three groups: “Those who make things happen. Those who watch things happen & Those that wonder what happened.”
INNOVATION & REVOLUTION IN MEDICINE

26 JUN 18

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MBA MSC DMS Pg CMS Pg

LONDON
Aim

- Understand the contemporary revolution in military medicine
- Understand why Defence medicine has become an exemplar of early innovation adoption and has created the conditions for translating innovation to the wider healthcare sector
- Understand how ‘adoption’ and ‘translation’ fit into an integrated model of innovation and how this can benefit wider healthcare provision.
- Explore the digital revolution in medicine.
IMPERATIVE FOR CHANGE

EXTERNAL INFLUENCES:
STEPPLE

INTERNAL CAPABILITY GAPS:
TEPID COIL

innovation

EXTERNAL
CAPABILITY

EXTERNAL
ADOPTER

EXTERNAL
PRODUCT

CREATE

primary invention

INTERNAL
CAPABILITY

INTERNAL
ADOPTER

INTERNAL
PRODUCT

Early adoption: ADOPTER

Effective translation: TRANSL8

TJ Hodgetts 2015
Context

REVOLUTION COMPONENTS

- New concepts
- New capabilities
- New technology / equipment
- New training
- New organisation / processes

- Improved outcomes
Context
SUSTAINING INNOVATION AT PACE: 2014-16

Mannequins

Environment

Flexi-seal

Canulation sleeves
Context
SUSTAINING INNOVATION AT PACE: 2014-16

BioFire Film Array
IMPERATIVE FOR CHANGE

EXTERNAL INFLUENCES: STEEPLE
INTERNAL CAPABILITY GAPS: TEPID COIL

innovation

EXTERNAL
EXTERNAL PRODUCT
EXTERNAL CAPABILITY
ADOPTER
primary invention
CREATE
primary invention
INTERNAL
INTERNAL PRODUCT
INTERNAL CAPABILITY
ADOPTER

Early adoption: ADOPTER
Effective translation: TRANSL8

= B-OWELS
Imperative for innovation

EXTERNAL INFLUENCES

- Social
- Technological
- Economic
- Environmental
- Political
- Legal
- Ethical
National social culture and political norms have supported medical advances

- Casualty aversion in wars of choice
The humanitarian and political requirements to tackle the Ebola virus crisis in West Africa

Clinical innovation at pace and research at reach
Emerging technology to stop external bleeding and improve treatment of coagulopathy: required rapid and sustained innovation adoption
Imperative for innovation
STE EPLE—ENVIRONMENTAL

- Each conflict has its own signature injuries

NORTHERN IRELAND
IRAQ
KOSOVO
AFGHANISTAN
Imperative for innovation
INTERNAL CAPABILITY GAPS

- **T** Training
- **E** Equipment
- **P** Personnel
- **I** Infrastructure
- **D** Doctrine
- **C** Clinical
- **O** Organisation
- **I** Information
- **L** Logistics

IT’S SCALEABLE
WARNING:
Graphic photos
Imperative for innovation
TEPID COIL—CLINICAL

- Preventing avoidable death from haemorrhage
INNOVATION ADOPTION
Context
INNOVATION ADOPTION: THE COLD WAR MODEL
Context
INNOVATION ADOPTION EXEMPLAR: 2007
IMPERATIVE FOR CHANGE

EXTERNAL INFLUENCES: STEEPLE

INTERNAL CAPABILITY GAPS: TEPID COIL

innovation

EXTERNAL CAPABILITY
EXTERNAL ADOPTER
EXTERNAL PRODUCT
EXTERNAL primary invention
CREATE
INTERNAL primary invention
INTERNAL PRODUCT
INTERNAL ADOPTER

Early adoption: ADOPTER

Effective translation: TRANSL8

= B-OWELS

TJ Hodgetts 2015
ORGANISATIONAL CONDITIONS FOR EARLY INNOVATION ADOPTION

Agile
Decisive
Outcome focused
Politically aware
Tolerant of risk
Empowered
Rewarded
Agile
SIZE IS IMPORTANT
Decisive
THE 40:70 PRINCIPLE (BOUNDED RATIONALITY)
MANAGEMENT is doing things right; LEADERSHIP is doing the right things.

PETER DRUCKER

Outcome focused
Politically aware
Risk tolerant and empowered
CHARACTERISTIC OF THE OPERATIONAL CULTURE

DEPLOYED OPERATIONS
- Risk tolerant
- Mission command
- Empowerment culture

FIRM BASE
- Risk averse
- Centralised authority
- Regulation culture
Rewarded
EXPLOITING THE LEVERS
INNOVATION CREATION
**IMPERATIVE FOR CHANGE**

**EXTERNAL INFLUENCES:**
- STEEPLE

**INTERNAL CAPABILITY GAPS:**
- TEPID COIL

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**innovation**

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**EXTERNAL CAPABILITY**

**EXTERNAL**
- ADOPTER
- EXTERNAL PRODUCT

**internal invention**

**CREATE**

**primary invention**

**INTERNAL**
- ADOPTER
- INTERNAL PRODUCT

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**Early adoption: ADOPTER**

**Effective translation: TRANSL8**

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**= B-OWELS**

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TJ Hodgetts 2015
Primary invention
THE CONDITIONS TO CREATE

**C** Culture: no blame; fail fast; values innovation

**R** Resources: human, financial, intangible

**E** Environment: supports creativity

**A** Acumen: business, legal, IPR

**T** Time: protected time for ideas creation

**E** Effect: the impact of invention

- economy, efficiency or effectiveness?
- defines the motivation to invent

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INFLUENCING THE INNOVATION CULTURE

Taking the time in the right environment to engage those with the acumen to ensure we have the right processes and resources to innovate.
The unknown unknown
Innovation in Action

- Design – A facsimile of KERRYTOWN EVDTU.
- Procure - And trial all equipment as fit for purpose.
- Procure - Novel Pt and Staff Safety devices.
- Procure - And assess suitability of PPE.
- ROC Drill – Capability & capacity.
- Design - Rehearse Pt journey.
- Write – Trg Prog, SOPs & TTPs.
- Design - Trg Assurance Process – Indv / Coll. To be presented to Ministers.
  - In the background of Validating a VHR capability and developing a 1/1/1/6 R2 LM.

5 WEEKS TO DEPLOYMENT!!

To the known unknown
INNOVATION INTEGRATION
IMPERATIVE FOR CHANGE

EXTERNAL INFLUENCES:
STEEPLE

INTERNAL CAPABILITY GAPS:
TEPID COIL

innovation

EXTERNAL CAPABILITY

EXTERNAL ADOPTER

EXTERNAL PRODUCT

CREATE

primary invention

primary invention

INTERNAL CAPABILITY

INTERNAL ADOPTER

INTERNAL PRODUCT

B-OWELS

Early adoption: ADOPTER

Effective translation: TRANSL8

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HEALTH WARNING
Demand High Performance

Team

Converge to Operate
Fitness to Treat
Teams/Departments
People/Process/Equipment

Survive to Operate
Fitness to Fight
Military
Knowledge/Skills/Attitudes

Individual

Combine

Fit to Operate
Fitness to Practice
Medical Knowledge/Skills/Attitudes

Task

Combine to Operate
Fitness for Purpose
System of Systems
Mission/Tasks
Only dead fish follow the flow
Summary

- Understand the contemporary revolution in military medicine

- Understand why Defence medicine has become an exemplar of early innovation adoption and has created the conditions for translating innovation to the wider healthcare sector

- Understand how ‘adoption’ and ‘translation’ fit into an integrated model of innovation