MONASH University

Medicine, Nursing and Health Sciences

The SPHPM summer vacation program

4 weeks of fun, discovery and inspiration



Joanna Wang, Department: ANZIC-RC

Agenda



1 SPHPM

Summer Program Leaders: Dr. Jay Illesinghe, Dr. Basia Diug

2 ANZIC-RC

Supervisor: Ms. Siouxzy Morrison

3 Various projects, different stages

A. Is IVIG effective for ICU patients/patients with *Clostridium-difficile*-associated pathologies?

Supervisor: Dr. Cecile Aubron, A/Prof Allen Cheng

B. Nutrition therapy in adult patients requiring ECMO

Supervisor: Ms. Emma Ridley

C. Fluid accumulation & elevated intra-cranial pressure in patients with traumatic brain injury

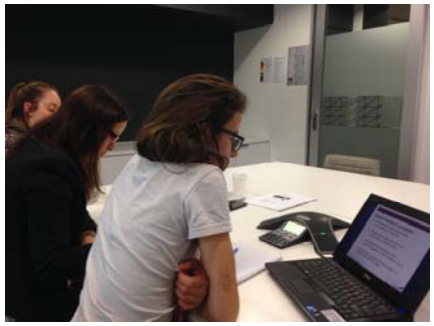
Supervisor: Ms. Liz Moore

SPHPM






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Australian and NZ Intensive care society



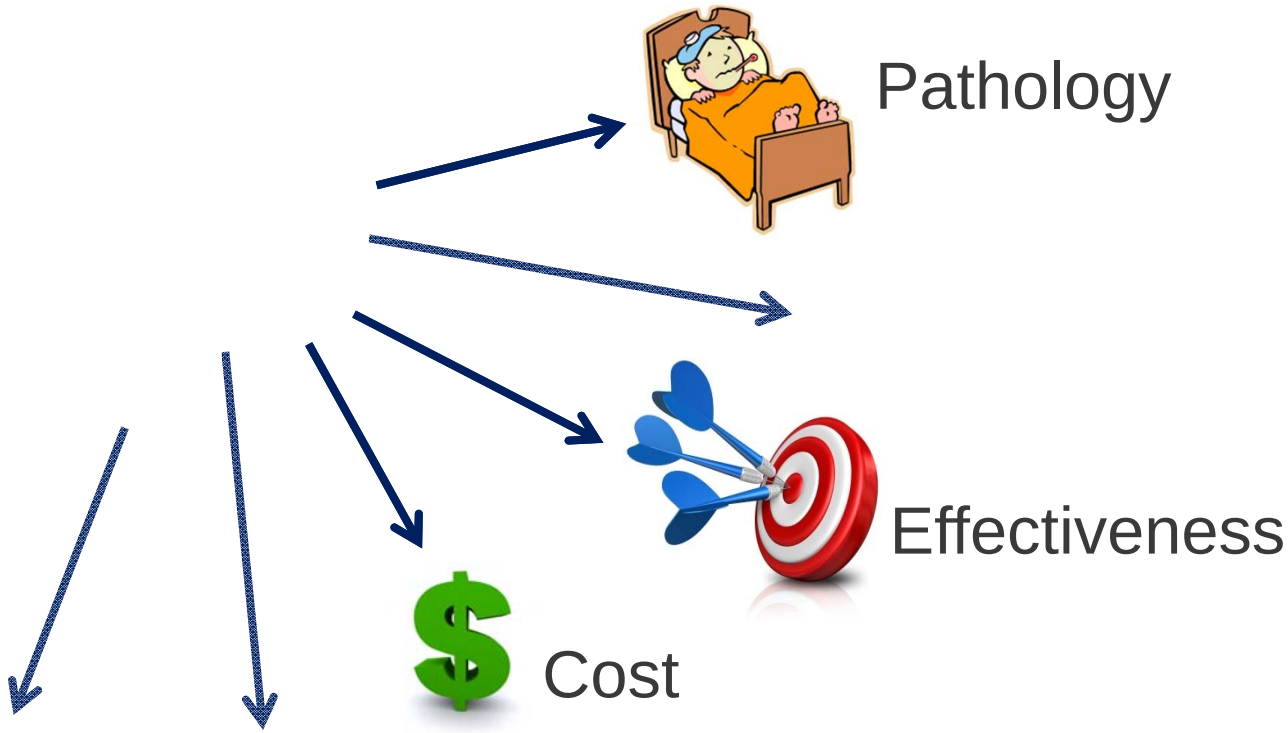
ANZIC-RC

Bi-national research centre conducting numerous clinical trials in the field of intensive care



Review of the literature

IVIG in ICU patients



Review of the literature

IVIG in ICU patients

Background

1. IVIG used for various pathologies: immune deficiencies, **autoimmune conditions**, infection/inflammation and other conditions

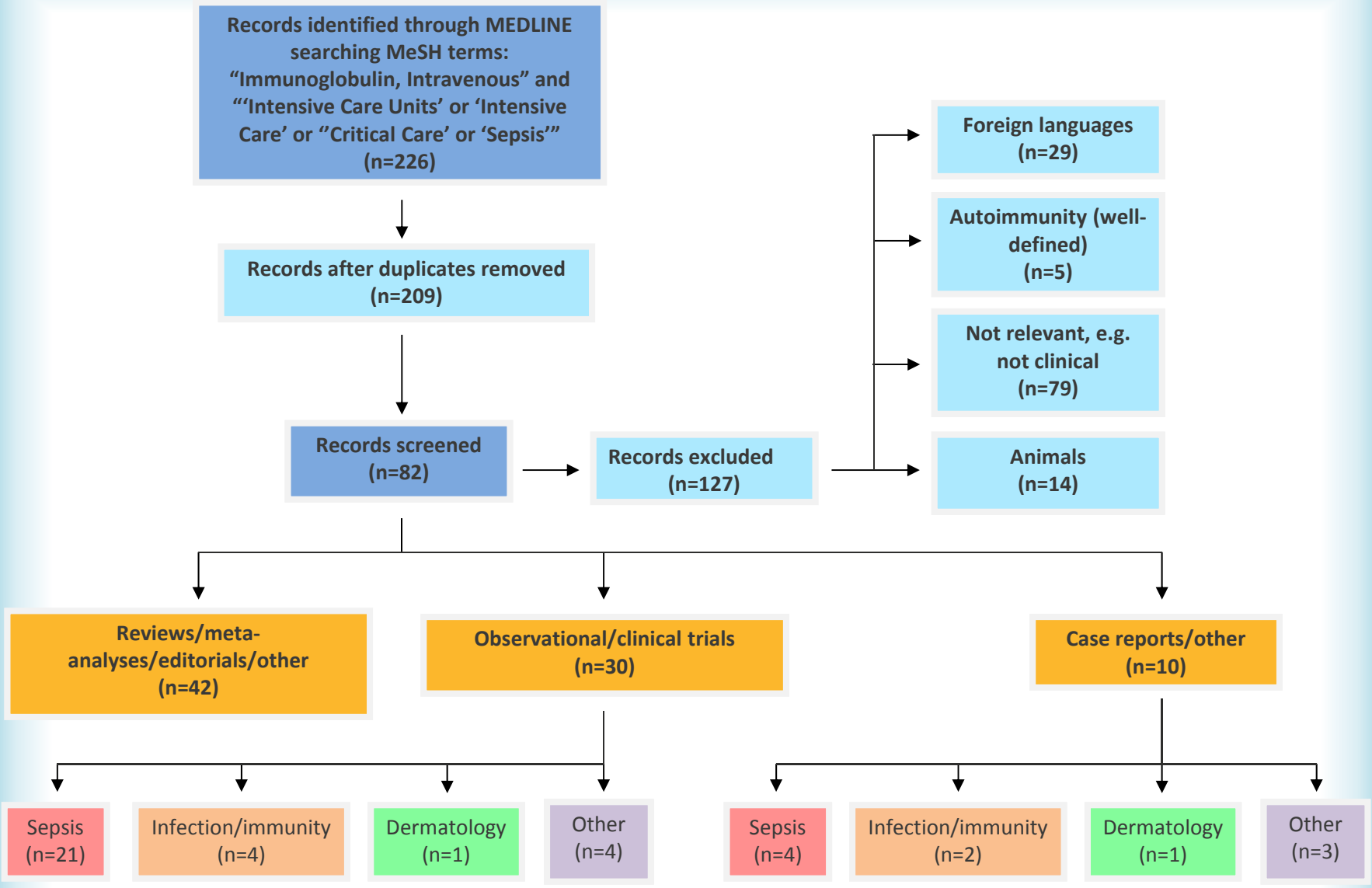
2. Costly→prove/disprove efficacy (see literature regarding use of IVIG in sepsis)

3. An upcoming observational study investigating indications for use of IVIG in ICU patients called for a review of the literature. Autoimmune conditions were excluded, as efficacy is well established.

Review of the literature
IVIG in ICU patients

Methods

A **MEDLINE** search was conducted. Using the MeSH terms “Immunoglobulin, Intravenous” and “‘Intensive Care Units’ or ‘Intensive Care’ or ‘Critical Care’ or ‘Sepsis’”, **226 records** were identified. Following **screening** and subsequent exclusion of duplicates and records that were written in foreign languages, described autoimmune indications, or assessed to be irrelevant (e.g. not clinical), **82 records remained**. There were **42 reviews/meta-analyses/editorials, 30 observational/clinical trials and 10 case reports**. **Lists of study characteristics** were organised into a **table** format, including study details and findings, accompanied by areas for further research.


Records identified through MEDLINE searching MeSH terms: "Immunoglobulin, Intravenous" and "'Intensive Care Units' or 'Intensive Care' or "Critical Care' or 'Sepsis'" (n=226)
Records after duplicates removed (n=209)
Records screened (n=82)
Records excluded (n=127)
Foreign languages (n=29)
Autoimmunity (well-defined) (n=5)
Not relevant, e.g. not clinical (n=79)
Animals (n=14)
Reviews/meta-analyses/editorials/other (n=42)
Observational/clinical trials (n=30)
Case reports/other (n=10)
Sepsis (n=21)
Infection/immunity (n=4)
Dermatology (n=1)
Other (n=4)
Sepsis (n=4)
Infection/immunity (n=2)
Dermatology (n=1)
Other (n=3)

Review of the literature
IVIG in ICU patients

Results

1. Many pathological indications are open for further research, with many areas requiring **larger, multi-centre trial** with more **homogeneity.**
2. Tables, along with identified areas for further research, are to be reviewed by the researchers involved in planning the new observational trial investigating indications for IVIG in the ICU.

Current work



1. **Review/commentary** on the current status of use of IVIG in the ICU.

2. **Systematic review** on the use of IVIG and other immunoglobulin variants in *Clostridium difficile*-associated pathologies.

Nutrition in adult ECMO patients

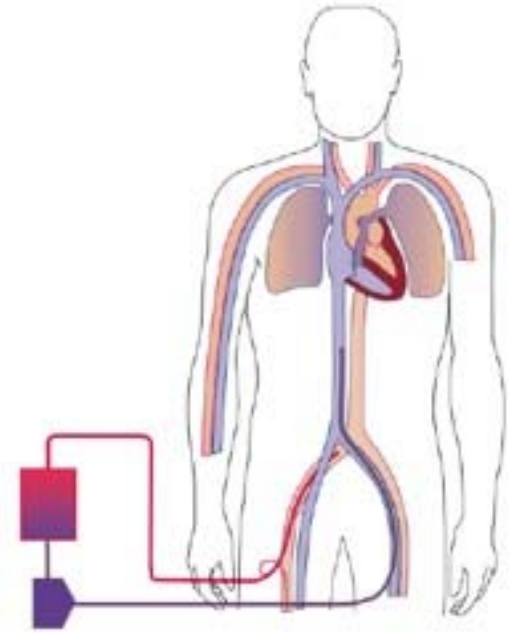
Extra-corporeal membrane oxygenation



outside



body



Nutrition in adult ECMO patients

Critically ill ECMO patient



Nutrition

Factors to consider

Child



Adult



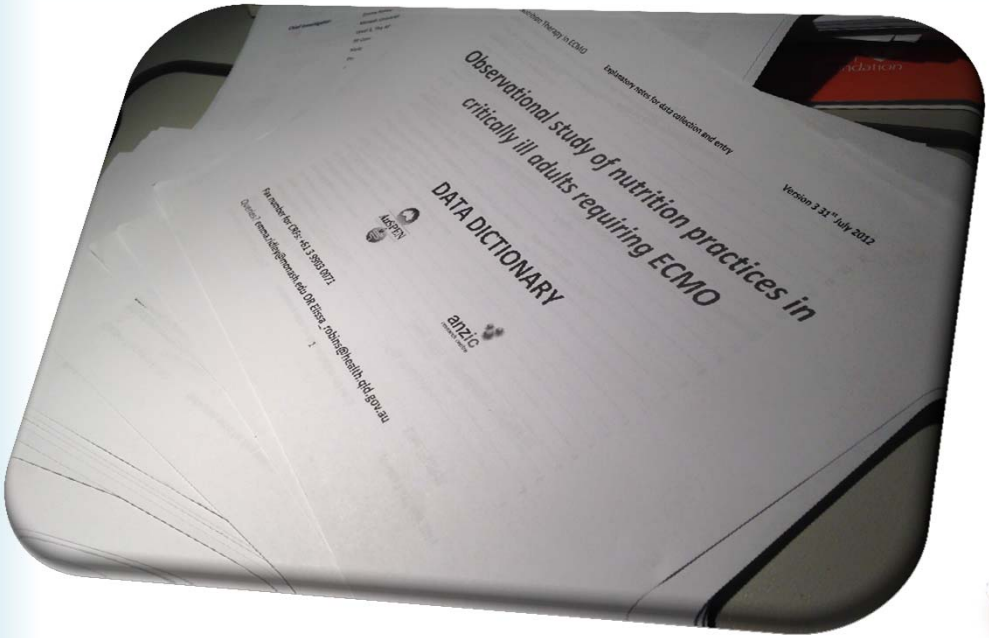
Nutrition therapy in adult patients requiring ECMO in Australia and New Zealand study

Aims:

1. **Describe** the **current** nutrition therapy practices→*primary outcome*
2. Profile the **barriers** & **enablers** to successful feeding in ECMO patients→*secondary outcome*

Hypothesis: adult ECMO patients receive inadequate nutrition and experience frequent interruptions in delivery of their nutrition.

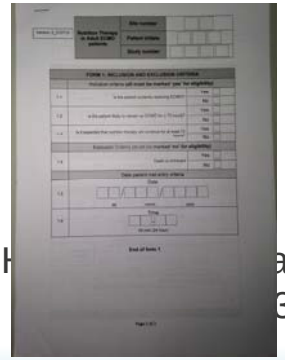
Methods: 85 patients, 10 sites. Comprehensive collection of nutrition-related information.

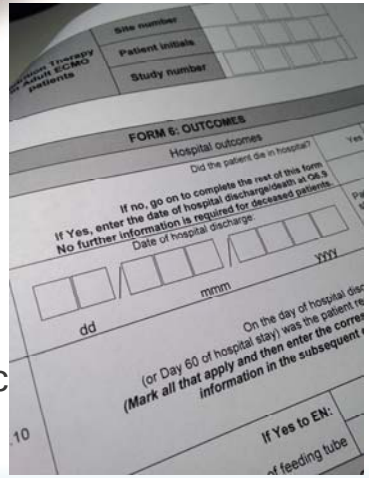

Observational study of nutrition practices in
critically ill adults requiring ECMO
DATA DICTIONARY
Version 3 31st July 2012
anzic

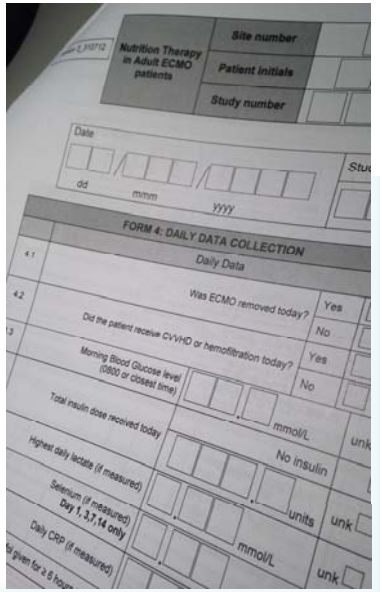




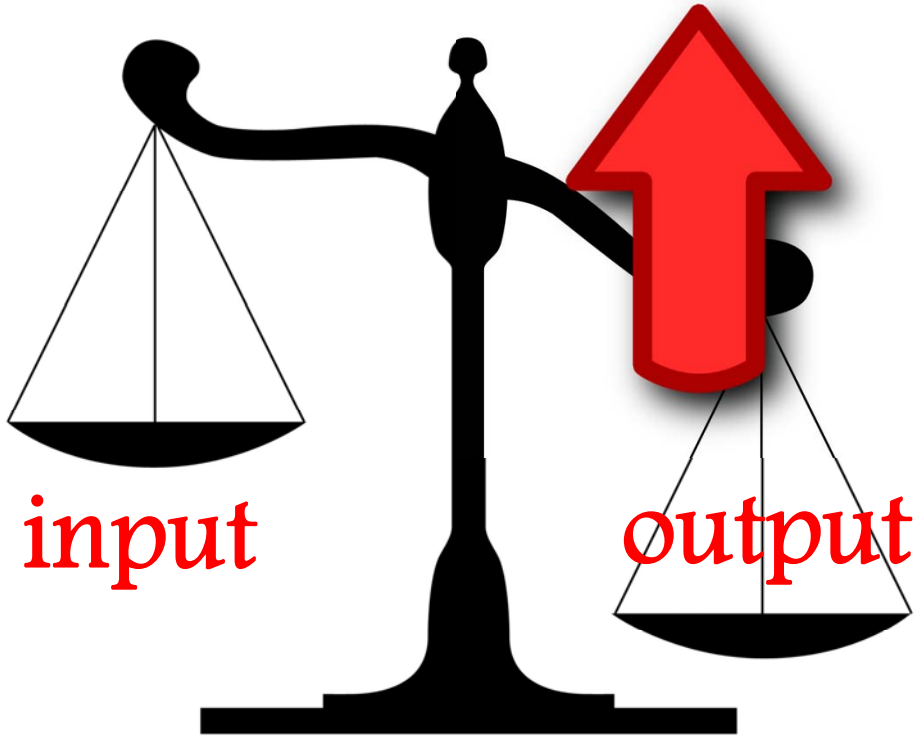





Site number
Patient initials
Study number
FORM 6: OUTCOMES
Hospital outcomes
Did the patient die in hospital?
If no, go on to complete the rest of this form
If Yes, enter the date of hospital discharge/death at C6.5
No further information is required for deceased patients
Date of hospital discharge
dd
mmm
yyyy
If Yes to EN:


Nutrition Therapy in Adult ECMO patients
Site number
Patient initials
Study number
Date
dd
mmm
yyyy
FORM 4: DAILY DATA COLLECTION
Daily Data
Was ECMO removed today?
Did the patient receive CVVHD or hemofiltration today?
Morning Blood Glucose level (0600 or closest time)
Total insulin dose received today
No insulin
Highest daily lactate (if measured)
Selenium (if measured) Day 1, 3,7,14 only
Daily CRP (if measured)
Yes
No
mmol/L
units
unk

Fluid accumulation & elevated intra-cranial pressure in patients with traumatic brain injury




Video
https://www.dropbox.com/s/cr8aki748r2pob3/SPHPMvideo_Joanna.mpg

Huge thank you to:

SPHPM, ANZIC-RC, Alfred ICU





