

Is there a role for Intensivists?

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Conflict of interest statement:

I am an intensivist!

Association between Critical Care Physician Management and Patient Mortality in the Intensive Care Unit

Mitchell M. Levy, MD; John Rapoport, PhD; Stanley Lemeshow, PhD; Donald B. Chalfin, MD, MS; Gary Phillips, MAS; and Marion Danis, MD

Project Impact database: 123 ICU's

+100000 patient records

Managed by a CCM physician/team

Corrected for severity SAPS II

CCM had more procedures

Higher corrected mortality

Levy M. Ann Int Med 2008;148:801



Who is an Intensivist?

Registered in the sub-specialty of CCM

Certificate CCM / Grandfather clause

**Pulmonologists who practice
predominantly in ICU**

? Other specialist who practice CCM

**? Medical practitioners who practice
CCM**



What do we do?

**Ensure oxygen gets from the wall socket
to the mitochondria**

**The purpose of intensive care is to
prevent renal failure**

Malcolm Fisher



Main roles

Patient management

ICU management



The ICU team

ICU team essential for good outcome

The intensivist as the team leader

The ICU team

Nurses

Doctors

Physio's

CC Technologists

Nutritionist

Pharmacist

Ward Clerk

Cleaners





Patient centered care: what the intensivist must do

Diagnosis and disease trajectory

Clinical planning and management

Co-ordinate ICU team approach

Procedures

Patient safety

Liaise with external doctors

Emotional support: patient & family

Ethical decisions



ICU Management

Bed management

Resource allocation

ICU environment

Safety and efficiency

Quality assurance

Team support

Education and training



Liaise (i.e. fight) hospital management

Research

Outreach rest of hospital

Outreach to secondary hospitals

Community: activist and fund raiser



Cohort studies with historical controls

Pediatric ICU -historical controls

Decreased mortality, improved bed utilization

Pollack M. CCM 1988;16:11

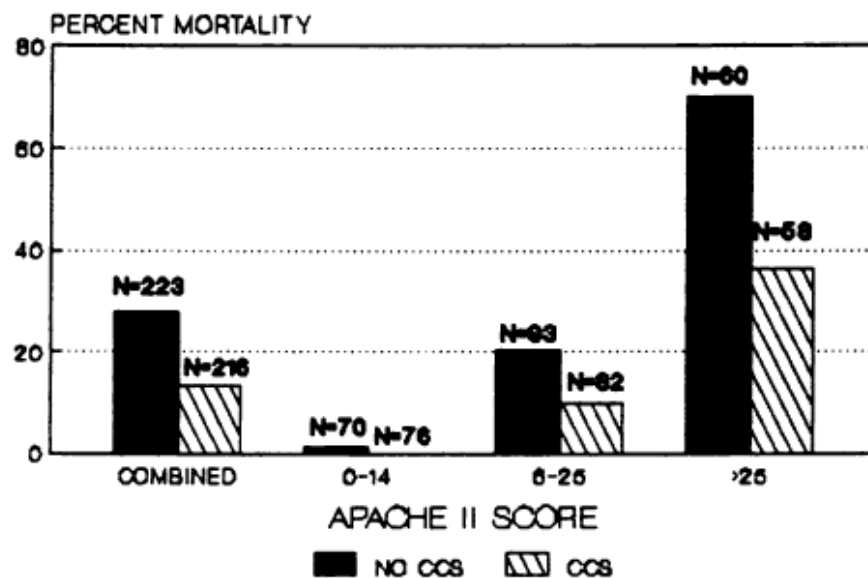
Prospective study 16 pediatric ICU's: pediatric intensivist – improved mortality.

Effect on ICU mortality of a full-time critical care specialist.

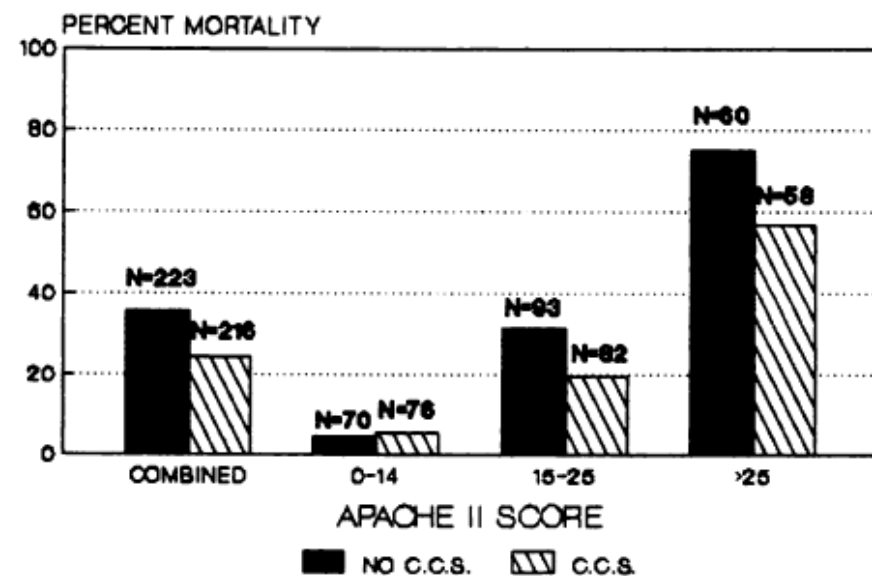
J J Brown and G Sullivan

Chest 1989;96;127-129

PERCENT ICU MORTALITY vs APACHE II SCORE



PERCENT HOSPITAL MORTALITY vs APACHE II SCORE





Disease specific studies

Septic shock (decreased mortality, more PAC's)

Reynolds H. JAMA 1988;260:3446

Abdominal aortic surgery

Provonost. JAMA 1999;281:1310

Esophageal resection Dimick J CCM 2001;29:753

General surgery Ghorra Ann Surg 1999;229:163

Acute lung injury Treggiari M AJRCCM 2007;176:685



**Physician Staffing Patterns and
Clinical Outcomes in Critically Ill Patients**
A Systematic Review

26 observational studies

**No intensivist/ elective intensivist
consultation**

**Vs. Closed ICU/mandatory
intensivist consultation**

Pronovost P. Chest 2002;288:2151

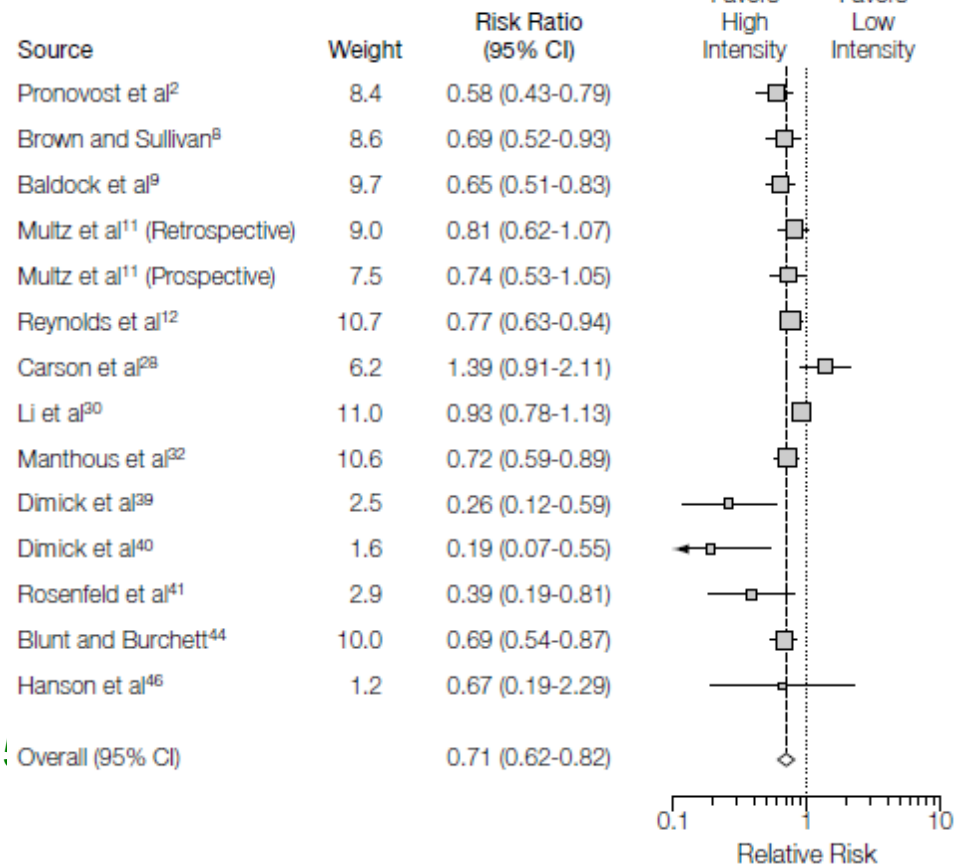
Reduced mortality and length of ICU stay

RR hosp mort .71
(.62-.82)

Reduced hospital
and ICU length of
stay

Pronovost P. Chest 2002;288:21

[A] Hospital Mortality





Recent studies

An intensivist-directed intensive care unit improves clinical outcomes in a combat zone

Christopher J. Lettieri, MD; Anita A. Shah, DO; David L. Greenburg, MD

CCM 2009

High intensity staffing model in an oncology ICU reduced mortality from 35 to 23% and reduced LOS by 4.2 days Harwari F. CCM 2009;37:2121



Leapfrog initiative 1999

**Consortium of health-care funders
To improve patient safety**

**Computerized prescribing
Evidence based selection of referral units
ICU's run by intensivists**

www.leapfroggroup.org



Wide variation in standards

Leap frog compliant hospitals had wide variation in organizational standards.

Only 25% of intensivists in compliant ICU's authorized to write orders.

No statistical difference in intensivist – patient contact between compliant and non-compliant hospitals

Pronovost CCM 2007:35:2256



World wide shortage of intensivists

Increasing deficit of intensivists

Angus JAMA 2000;284:262

USA inadequate intensivist to provide closed units

Pronovost P Cur Op Crit Care 2006;12:604



The South African situation

210 public ICU's - 7% "ideal closed" units

238 private ICU's - < 1% closed

**Saving one day of ICU care would save
R230 million**

Need 291 intensivists to close all units

30 years at current rate of training

Scribante J, Bhagwanjee S. SAMJ 2007 97:1319



Less than 50 registered sub-specialists

**More than half not practicing full-time in
SA**



Why are things so bleak?

Funding of intensivist posts and trainee posts in the public sector

Long training time

Private sector does not attract intensivists

After hours work

Short professional lives - burnout



Burnout in the ICU

Mental exhaustion

High “stress” environment

Interpersonal factors

High incidence among intensivists

Embriaco N AJRCCM 2007;175:686



Burnout: health worker

**Decreased emotional wellbeing,
depression, fatigue**

Poor job satisfaction

Leaving intensive care

Physical illness

Increased risk of ischaemic heart disease

Reader T. Int Care Med 2008;34:4



Burnout: ICU & Patient

Risk of error and accident

Lack of commitment

Absenteeism

Increased staff turnover

Negative effect on others



Preventing burnout

Reducing work load - not an option

Co-operative working strategies

Time out and relaxation

Caring for each other



Solutions

Extending the intensivist

supervised junior medical staff

Clinical nursing specialist

Develop evidence based protocols.

Referral ICU's

Primary specialty



Do intensivists add value?

**Most studies small, historical controls,
written by intensivists**

**But the results are consistent across
varied ICU's and conditions**




Levy paper

CCM patients sicker

**Possible other factor in severity of illness
correction**

Committed non-intensivists

Degree of intensivist involvement



**Evidence that intensivist managed ICU's
improve outcome and reduce resource
utilization overwhelming**

Not realist to close all SA ICU's

**Use multiple strategies to extend good
ICU practice**



Lets not be complacent

South African Pioneer Intensivists:

Pieter du Toit

Attie de Kok

Neil Goodwin



Conclusion

**Critical Care medicine is complex and requires
a broad range of skill**

More than just academic knowledge

Yes – I think we make a difference