

**Employment of  
healthcare informatics system  
to enhance the cost-effectiveness  
in the management of the  
patients on ventilators**

**Dr. KW Lam**

**Queen Elizabeth Hospital**

# Background

- In 2002, a ventilator ward was established
- Centralise the management of patients on ventilators in general wards
- Provide specialised care to patients
  - Invasive mechanical ventilation
  - Non-invasive mechanical ventilation

# Scope of services

- Multidisciplinary care
  - ICU specialists
  - Respiratory specialists
  - Nursing staff
- Standard weaning protocol
- Comfort care for end-of-life patients

# Objectives of study

- To identify factors of successful weaning for patients on ventilators
- To improve the quality of care of patients
- To improve the cost-effectiveness

# Methodology

- Subjects
  - Patients admitted to the ventilator ward
- Period
  - From 1 January 2005 to 31 December 2007

# Methodology

- Data collected from CDARS
  - Demographic data
  - Diagnosis
  - Outcome
  - Risk factors
- Statistical method
  - Chi square test



# Clinical Data Analysis and Reporting System

What's New

Self Learning

Hotlines

Info

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Data Dictionary

## Login CDARS

Version 2008

User Name:  @ QEH   
 Password:

:: Clinical Data up to 25/04/2008 is available  
 :: Request Submission is available from 08:00 to 23:00 every day

### :: Guidelines on Usage

- For the handling of research data that involves patient-identifying information, the researcher must comply with the Hong Kong Personal Data (Privacy) Ordinance.
- The use and access of data are governed under the Clinical Data Policy Manual of the Hospital Authority.
- It is a good practice to seek endorsement from relevant parties (e.g. Head of Department, COC) in the HA before disclosure and/or publication of research and study results, particularly when the data are not from your own department.

### :: CDARS Data Disclaimer

- Data in CDARS are originally intended for HA internal and operational use. They are drawn from existing HA operational systems and the data quality may not be up to academic study level.
- The researcher of any study project, clinical audit or publication that employs clinical information taken from CDARS should ensure that the data accuracy and completeness fit the definition of the research protocol.



**NEW CDARS 2008 is here!**  
 See the latest features of this release

**How to use CDARS?**  
 Get yourself familiar with CDARS 2007 via this new version of animation, featuring Out-Patient / Laboratory data analysis, and more.  
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# Risk factors for analysis

- Age > 75 years
- Sex
- Cardiogenic shock
- Septic shock
- Myocardial infarction
- Chest infection
- Metastatic carcinoma
- DM
- COPD
- Chronic renal failure
- Liver failure
- stroke
- Ischemic heart disease



# Results

- A total of 2677 patients
  - 1271 patients survived
  - 1406 patients died
- Average length of stay
  - Survived: 18.23 days
  - Died: 12.99 days

# Results

	Survived	Died	<i>p</i>
Age > 75	678	871	0.013
Cardiogenic shock	5	20	0.007
Septic shock	13	34	0.008
MI	118	178	0.015
Metastatic ca	4	16	0.016
Chest infection	335	578	<0.001
Stroke	128	263	<0.001

# Results

	Survived	Died	p
COPD	381	137	<0.001
DM	73	51	0.008
Male	518	580	0.540
Liver failure	4	10	0.169
CRF	42	49	0.884
IHD	146	145	0.266

# Conclusion

- Multidisciplinary collaboration
  - **Clinical vs IT**
- Enhancement of services
  - Identify the factors of successful weaning by evidence based approach
  - Useful for selecting patients for intubation
  - Improve quality of care to patients
  - Improve the cost-effectiveness

# Limitations

- Retrospective approach
- Completeness of data entry by doctors

# Future Direction

- Standardization and optimization of clinical care based on local data of HA
- Adoption of such evidence based approach to other clinical services

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  - Dr. S Lee
  - Dr. WH O



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  - Ms HM Wong
  - Ms LP Sit
  - Mr HW Luk
  - Other supporting nurses

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Thank you

