

The background is a dark blue gradient with a subtle pattern of white dots. Overlaid on this are several white geometric elements: concentric circles of varying sizes, some with dashed outlines, and a large circular scale with tick marks and numbers ranging from 140 to 260. Some of the circles have arrows indicating a clockwise direction.

JCECC

INTERNATIONAL CONFERENCE ON COMMUNITY END-OF-LIFE CARE

ABSTRACT SUBMISSION – ORAL PRESENTATION
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Characteristics and Outcomes of Patients Referred to an Emergency Department-Based End-of-Life Care Service in Hong Kong: A Retrospective Cohort Study

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DYING PATIENTS IN LAST FEW DAYS

- 80% had severe fatigue
- 50% with severe dyspnea
- 40% with severe pain
- Others: excessive respiratory secretion, delirium, and vomiting
- Patients and family caregivers often request active pain control
- Concept of 'dying with dignity'

EMERGENCY PHYSICIANS' (EP) ROLE FOR DYING PATIENTS IN HK

- Over 90% of all deaths in HK occur in a hospital
- End-of-life (EOL) presentation in A&E is not uncommon
 - EOL programme
 - Non-hospitalized Do-not-attempt-cardiopulmonary-resuscitation order (DNACPR)

EMERGENCY PHYSICIANS' (EP) ROLE FOR DYING PATIENTS IN HK



Source of illustrations:

1. <https://blogs.brown.edu/emergency-medicine-residency/oh-course-the-patients-blue-thats-why-im-intubating/>
2. <https://www.oecd.org/health/end-of-life-care.htm>

Usual pathway

EOL patient
attends A&E

Usual stabilisation and
medical therapy

Admit to wards of
relevant specialty

Deterioration
Relatives informed
to come to hospital

Death

Emergency department based EOL service

EOL patient
attends A&E

Recognition of a
dying patient by EP

Admit to EOL facility
after discussion with
patient/family

Symptom control
Accompaniment by relatives

Can we do it?

IDENTIFYING A DYING PATIENT

(AMONG HUNDREDS OF EMERGENCY ATTENDANCE...)

- No consistent data on how doctors perform
- A previous prospective cohort study (Outpatient hospice setting): **Systematically overoptimistic** prognosis
- Another systematic review reported doctors' predictions for terminally ill patients with cancer: **tendency to overestimate survival**
- Effort to establish scoring system for EOL patients; only for cancer palliative unit, no validation study

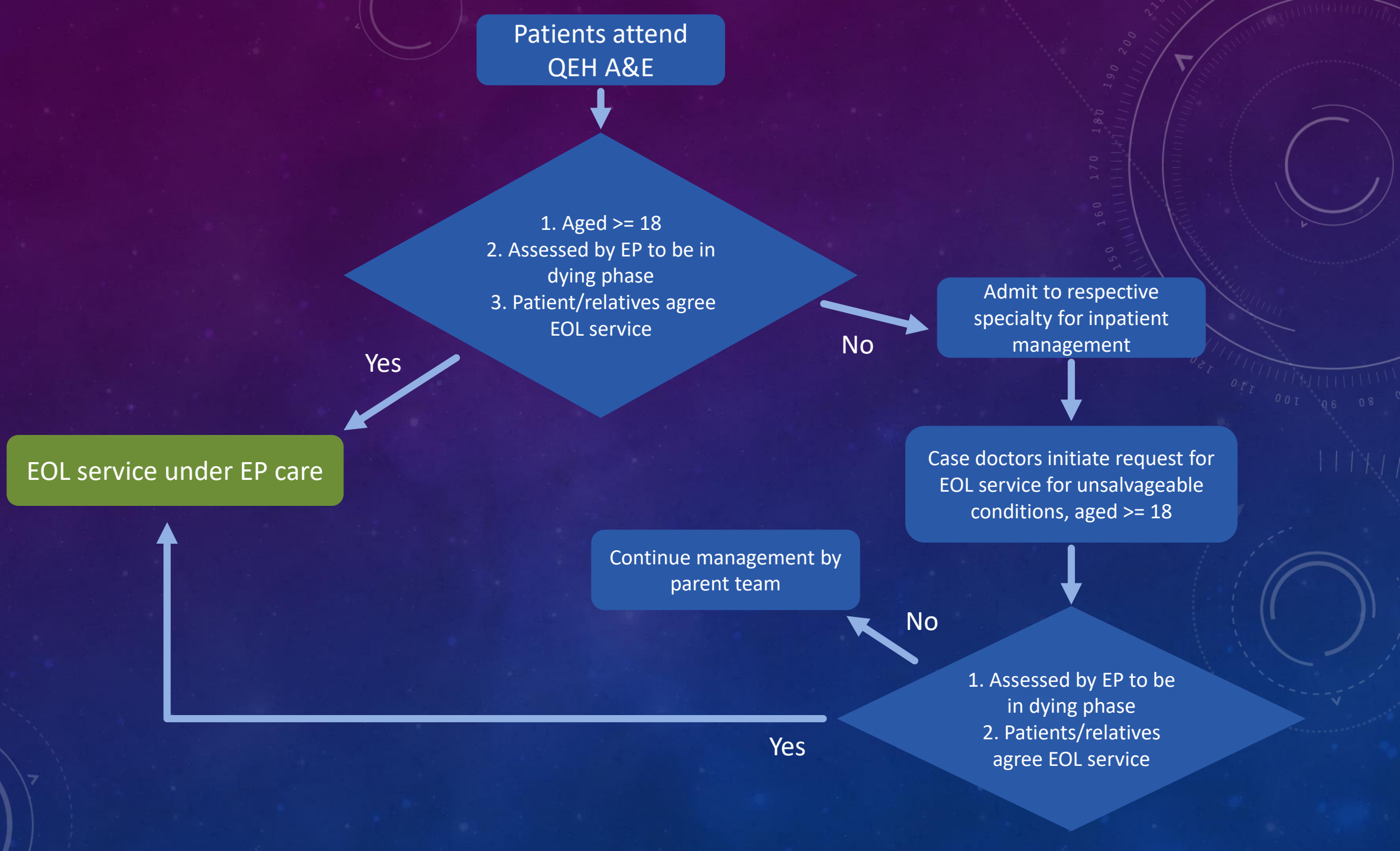
AIM OF STUDY

1. examining the performance of EPs in identifying patients of imminent death
(admitted to a special ED-based EOL service upon identification)
2. examines the use of opioid and anticholinergic as part of symptom relief agents for patients under EOL service vs those remaining in acute general ward

SETTING

- Queen Elizabeth Hospital, tertiary trauma centre
- Daily attendance ~500
- Cancer: Palliative beds available in oncology
- Non-cancer: Palliative team available in hospital, but no dedicated beds
- Emergency department(ED) based EOL service since 2010
- One single room bed (EOL bed) in emergency medical ward (EMW)
- Aim to provide symptomatic relief and family accompaniment
- **5 dedicated EPs** with ≥ 5 years experience in emergency medicine





Patients attend
QEH A&E

- 1. Aged ≥ 18
- 2. Assessed by EP to be in dying phase
- 3. Patient/relatives agree EOL service

Yes

EOL service under EP care

No

Admit to respective
specialty for inpatient
management

Case doctors initiate request for
EOL service for unsalvageable
conditions, aged ≥ 18

No

Continue management by
parent team

Yes

- 1. Assessed by EP to be in dying phase
- 2. Patients/relatives agree EOL service

SETTING

- Recruitment
 - direct admission from A&E
 - Through in-patient consult initiated by case doctors of different specialties (EPs respond as soon as possible, mostly < 24hrs)
- EP assessment
 - Judgment of dying phase (underlying diseases, vital signs, etc.)
 - Introduce and offer EOL service

EOL BED SETTING

- Sufficient space and seats for relatives
- Uninterrupted family accompaniment 24 hours allowed
- Basic nursing care
- regular vital signs taking and cardiac monitor
- diaper change and hygiene care
- Oxygen



Photo used with permission from Dept of A&E, QEH, HK

EOL BED SETTING

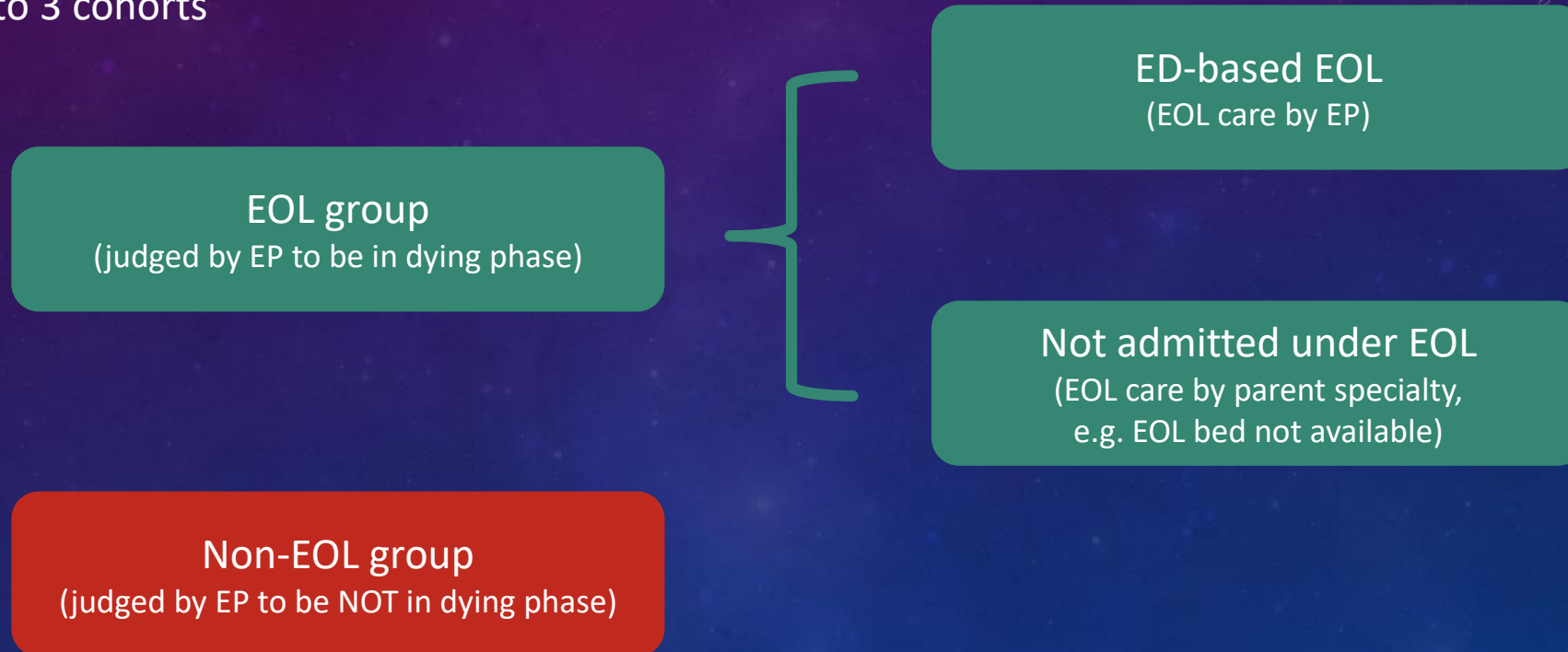
- Dedicated EPs review at least once per day + PRN basis
- Medications/tubes not related to patient's comfort would be put off
- Aim at symptom control (pain, dyspnea, vomiting, respiratory secretions, etc.)
- Morphine and hyoscine most commonly prescribed

PARTICIPANTS

- Sep 2010 to April 2018
- All EOL requests attended by EPs
- Followed until succumbed or discharged from hospital
- Excluded:
 - Younger than 18
 - Patient died before assessment by EP

PARTICIPANT

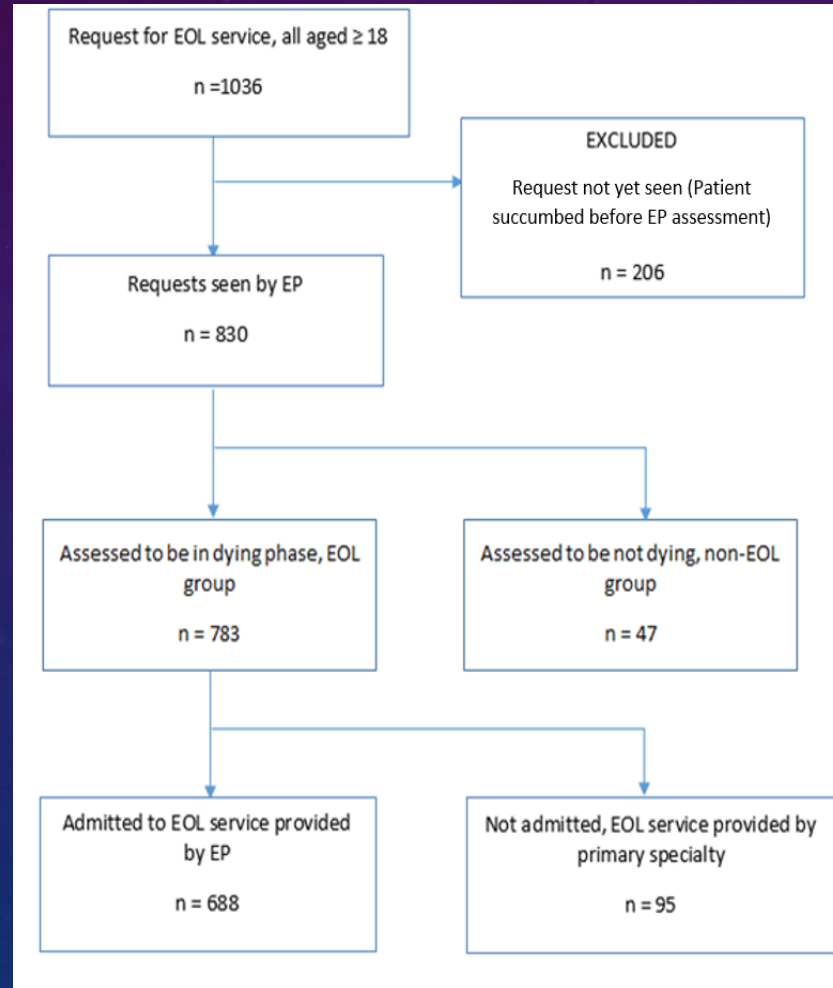
- Divided into 3 cohorts



DEFINITIONS OF VARIABLES

- **Time-to-death**: time from assessment by EP to the time of death certification
- **Use of opioids**: any opioid-type drugs prescribed during patients' inpatient stay
- **Use of anticholinergics**: any anticholinergics prescribed during patients' inpatient stay

RESULTS - RECRUITMENT



RESULTS – BASELINE CHARACTERISTICS

Table 1. Baseline Characteristics of Subjects Under Different Cohort Groups.

	EOL (N = 783)		Overall	Non-EOL (N = 47)	P value ^a
	Under ED-EOL service (N = 688)	Not under ED-EOL service (N = 95)			
Mean age	79.34 (\pm 12.96)	77.85 (\pm 14.92)	79.16 (\pm 13.21)	82.66 (\pm 12.62)	.077
Male	340 (49.42%)	47 (49.47%)	387 (49.43%)	25 (53.19%)	.654
Chinese	679 (98.69%)	91 (95.79%)	770 (98.34%)	45 (95.74%)	.207
Elderly home residents	220 (31.98%)	20 (21.05%)	240 (30.65%)	33 (70.21%)	.901
Patients with cancer	254 (36.92%)	36 (37.89%)	290 (37.04%)	11 (23.40%)	.062
Patients with acute respiratory conditions	414 (60.17%)	55 (57.89%)	469 (59.90%)	33 (70.21%)	.170
Specialty					
Medical	508 (73.84%)	68 (71.58%)	576 (73.66%)	29 (61.70%)	
Surgery	20 (2.91%)	5 (5.26%)	25 (3.19%)	1 (2.13%)	
Neurosurgery	10 (1.45%)	9 (9.47%)	19 (2.43%)	2 (4.26%)	
Oncology	5 (0.73%)	0 (0%)	5 (0.64%)	0 (0%)	
Orthopedics	8 (1.16%)	0 (0%)	8 (1.02%)	3 (6.38%)	
Gynecology	4 (0.58%)	1 (1.05%)	5 (0.64%)	0 (0%)	
Directly from ED	133 (19.33%)	12 (12.63%)	145 (18.52%)	12 (25.53%)	

Abbreviations: ED, emergency department; EOL, end of life.

^aComparison between overall EOL patients and non-EOL patients.

RESULTS – MEAN TIME-TO-DEATH

Table 2. Comparison of Mean Time-to-Death Between Different Cohort Groups.

	Mean, hours)	Standard deviation	<i>P</i> value
All patients			
EOL (N = 783)	38.93	45.16	.004
Non-EOL (N = 47)	250.36	473.44	
Cancer patients only			
EOL (N = 290)	38.41	40.61	.012
Non-EOL (N = 11)	181.27	155.75	
Noncancer patients only			
EOL (N = 493)	39.23	47.68	.013
Non-EOL (N = 36)	271.47	534.52	
Subgroup analysis under EOL patients			
ED-based EOL (N = 688)	39.37	44.11	.663
Not admitted under EOL (N = 95)	35.69	52.31	

Abbreviations: ED, emergency department; EOL, end of life.

RESULTS – SYMPTOMATIC TREATMENTS

Table 3. Comparison of Symptomatic Treatments Received Between ED-Based EOL Service and not Under EOL Service.

	ED-based EOL (N = 688)	Not under EOL service (N = 95)	<i>P</i> value
Opioid received	483 (70.20%)	49 (51.58%)	.0004
Hyoscine received	204 (29.65%)	2 (2.11%)	<.001

Abbreviations: ED, emergency department; EOL, end of life.

DISCUSSION - INFERENCE

1. EPs were able to identify those dying shortly among a heterogeneous group of critically ill patients
2. ED-based EOL service did not result in a shorter life expectancy
3. Dedicated EOL service in ED resulted in more deliveries of symptomatic treatments

DISCUSSION – APPLICATION OF RESULTS

- Most death still occur in acute care hospital in HK
- EPs able to give a reasonable prediction and EOL advice to patients/family
- Difference of mean time-to-death ~ 9 days
- Significant for places with scarce resources for EOL

DISCUSSION – APPLICATION OF RESULTS

- Family refusal to EOL service being commonest reason of not admitting to EOL bed
- Usually apprehensive about withdrawing active treatment / escalation of palliative treatment, hastening death
- A dedicated EOL service, with removal of futile drugs and escalation of palliative drugs, is unlikely to alter the dying process in EOL patients
- Can be quoted in future discussion with family on EOL service to alleviate uncertainties

DISCUSSION – APPLICATION OF RESULTS

- Dedicated EOL service in ED resulted in more deliveries of symptomatic treatments
- Opioids – treating moderate to severe cancer pain, third step on analgesic ladder (WHO)
- Anticholinergics – early administration recommended for excessive respiratory secretion / death rattle
- EOL group – 37% had cancer, 60% had acute respiratory conditions
- Lower administration rate in those not admitted to EOL service
 - Lack of awareness of dying phase
 - Unfamiliarity with palliative agents
 - Lack of review of symptomatic control
 - Diverted attention to other patients in same ward



LIMITATIONS

- Only one EOL bed in an acute hospital with 1900 beds
- Many potential eligible patients not admitted due to lack to EOL bed availability
- Smaller study population

LIMITATIONS

- possible time lag between the receipt of request and patient assessment by EP
- Longer lag during night time
- Dedicated EOL service EPs may not be onsite
- Estimated few hours of time lag

LIMITATIONS

- Majority of patients referred from other specialties
- Screening for suitability of EOL by case doctor performed
- Thus bigger number of EOL patients than non-EOL
- Timing of initiating EOL request not standardized
- Unclear effect on final time-to-death

QUESTIONS UNANSWERED

- Method of recognition of EOL phase not study nor standardized
- Not a scoring system of diagnosis
- Interesting area for further study

End-Of-Life Care (EOLC) Service Request Form to Dept of A&E, QEH
(Fax to G1 Ward- 3506-7248)

From: Dr (i/c) _____ (Dect: _____)

Or : APN (i/c) _____

Department/Ward/Bed: _____

Tel: _____ Fax: _____

Name/Telephone of 1st degree relative: _____ / _____
(relationship)

Inclusion Criteria: (please check and ☒ in the box)

1. Patient / first degree relatives/ guardian accepts no further escalation of active treatment	<input type="checkbox"/>
2. They accept end-of-life care (晚期服务) which targets on symptom relief, spiritual and psychological support.	<input type="checkbox"/>
3. DNR form signed.	<input type="checkbox"/>
4. End-of-life stage expected in terms of physiological parameters change: (either one of the followings)	
a) serial increase in labored breathing, gurgling sound, feeble respiratory effort in the past 4 hours	<input type="checkbox"/>
b) desaturation documented	<input type="checkbox"/>
c) serial drop in BP or persistently lowish BP in the past 4 hours	<input type="checkbox"/>
d) confusion, decreasing mentality in terms of serial drop in GCS in the past 4 hours	<input type="checkbox"/>

If **all 4 Items (1-4)** ☒, proceed to sending this page by fax to **3506-7248**

XX

Reply from AED _____ Date: _____

(please keep the faxed copy of AED reply in patient's record)

Signature: _____
Name/Rank: _____

Department of Accident and Emergency, Queen Elizabeth Hospital

Jan 2015 ver.

BOTTOM LINE

- Emergency physicians are competent in identifying patients who are expected to have imminent death in a few days
- dedicated service to EOL did not alter patients' remaining duration of life
- more likely be prescribed with symptomatic treatments as compared with those not under EOL service

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THANK YOU FOR LISTENING