



The use of tele-medicine in the management of chronic disease at Central Surrey Health

A COPD (Chronic Obstructive Pulmonary Disease) Community Service was initiated by East Elmbridge & Mid Surrey PCT in 2004. The driving force behind its establishment was RGN Community Respiratory Nurse Specialist Julia Davey. Today the COPD Service is provided by Central Surrey Health and consists of 3 WTE nurses and one administrative person. The catchment area covers 50 square miles with a case load of 300 terminal COPD patients. As well as home visits the Service provides three Community Nurse Clinics referring patients to four main Acute Trusts.

Background

The COPD Service was set up to address the issues around the management of chronic disease which were becoming increasingly problematic. There was no technology at this stage and all patient records were paper based making it difficult to monitor patients effectively because of time and lack of up-to-date information on the patients' condition. The Service's aim was to provide high quality personalised care at home through multidisciplinary teams and change emphasis from 'crisis management' to a 'preventative partnership' approach. Introducing technology was also seen as a key factor in helping to improve patient care thus avoiding admission to hospital.

Introduction of tele-medicine

A patient-centric telephone monitoring system went live in September 2004 based on the Excelicare solution from AxSys Technology. It enables the remote assessment and monitoring of COPD patients ensuring that the correct treatment protocols are followed whilst documenting the clinical care pathway. Patients are monitored by placing a call to the system as and when their symptoms change. After the call, a report is created which generates an alert if it has detected deterioration in the patient's condition.

Today's model of care for COPD patients

- Change in emphasis from crisis management to preventative partnership
- Home visits frequency is decreased allowing more patients to be managed by the same number of nurses
- Use of electronic monitoring is an adjunct to home visiting
- Embedded rules and alerts in the Electronic Patient Record ensure that manual intervention occurs when required
- Type and extent of data capture at home is not restricted
- Empowers patients to become more actively involved in their own treatment
- Provides them with speedy access to their nurse for advice and care
- Minimises the inconvenience, cost and time incurred in travelling to clinics or to see the consultant.

Results and benefits

- Maximum response time for answering an alert is 15 minutes
- Severity of exacerbations has been reduced which is helping to maintain lung function and subsequent quality of life

- Hospital admission for patients seen at home has fallen by 40%
- Average length of stay in hospital has been reduced to 5.9 days representing a 26% reduction in bed days
- The target of saving 10% of admissions every year from 2007 is now achievable
- Considerable cost savings have been made through the Outpatient Nurse-led clinics. In the first eight months of the Service starting £28,620 was saved for the PCT by moving the clinics to Community Hospitals from the Acute Trust
- Consultations made by phone or e-mail have increased
- The system supports integrated care and enables establishment of clinical networks
- Quality data can be entered from any site and care can be delivered from anywhere
- More patients can be managed without having to increase the number of staff

Conclusion

A multidisciplinary COPD Network Group has also been set up which meets every 2 months to support nursing practice and improvements patient care. A clinical record is now in place for each COPD patient (first in England). The on-going target is to support and treat the majority of COPD patients at home and ultimately, a dignified death at home rather than in a hospital bed.

Tele-medicine can go a long way to helping achieve these goals and nurses have been encouraged to learn new skills and embrace technology to help them deliver effective care. There is also a drive to link Excelicare to the acute sector so that other clinical staff have instant access to patient's up-to-date records.

Activity and Productivity Report EEMS COPD Clinical Managed Network May 2007
(Final Draft)

(Source for all the data is EEMS Hypercube, which is based on SUS (Secondary Users Service))*

The figures reported here are COPD admissions for EEMS patients at the 4 main provider hospitals for EEMS PCT; these are Epsom and St Helier, Kingston, Royal Surrey and Surrey and Sussex Hospitals.

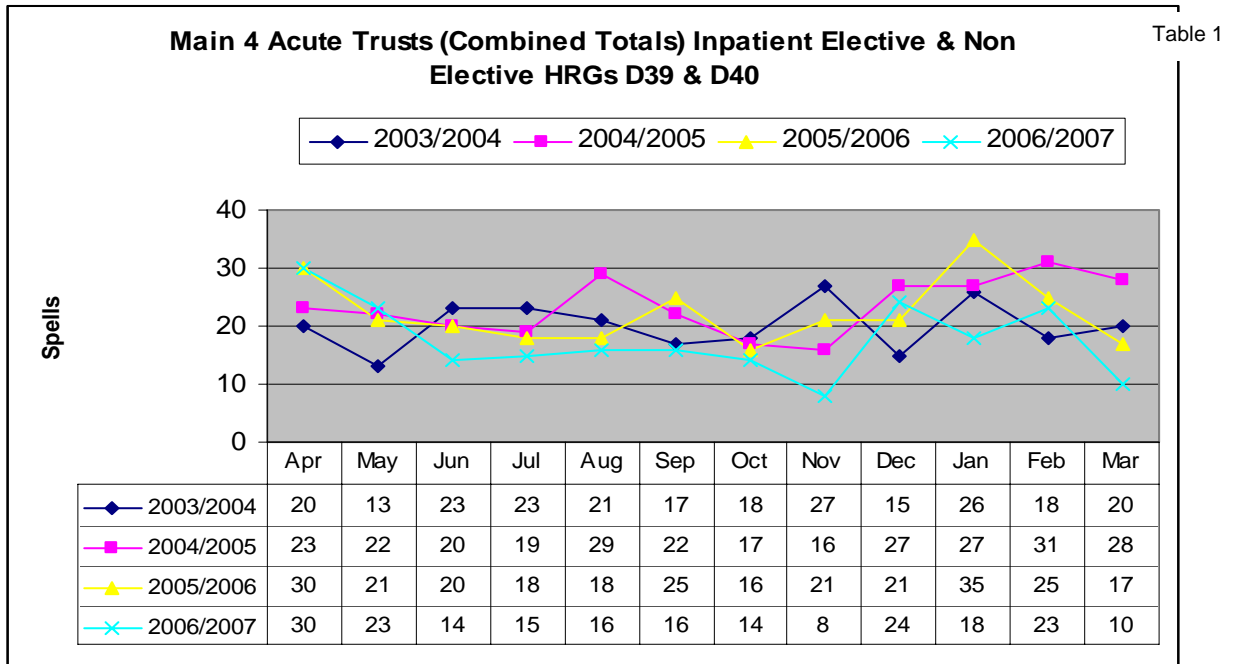
**Please note that SUS which is the source of the hospital data, updates several months in arrears. This means that as data is refreshed to update it there may be minor changes to figures previously reported, this is due to a delay in finalising uncoded activity. Where figures differ in this report to those reported previously these are marked in red and should supercede all others and be taken as the most up to date.*

1) Fig 1 below illustrates:
ALL admissions (including elective and non-elective) for the 4 main provider hospitals for EEMS PCT for COPD (HRGs D39 and D40) during the period April 2003 to March 2007.

D39 – COPD with Complications
 D40- COPD without complications

Table 1 links to Fig 1 and provides annual totals for each line of the graph.

Fig 1



Years	Total no. of admissions for all 4 hospitals
2003/04	241
2004/05	281
2005/06	267
2006/07	211

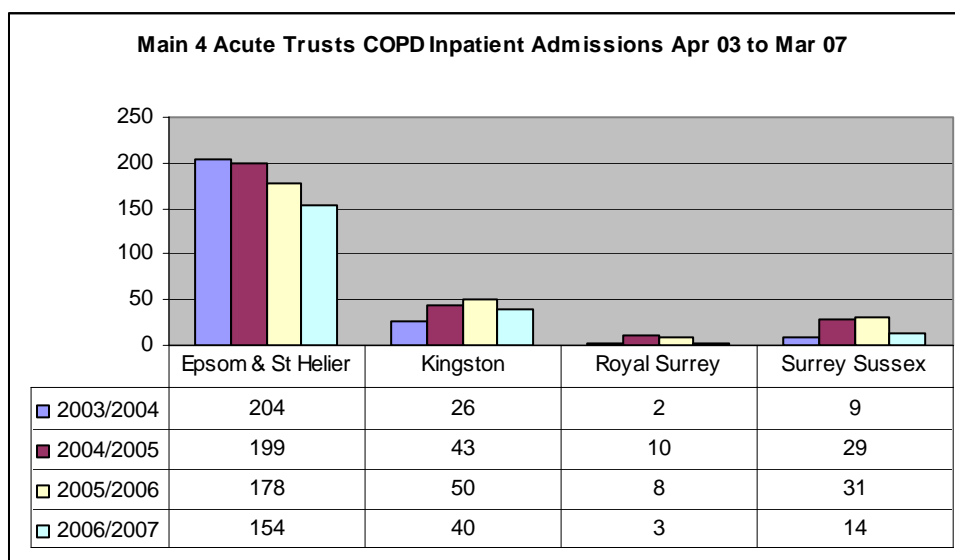
Table 2 represents the raw data for Apr 2005 / March 2006 all 4 hospitals (yellow line in fig 1 above).

Also included in the table are proposed targets for reduction in COPD admissions for 2006 / 2007 based on the 20% reduction of admissions agreed by the COPD Network and the *actual* totals to date for 2006/2007

Table 2

Months	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Admissions 05/06 (actual) 4 main providers	30	21	20	18	18	25	16	21	21	35	25	17	267
YTD Totals	30	51	71	89	107	132	148	169	190	225	250	267	
Proposed Target 06/07 (20% reduction)	24	17	16	14	14	20	13	18	17	27	20	14	214
YTD Totals	24	41	57	71	85	105	118	136	153	180	200	214	
06/07 (actual)	30	23	14	15	16	16	14	08	24	18	23	10	211
YTD Totals	30	53	67	82	98	114	128	136	160	178	201	211	

- 2) Fig 2 illustrates the breakdown by hospital trust of ALL admissions for COPD (HRGs D39 and D40) for April 2003 to March 2007.
Fig 2



The table below shows the monthly breakdown by hospital, for COPD admissions 2005/2006. Also included is the agreed target of 20% reduction in admissions and the actual totals for admissions for Apr 06 to March 07

Epsom and St Helier University Hospital

Months	Admissions 05/06 (actual)	Target 06/07 (20% reduction)	06/07 (actual)
April	18	14	20
May	17	14	18
June	16	13	10
July	12	10	11
August	13	10	14
September	18	15	10
October	9	7	10
November	16	13	07
December	11	9	17
January	21	17	14
February	17	14	15
March	12	10	08
Total to date	180	146	154

Kingston Hospital

Months	Admissions 05/06 (actual)	Target 06/07 (20% reduction)	06/07 (actual)
April	8	6	7
May	2	1	3
June	4	3	3
July	4	3	3
August	3	1	2
September	1	1	5
October	1	1	2
November	5	4	1
December	5	4	5
January	10	8	2
February	5	4	6
March	2	2	1
Total to date	50	38	40

Royal Surrey County Hospital

Months	Admissions 05/06 (actual)	Target 06/07 (20% reduction)	06/07 (actual)
April	0	0	1
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	1
October	1	1	0
November	0	0	0
December	3	2	0
January	2	1	1
February	1	1	0
March	1	1	0
Total to date	8	6	3

Surrey and Sussex Healthcare Trust

Months	Admissions 05/06 (actual)	Target 06/07 (20% reduction)	06/07 (actual)
April	4	3	2
May	2	1	2
June	0	0	1
July	2	1	1
August	2	1	0
September	6	5	0
October	5	4	2
November	2	1	0
December	2	1	2
January	2	1	1
February	2	1	2
March	2	1	1
Total to date	31	20	14

OUTPATIENTS

Community Nurse Clinics

These clinics began in July 2006 with clinics based at Leatherhead Hospital and New Epsom & Ewell Hospital (NEECH) run by the Community Respiratory Nurses. Patients are referred from the Respiratory Consultant clinics at Epsom General Hospital.

NEECH (date of clinic)	Numbers of pts	LEATHERHEAD (date of clinic)	Numbers of pts
19.07.06	5	17.07.06	4
26.07.06	4	24.07.06	2
		31.07.06	2
02.08.06	2	07.08.06	2
16.08.06	4	14.08.06	5
23.08.06	5	21.08.06	6
30.08.06 BH	0	04.09.06	7
06.09.06	4	11.09.06	8
20.09.06	7	18.09.06	6
27.09.06	3	25.09.06	7
Subtotal (July –Sept 06)	34	Subtotal (July - Sept 06)	49
4.10.06	5	02.10.06	2
18.10.06	6	16.10.06	5
25.10.06	0	30.10.06	4
01.11.06	8	06.11.06	7
15.11.06	6		
22.11.06	6	20.11.06	4
29.11.06	5	27.11.06	7
6.12.06	8	04.12.06	6
		11.12.06	8
20.12.06	4	18.12.06	7
Subtotal (Oct – Dec 06)	48	Subtotal (Oct – Dec 06)	54
03.01.07	5		
17.01.07	6	15.01.07	8
24.01.07	6	22.01.07	7
31.01.07	3	29.01.07	4
07.02.07	5	05.02.07	4
21.02.07	4	19.02.07	5
28.02.07	4	26.02.07	7
07.03.07	8	05.03.07	1
		12.03.07	6
21.03.07	5	19.03.07	6
Subtotal (Jan – Mar 07)	46	Subtotal (Jan – Mar 07)	48
28.03.07	3	26.03.07	3
04.04.07	6		
18.04.07	6	16.04.07	5
25.04.07	3	23.04.07	6
02.05.07	5	30.04.07	6
14.05.07	3	16.05.07	7
Subtotal (Mar–May 07)	26	Subtotal (Mar-May 07)	27
Grand Total	154	Grand Total	178

Total number of appointments July 2006 to May 2007: 332