

Oxygen Prescription Audit and Development of a Guideline

Lisa Boyle

**Education and Outreach Sister
Critical Care Services
West Suffolk Hospital NHS Trust**



Oxygen Prescription Audit

“To raise awareness of the importance of correctly prescribing and administering oxygen therapy for routine use”

Sally Humphreys – Audit Co-ordinator

Audit Objectives

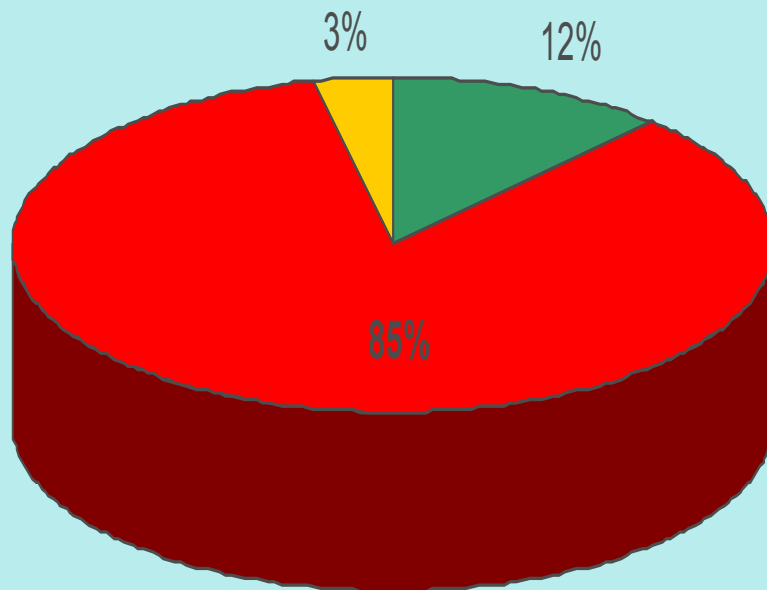
- Number of patients receiving O₂
- Number of prescriptions
- Validity of prescription
- Documentation of O₂ therapy

Methodology

- February 2007
- 16 medical and surgical wards
- Exclusion – Critical care, Maternity, Paediatrics, Coronary Care, A&E
- Data collected by Education and Outreach Sister

Results

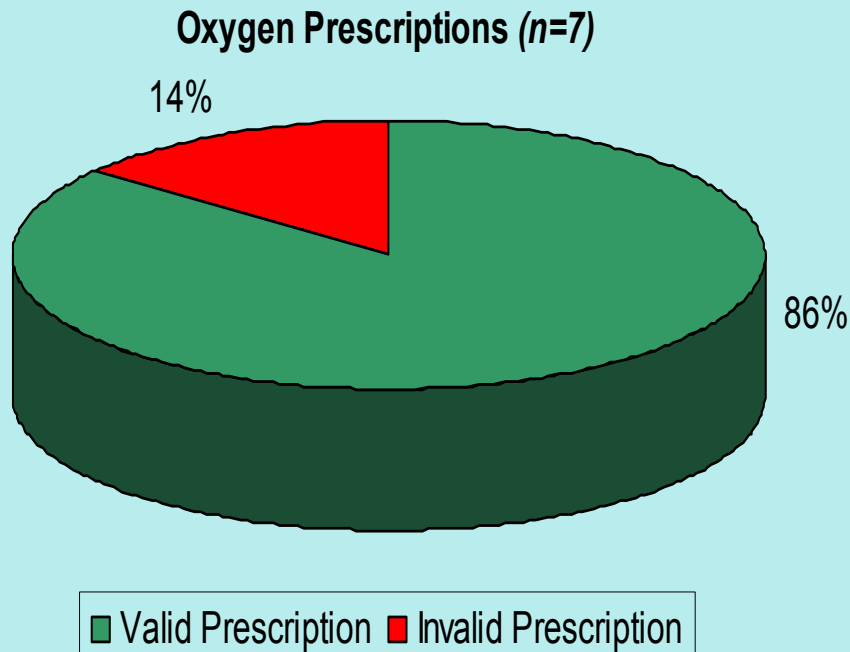
Oxygen Therapy Administered (n=59)



■ Prescribed ■ Not Prescribed ■ Emergency Administration

- 59 Patients receiving oxygen therapy (14%)
- Except in the emergency situation **all oxygen** administered should be prescribed
- 12% of patients had prescribed oxygen

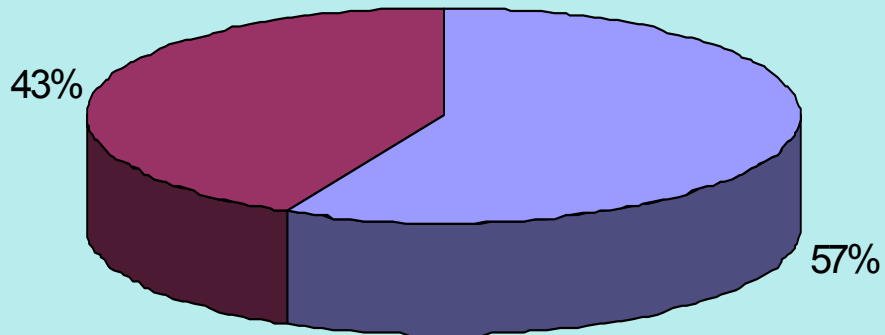
Results



- Overall 86% of the prescriptions were valid
- A valid prescription states the route, amount, delivery system and duration of oxygen therapy

Results

Method of Prescribing Oxygen Therapy (n=7)



■ General Drug Chart ■ Pre-printed post-op/analgesic Sticker

- Overall 57% were manually written on the general drug chart
- No hospital Oxygen prescription charts were in use

Results

- 0% oxygen prescriptions via fixed performance mask
- 15% valid prescription via nasal cannula
- 11% correctly documented the patient's FiO_2 % on the MEWS Chart
- 95% correctly documented SpO_2 % on the MEWS chart

Recommendations

- Review of oxygen policy
- Development of oxygen sticker
- Utilising ward pharmacist
- Continued targeting of specific areas by E&O
- Multidisciplinary Trust wide education programme
- Re-audit

Developments

- Prescription and Administration of Oxygen Clinical Guideline
- Oxygen Sticker
- Multidisciplinary Trust Wide Education Programme
- Re-audit July 2008

The Guideline

- Oxygen prescription

OXYGEN PRESCRIPTION			Time
Drug: OXYGEN		Route: Continuous Inhalation	08.00
			Dose
			Sign
Date:	Signature:	Dose:	Lunch
Additional Instructions: Refer to Guideline for Administration		To maintain SpO ₂ > 95% Or %	Dose
			Sign
			22.00
			Dose
			Sign

The Guideline

- Oxygen administration
- Oxygen Flowchart
- Delivery Devices
- Discontinuation
- Exclusions



All patients with severe hypoxia, shock, major trauma or other critical illness should be managed initially with high concentrations of oxygen therapy via a reservoir mask at 15 l/min.

The dose can be adjusted when results of Arterial Blood Gas (ABG) analysis are known and/or the patient is stable.

For all other patients follow algorithm below:

SpO₂ falls below prescribed target,
Give O₂ as per guidelines. Inform medical team.

SpO₂ < 92%

Is patient at risk of Type II Respiratory Failure?
Risk Factors:
- COPD
- Muscular weakness

Yes

Give Oxygen
24% to 35% via Venturi mask or 2 – 4
L/min nasal cannulae to achieve
target SpO₂

No

Give Oxygen
40% to 60% via Venturi mask to achieve
target SpO₂

If unable to achieve target view medical review

Obtain ABG's at 30mins

Is pCO₂ >6.5?

Yes

Adjust O₂ giving
minimum amount
required to keep SpO₂
> 90%
Inform Medical Team.
If pH < 7.35 Consider
NIV

No

Give 28 – 60% to
achieve target
SpO₂ as per
guideline.
Repeat ABG's as
directed by medical
team

Obtain ABG's

Is pCO₂ >6.5?

Yes

Continue to give
high flow O₂ up to
15l/min to maintain
target SpO₂ **Urgent
medical review**

No

Continue O₂
therapy to maintain
target SpO₂
Repeat ABG's as
directed by medical
team

SpO₂ > 92%

Give Oxygen
28% or 35% via Venturi mask or 2 – 4 L/min
nasal cannulae to achieve target SpO₂

Monitor SpO₂

Aim to keep SpO₂ > 95% or target
SpO₂
Discuss with Medical team
Review O₂ requirements as per
guideline

•Do not discontinue O₂ therapy to obtain ABG's

•Treat underlying cause

•Do not discontinue O₂ therapy if hypercapnic
obtain expert help

•Monitor patients as per guideline

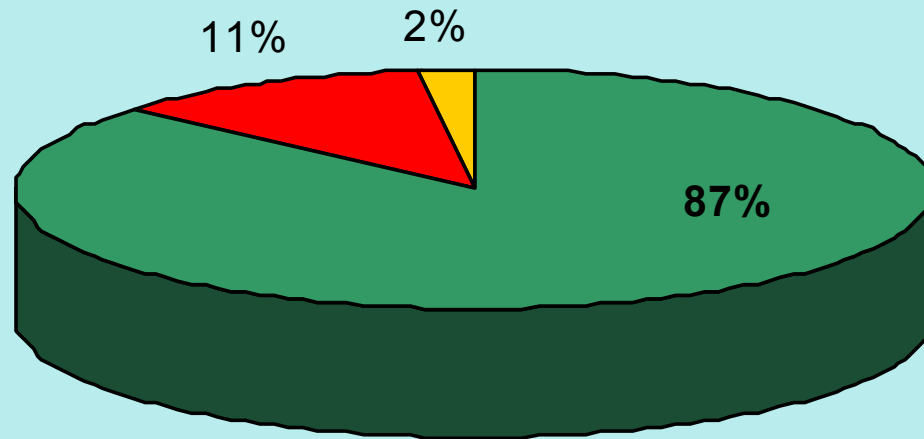
Re-audit July 2008

- 53 patients receiving oxygen therapy

Was oxygen prescribed?

New Results

Oxygen Therapy Administered ($n=53$)

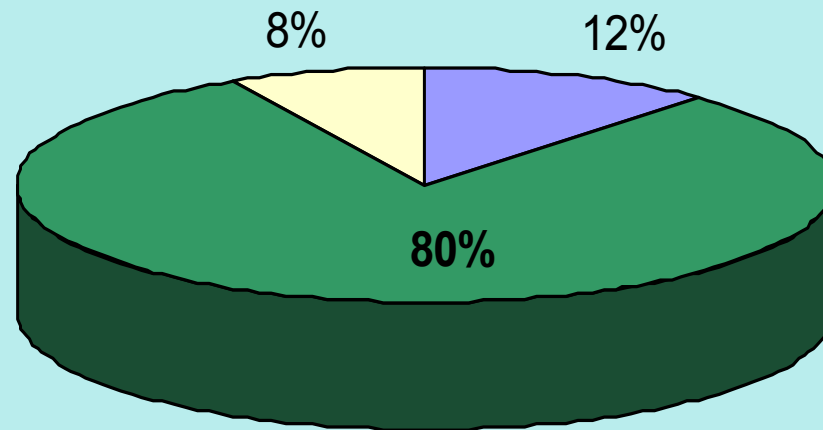


■ Prescribed ■ Not Prescribed ■ Emergency Administration

87% of patients had prescribed oxygen

New Results

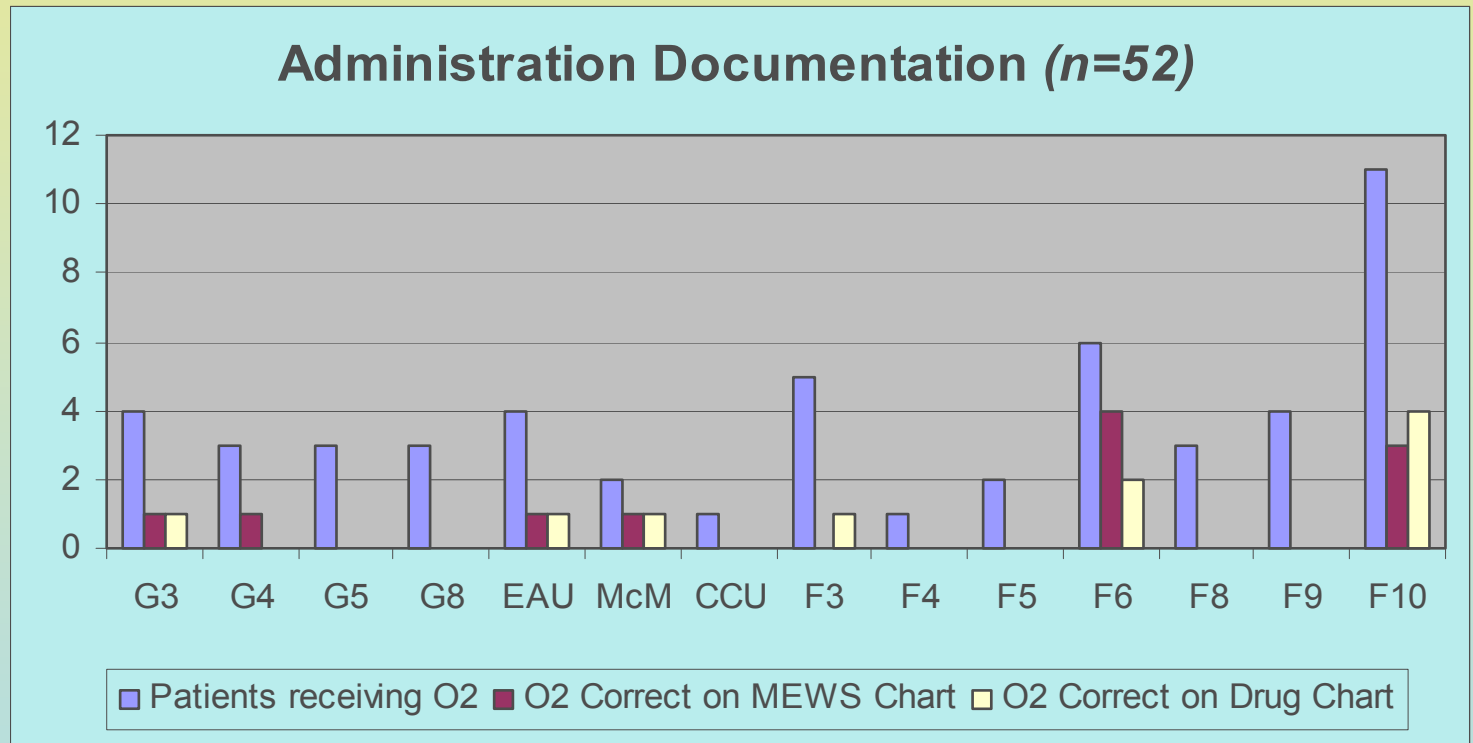
Method of Prescribing Oxygen Therapy (n=52)



- General Drug Chart
- Pre-printed SpO2 Sticker
- Pre-printed post-op/analgesic Sticker

75% valid prescriptions

New Results



100% correctly documented the $SPO_2\%$
on the MEWS chart

The Future

- Pre-printed prescription charts
- Standardised fixed performance masks
- Continued education
- Share good practice – EACCORG
- NORF conference – Nov 2008
- Review of BTS guidelines 26th September