



Putting **patients**  
at the **HEART**  
of everything we do



**London North West  
University Healthcare**  
NHS Trust



# Current trends in HPN

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# HPN funding over the years



# 2008 English HIFNET document

Aim: improve quality of care for HPN patients

Patient centred & allow equity of access to care close to home

Enhance links between HPN centres

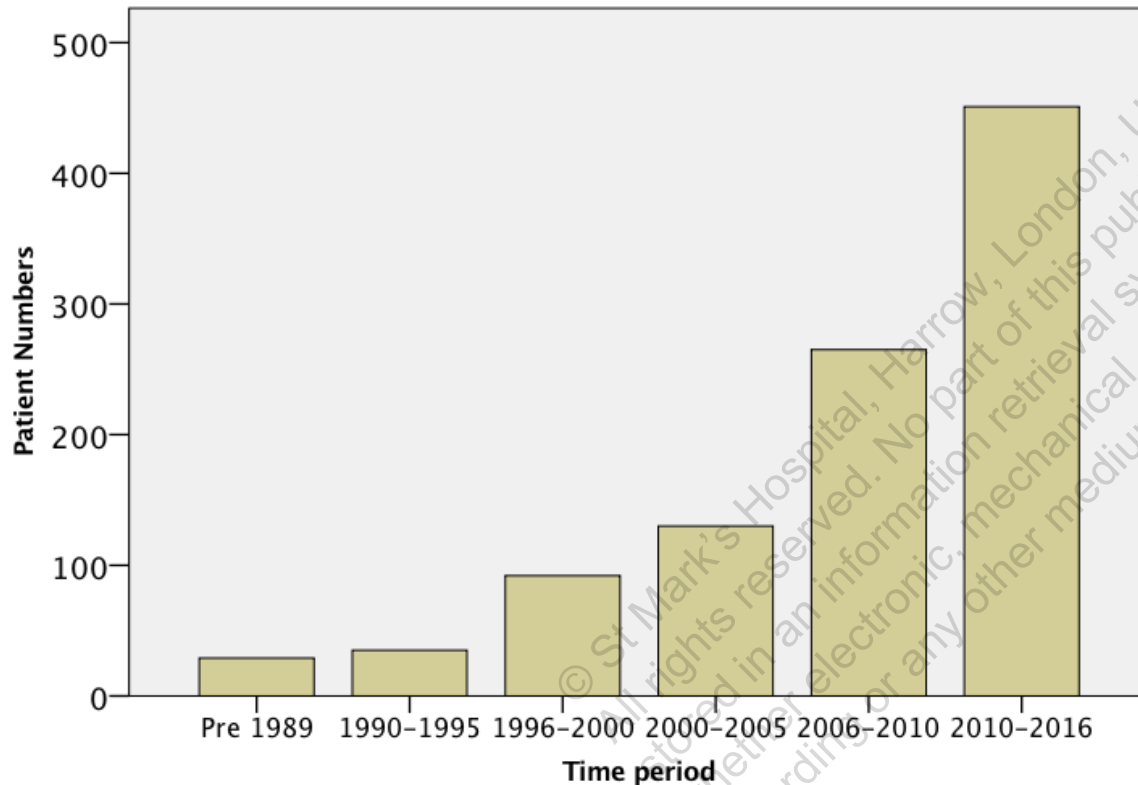
Original proposal of 4 sectors

Anticipated launch 2013/14

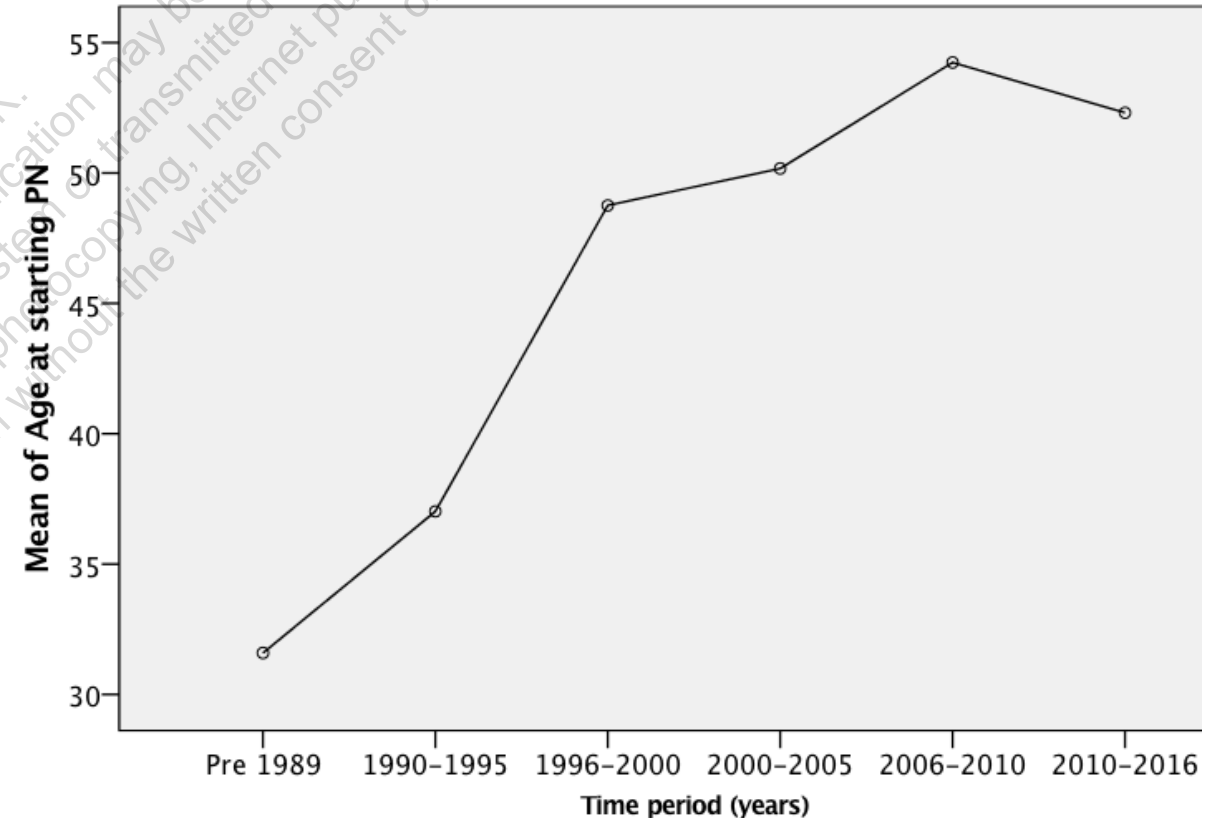
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# Changes over time at St Mark's

## HPN Patient numbers

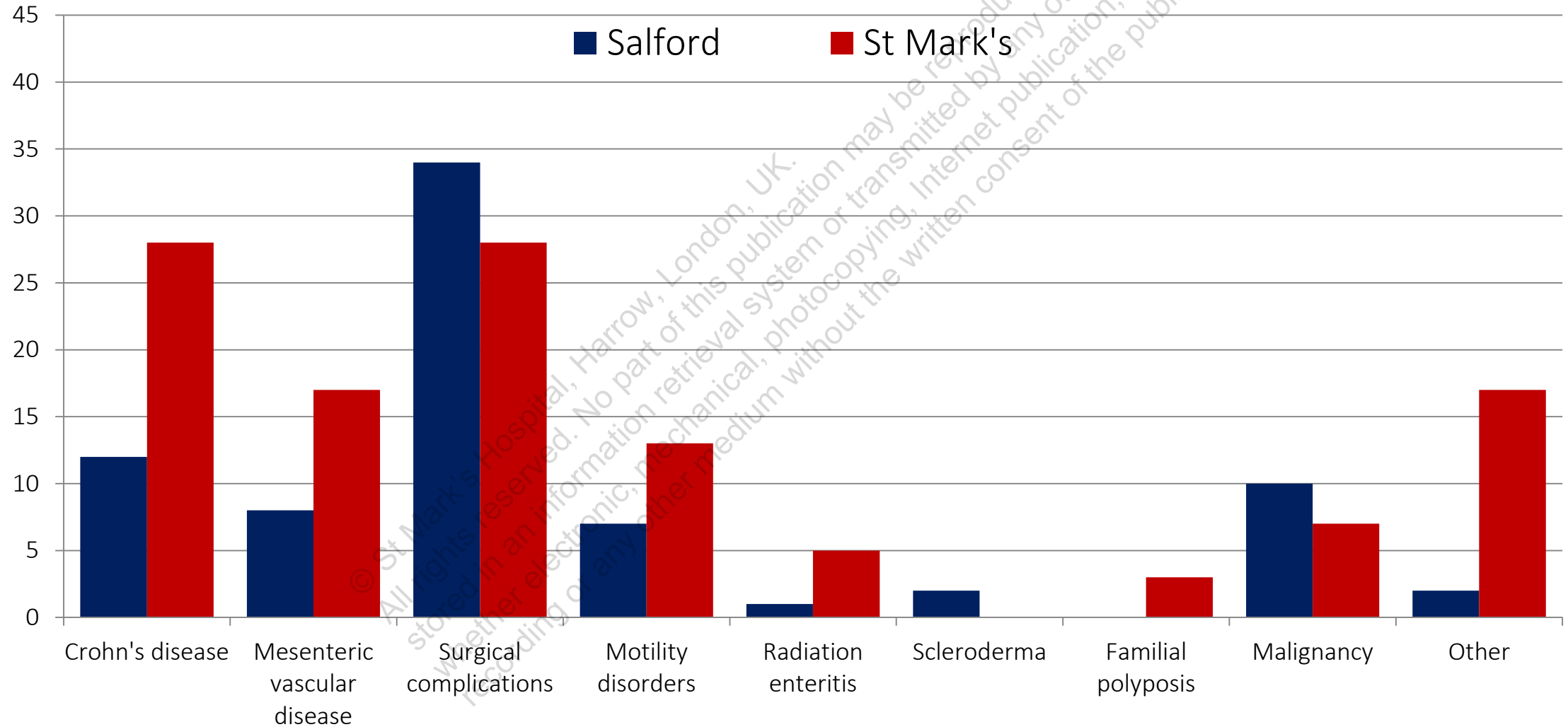


## Age when starting HPN

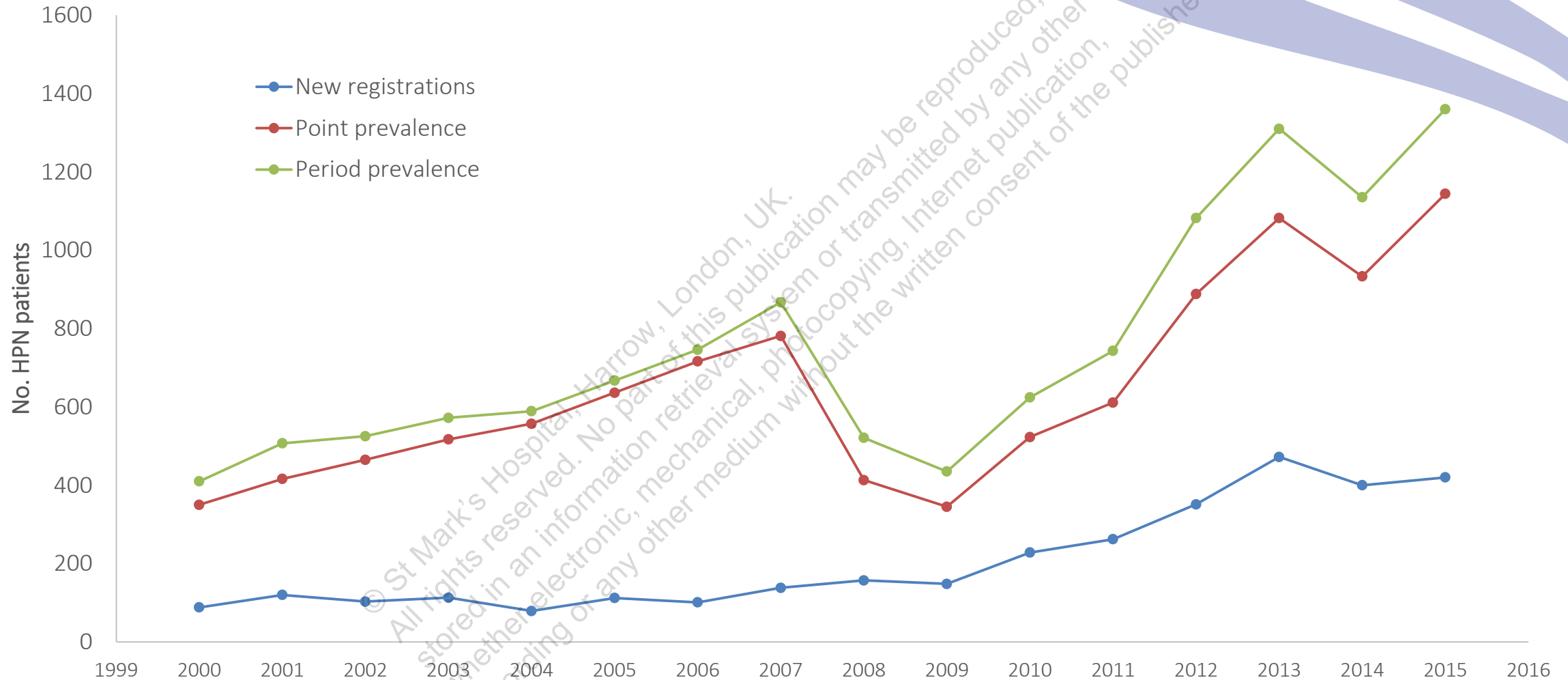


# Severe IF service (St Mark's & Salford)

New patients (2014/15)



# British Artificial Nutrition Survey (BANS): HPN

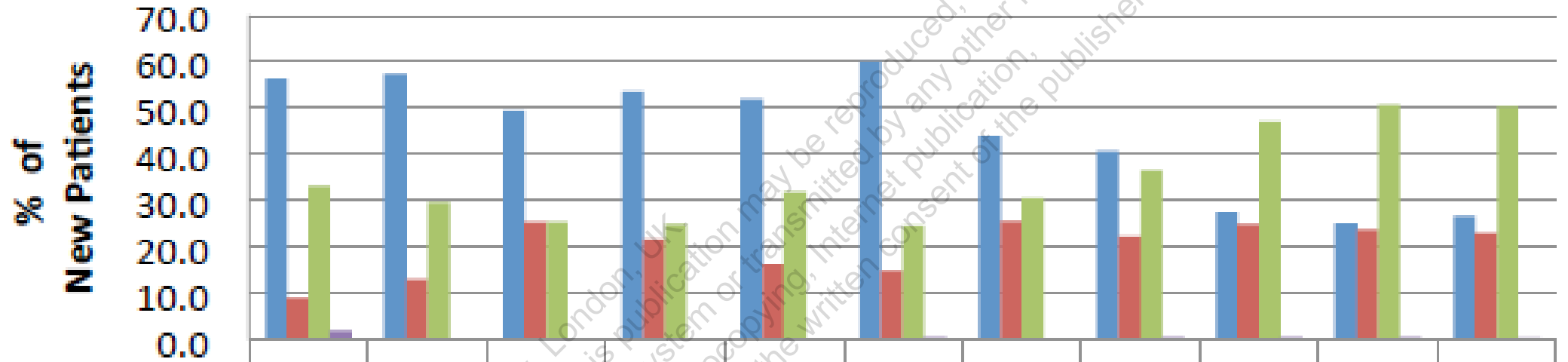


# British Artificial Nutrition Survey

	Number of patients					% HPN patients			
Year	2000	2005	2010	2015	Year	2000	2005	2010	2015
Crohn's	120	175	153	238	Crohn's	34.3	27.5	29.3	20.8
Mesenteric vascular disease	62	122	80	187	Mesenteric vascular disease	17.7	19.2	15.3	16.3
Dysmotility	32	66	79	147	Dysmotility	10	10.3	15.1	12.8
Malignancy	20	43	41	135	Malignancy	5.7	6.8	7.8	11.8

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# HPN patients: level of independence over time



	n=112	n=101	n=138	n=157	n=148	n=228	n=262	n=351	n=472	n=400	n=420
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Independent	56.3	57.4	49.3	53.5	52.0	60.1	43.9	40.7	27.5	25.0	26.7
Requires Some Help	8.9	12.9	25.4	21.7	16.2	14.9	25.6	22.2	24.8	23.8	22.9
Requires Total Help	33.0	29.7	25.4	24.8	31.8	24.6	30.5	36.5	47.0	50.8	50.2
Other Than Listed	1.8	0.0	0.0	0.0	0.0	0.4	0.0	0.6	0.6	0.5	0.2



# UK Survey of HPN centres

13 hospitals responded

149 patients with medium & long-term IF

New patients	70 (47%)
Discharge home	108 (72%)
Discharge nursing care home	5 (4%)
Long term nursing care (home care company)	51 (47%)

# IF Registry (adults)

- Extended data collection
  - Details of all hospital admissions
  - Outpatient attendances
  - Surgery
  - CVC complications
- Data not transferrable from e-BANS
  - Likely to become a mandatory requirement for IF centres

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# Changes in CVC placement

Subclavian CVC

Int jugular CVC

PICC

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# HPN funding over the years



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# National HPN framework

- First developed 2012
- Adults & children
  - Compounding & delivery
  - Nursing
- Standardisation of all aspects of HPN care
  - Home assessment
  - Prescription
  - Training competencies
  - Ancillaries

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# Capacity

- Very little free compounding capacity nationally
- If a major compounding unit went down who could take on the additional work?
- HPN centres may have to admit home patients
- Some companies investigating if European units could take on some compounding
- Impact of Brexit.....

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# Blueteq

- Used by NHSE to monitor & control spend of high cost drugs
  - Only available to HPN commissioned Trusts
  - Companies cannot accept patient without
  - Automatic approval request form
- Number needs to be deactivated at end of treatment
- Annual renewal required
  - Additional data set will be required
  - Unclear if HPN centre will be notified automatically when renewal due
- Number is attached to HPN centre
  - Need to obtain a new number if patient transfers to a different centre



# Nursing – under the microscope...

- Concern over expense - & use - of HPN nursing
- Too many patients receiving visits for dressings only
- Patients identified as being trainable not training to independence
- Expectation that majority of patients will do own procedures
- Nursing *might* be withdrawn for repeated non compliance
- Nursing *may* require a separate Blueteq number

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# What if a patient's needs cannot be met by the framework?

- No additional funding available from NHS England to facilitate difficult discharges
- Onus placed on discharging hospital to find & fund any solution
- No other option than home or long term residential care, if applicable, for patients needing HPN

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# Real life challenges

Patient wielded a knife in front of homecare nurse

Patient refusing visits due to nurse's perfume

Patient refusing visits from a nurse as she resembled her boyfriend's ex

Homecare nurses refusing to visit patient as he would watch porn during the visit

Homecare nurse alleged sexual assault from patient

Homecare nurses refusing to visit due to patient & partner engaging in sexual behaviour

Homecare nurses refusing to visit due to patient's girlfriend often being naked

Homecare nurses refusing to visit due to cleanliness of home

Homecare nurses refusing to visit due to patient smoking during visit

Homecare nurses refusing to visit due to heavy cannabis use in the home

Homecare nurse declined entry as patient had her period

Homecare nurse shot at with BB gun

# Patient Charter

- Homecare company
- Homecare nursing
- HPN centre
  - What patients can expect from each
  - What is expected of them from each


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# NHS network for NHS purchasers of HPN

- Closed forum for NHS staff
- Dissemination of key documents
- Chat forum
- Underutilised resource
- Further information

[jacqueline.eastwood@lpp.nhs.uk](mailto:jacqueline.eastwood@lpp.nhs.uk)

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- 
- Pumps & accessories have evolved over the years
  - Ambulatory pumps standard
    - Only 8 patients out of 116 (7%) had ambulatory pump<sup>1</sup>
  - Advances in size & weight of pump, battery life, running noise

<sup>1</sup>Proc Nut Society 1996; 56, 149A

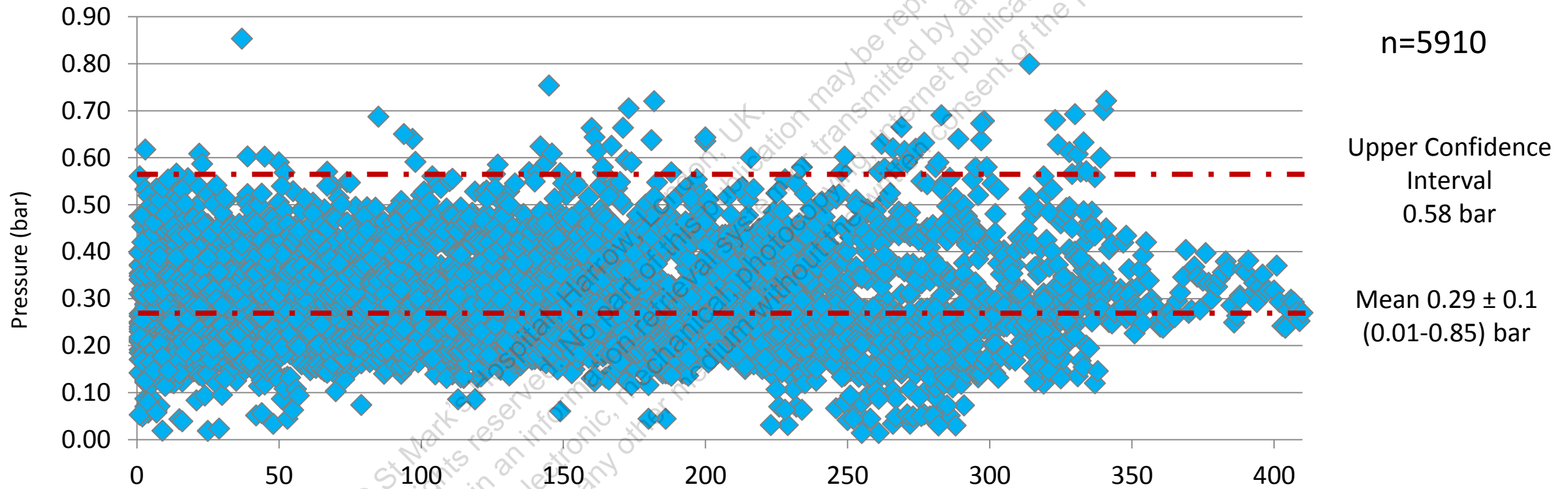
# Micrelcare™

“Remote control for home infusion  
therapies”

External battery pack  
incorporating  
GPRS technology

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# Pump infusion pressures

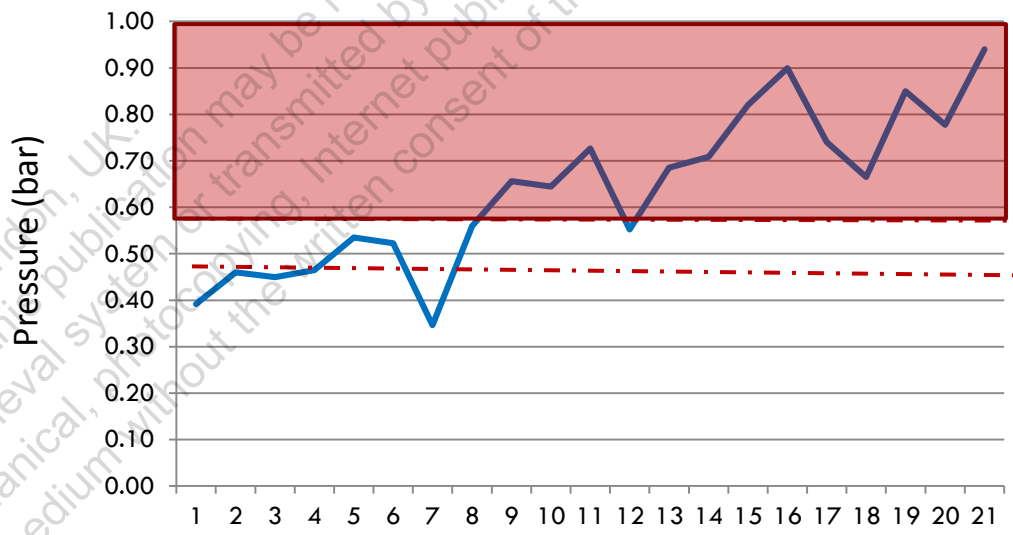


Patient	Mean pressure (bar)	No of readings above UCI 0.58 bar (total readings)	% readings above 0.58 bar	Clinical incidents
1	0.45	50 (341)	15%	Downstream occlusions ++. Patency fine. Longer Huber needle solved problem.
2	0.39	1 (249)	0.4%	None reported
3	0.27	3 (185)	2%	Thrombosis. Pressure spike 0.67 bar 5 days before presenting with symptoms. Pressures in preceding 6 months within normal limits.
4	0.27	1 (101)	1%	None reported
5	0.21	1 (193)	0.5%	None reported
6	0.4	1 (168)	0.6%	None reported
7	0.44	5 (338)	1.5%	Known stenosis



# Email alerts

Pump alarms generate a real time email outlining type of alarm

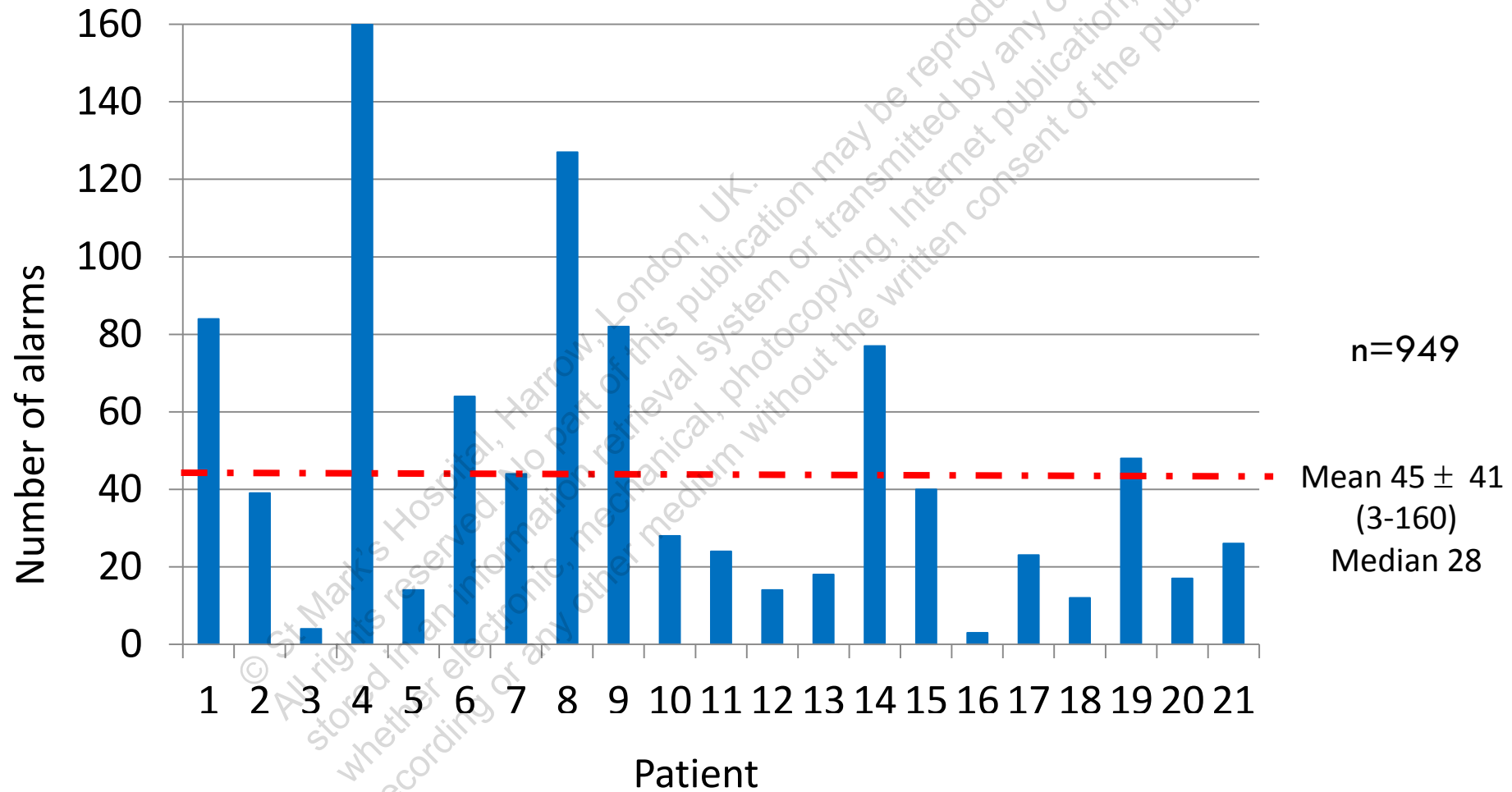


June 2015

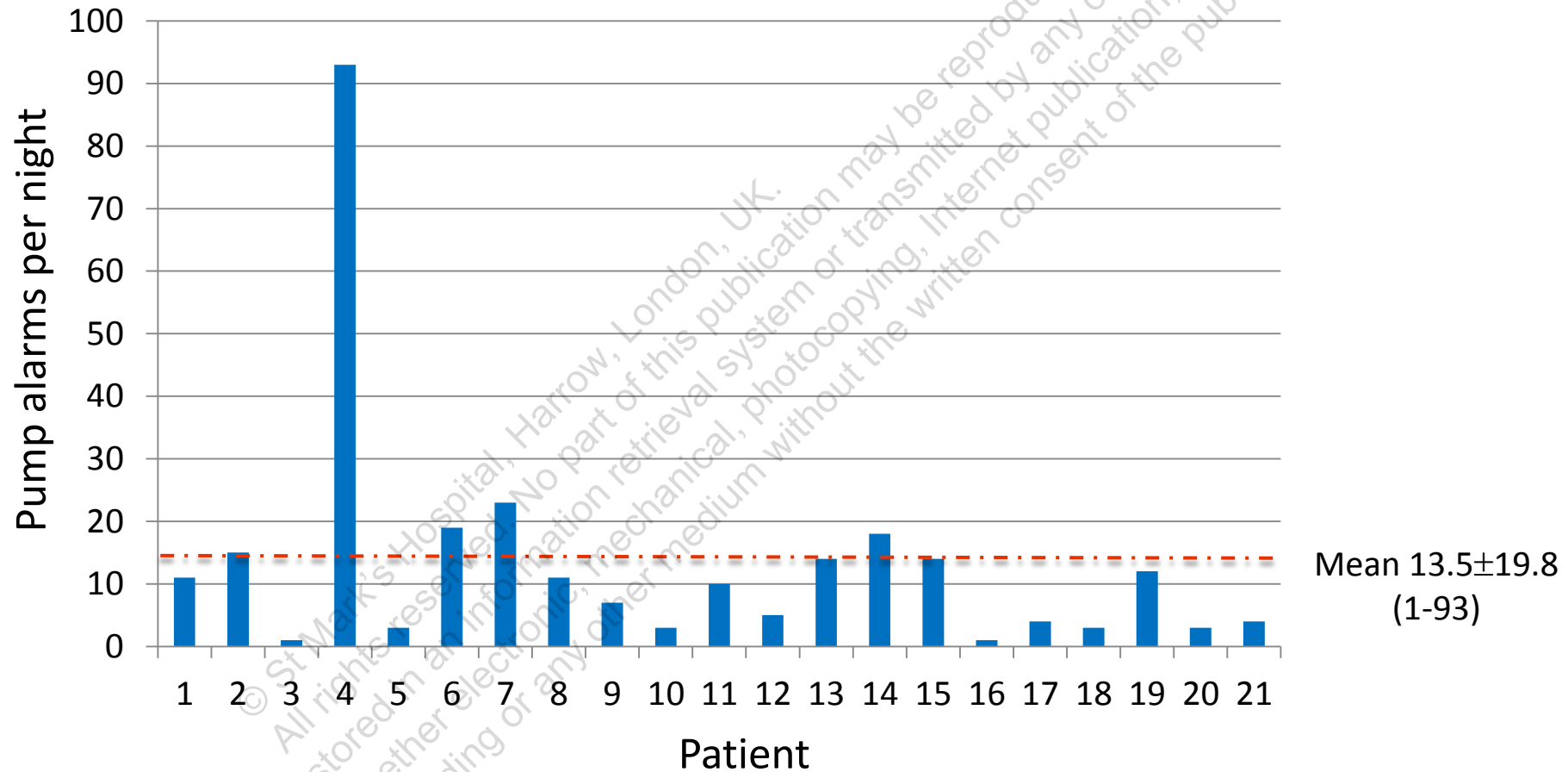
Patient has port, very deep set, finding it difficult to insert access needle  
Issue resolved by changing to a longer length needle

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# Alarms per patient



# Maximum alarms per single infusion

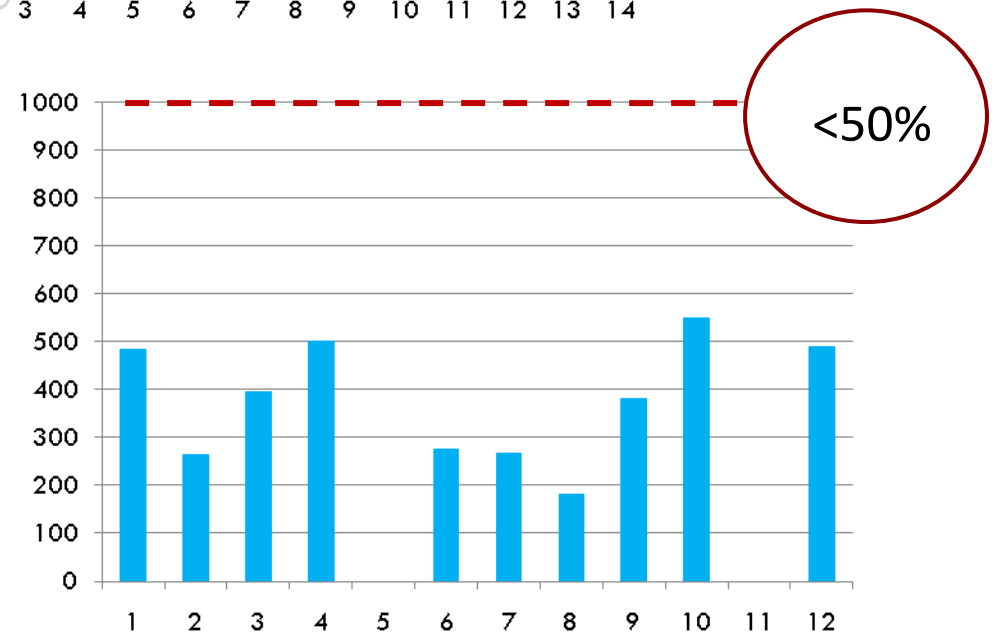
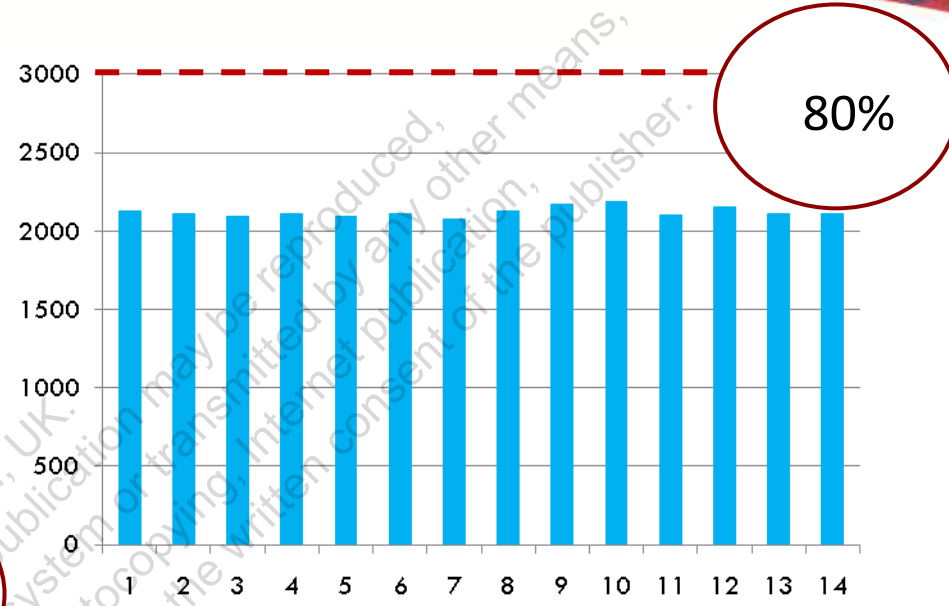
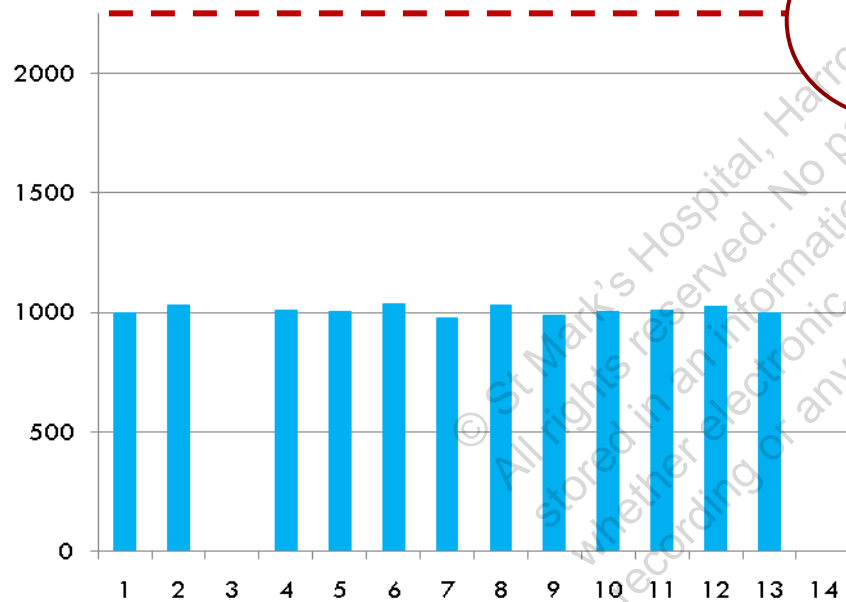


# Infusion histories

Prescribed volume vs actual infused

$r=0.81$

Mean  $77 \pm 32$  (23-141) %



	Patient A		Patient B		Patient C	
	Px	Actual infused	Px	Actual infused	Px	Actual infused
Volume	3000 mL	2400 mL	2250 mL	1000 mL	1000 mL	500 mL
% each infusion	80%		44%		50%	
Nitrogen	0	0	9	4	6.75	3.37
Kcal	0	0	1200	528	400	200
Sodium	250	200	82.5	36.3	50	25
Potassium	60	48	32.5	14.3	60	30
Calcium	7	5.6	5	2.2	4	2
Magnesium	17.5	14	8	3.5	6	3
Phosphate	0	0	10	4.4	5	2.5