National Wrong Blood In Tube (WBIT) Survey
Results and feedback

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Radisson Blu Royal Hotel, Golden Lane, Dublin 8

Background

- Southern Haemovigilance Working Group query
- Do the NHO want Wrong Blood In Tube (WBIT) incidents reported as a SAE?
- NHO response
- Reluctant to collate reports due to
  - Staffing constraints
  - Potential sizeable workload
- Proposed a national survey
  - To establish a baseline
  - Invited my participation (member of Transfusion & Transplantation Science Advisory Body – TTSAB)

Objectives

- The primary aim of this national study was to assess the frequency of mislabelled and miscollected (i.e. WBIT) samples submitted to hospital blood banks in Ireland
- Survey carried out over a three month period (Jun, Jul, Aug 2011)
- To access the availability of policies and training on blood transfusion sampling in Irish hospitals.
- To assess who takes samples for blood transfusion in Irish hospitals
- To propose solutions to minimise problem

Participation rate

- 79 hospitals transfuse red cells In Ireland (figure from ANSAE/ANSAR reports)
- Response from 41hospitals
  - 40 respondents themselves
  - 1 respondent did not identified
- Response rate 52%

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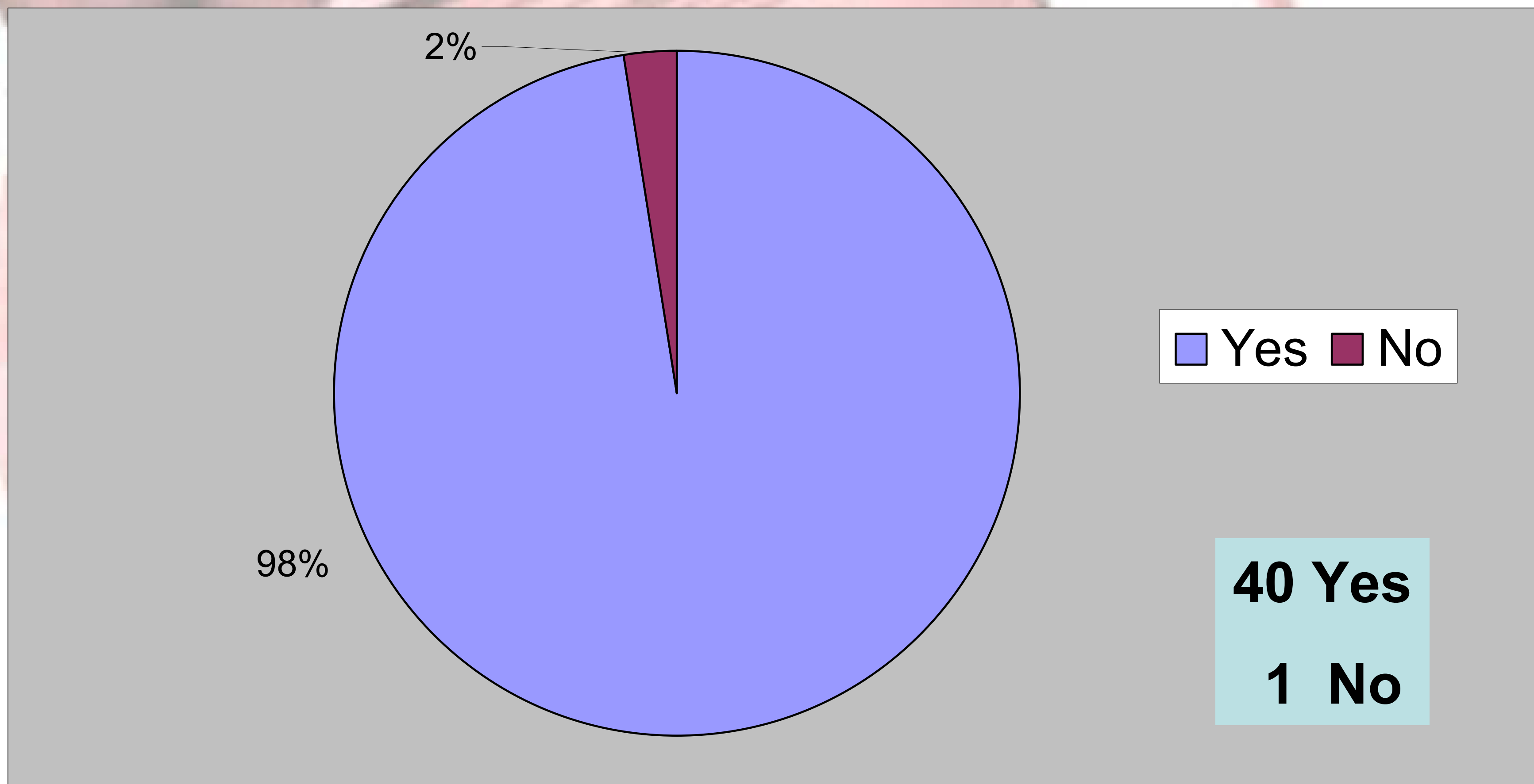
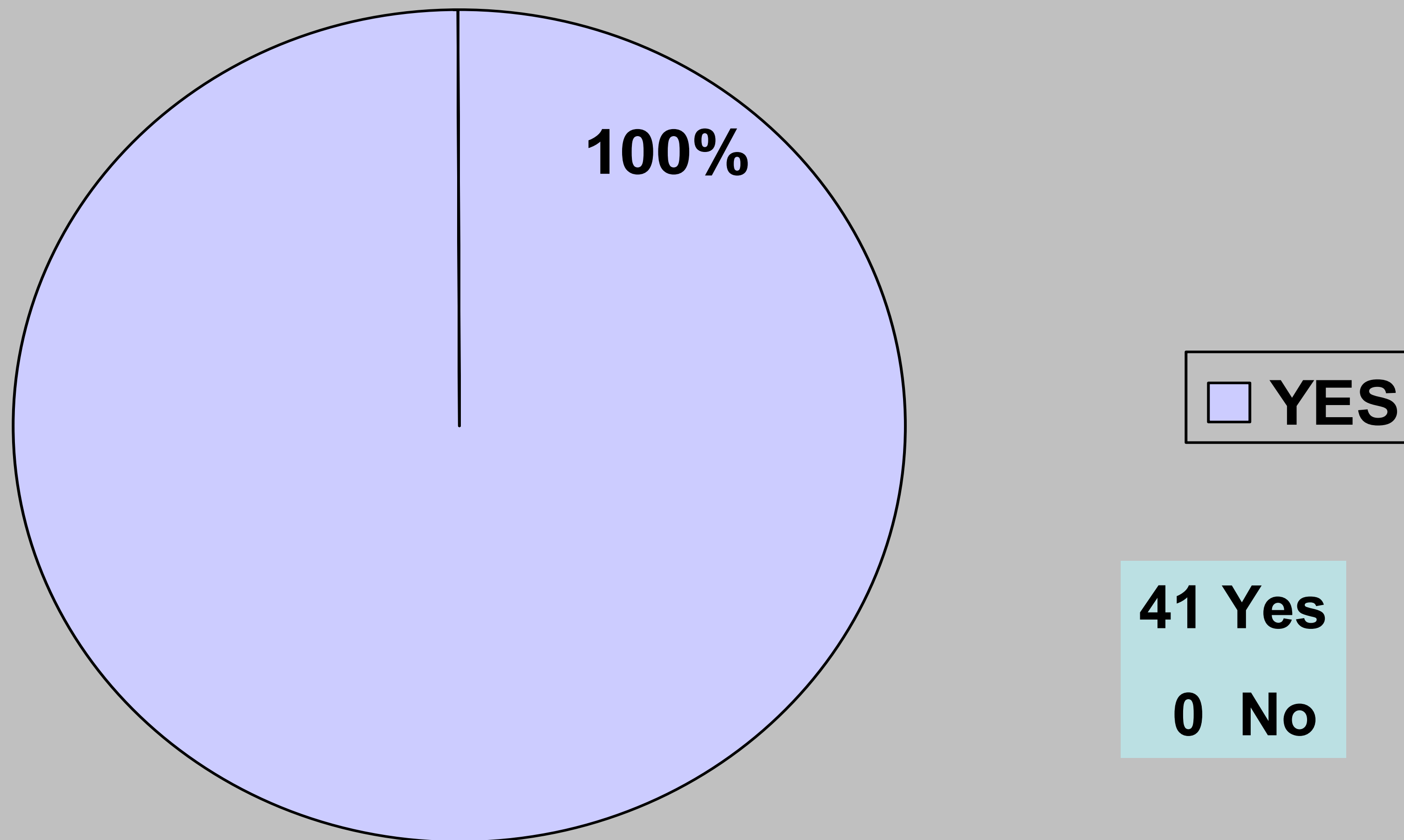
Section 1:

Policies, procedures and training

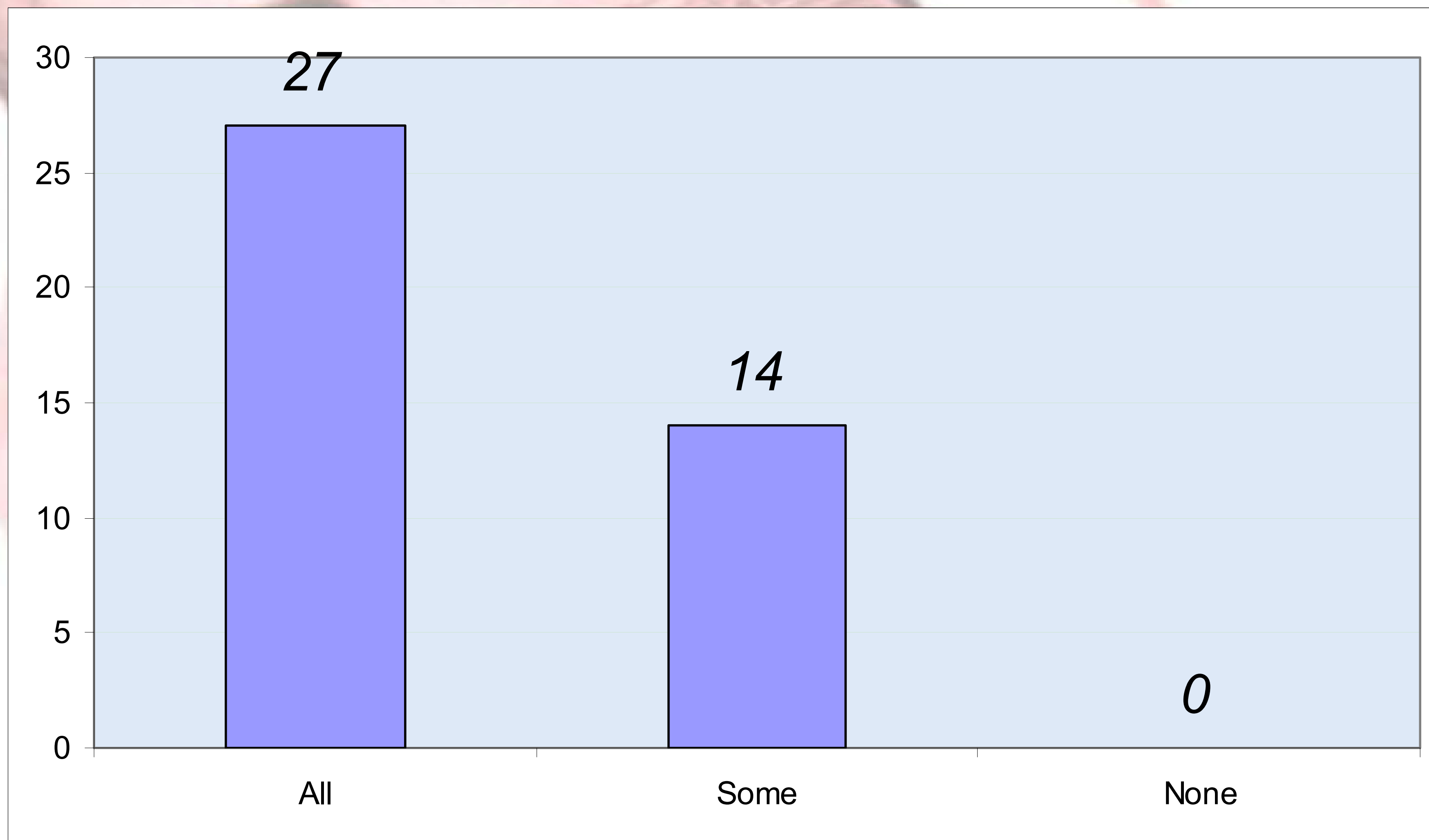
Does the hospital have a written policy with explicit criteria for acceptance of samples for blood transfusion?



Does your hospital have a written policy on sampling for blood transfusion?



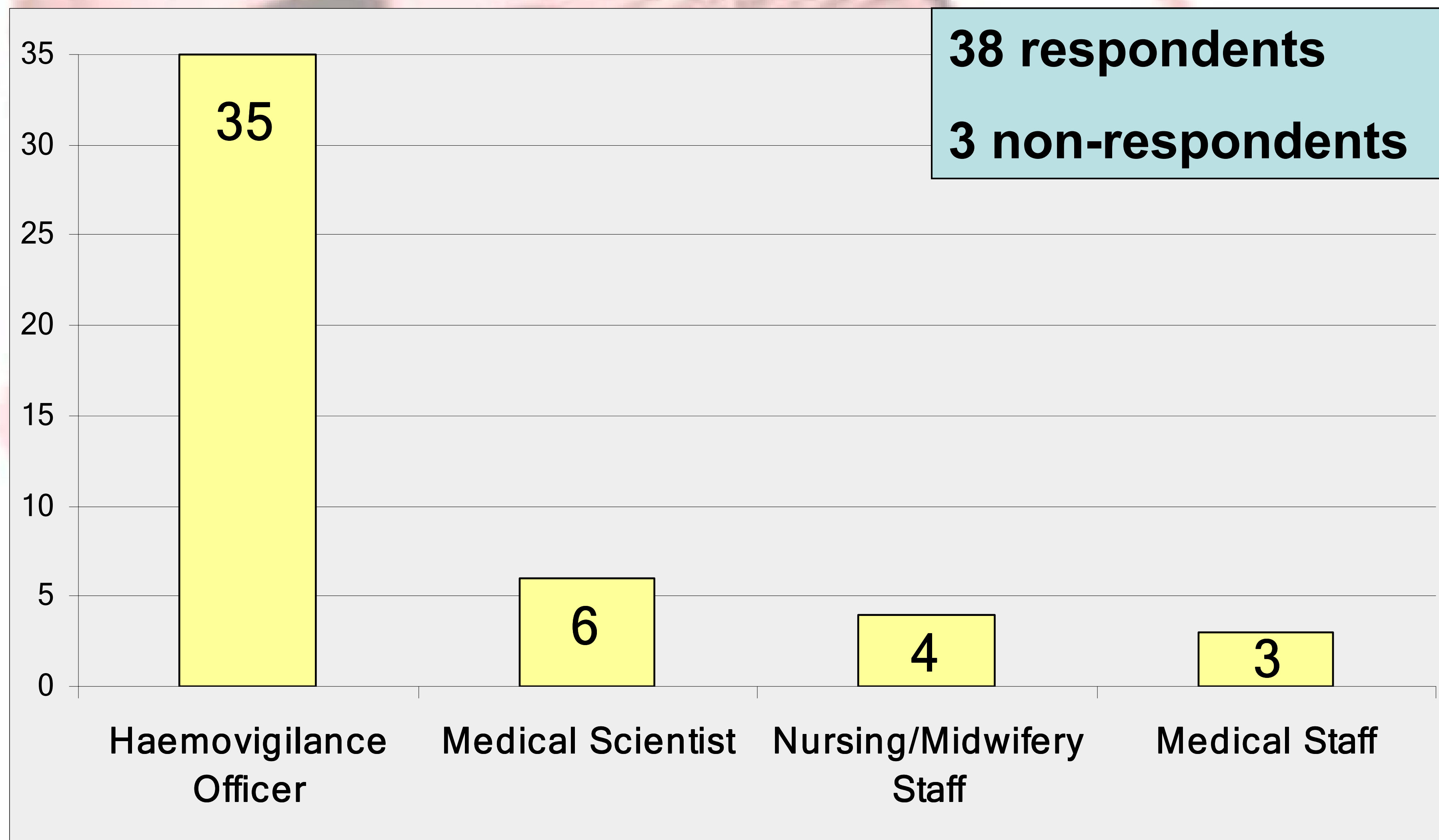
Is training provided in your hospital for staff involved in sampling for blood transfusion?



Is training provided in your hospital for staff involved in sampling for blood transfusion?

- ***Comments***
  - Submitted by 19 respondents (all respondents had option)
    - Challenges in delivering training to doctors including locum doctors (11 comments)
    - Other comments referred to staff not receiving training specifically in the act of venepuncture
    - Generally where midwives / nursing / phlebotomy involved training is provided

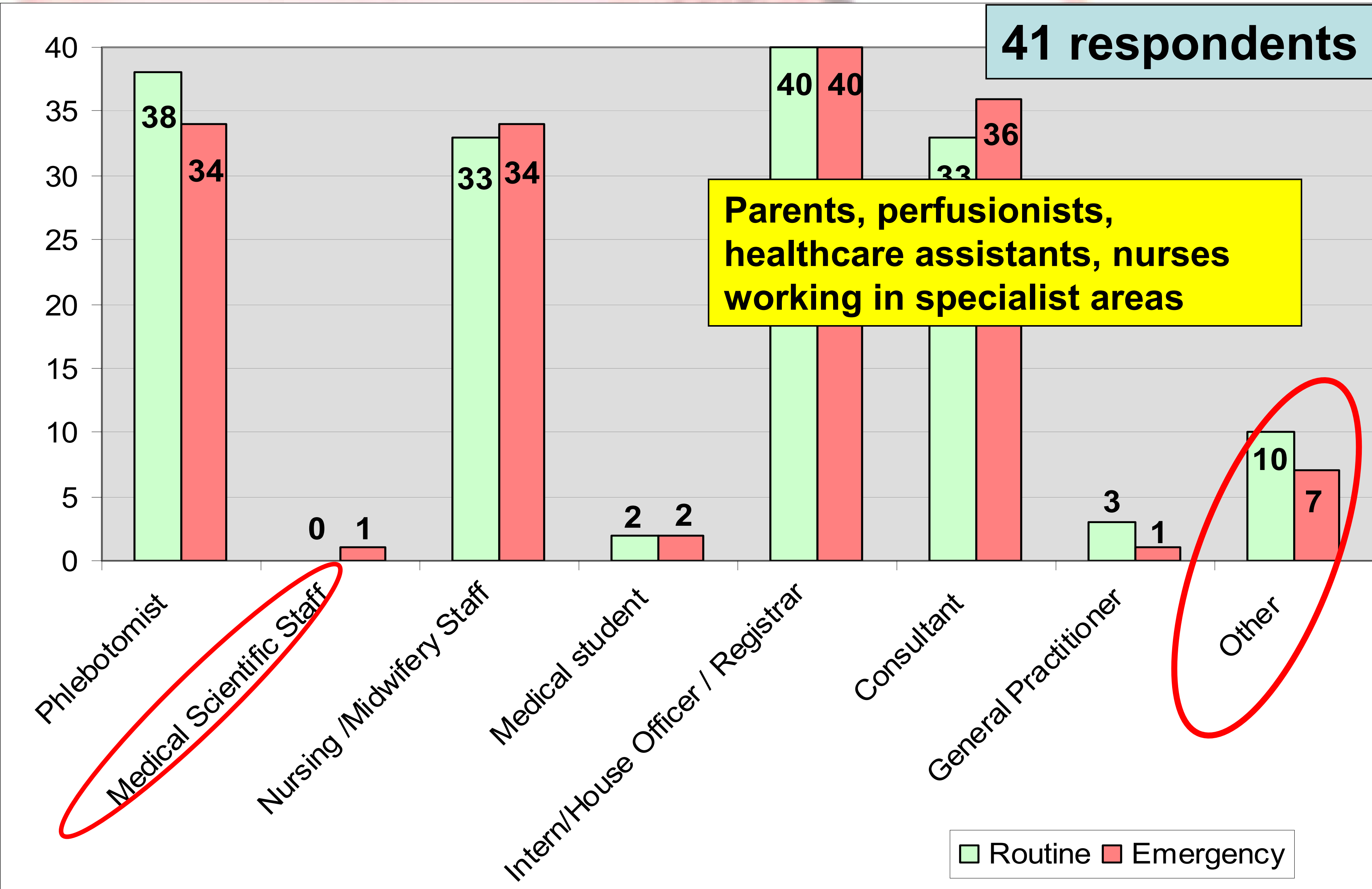
Who delivers training on sampling for blood transfusion in your hospital?



Who delivers training on sampling for blood transfusion in your hospital?

- ***Comments***
  - – Submitted by 18 respondents
    - 9 comments referred to the involvement of phlebotomy staff in training in venepuncture -
    - 2 comments referred to the use of SNBTS e-learning programme

Who is permitted to take transfusion samples in your hospitals? (both routine and emergency)



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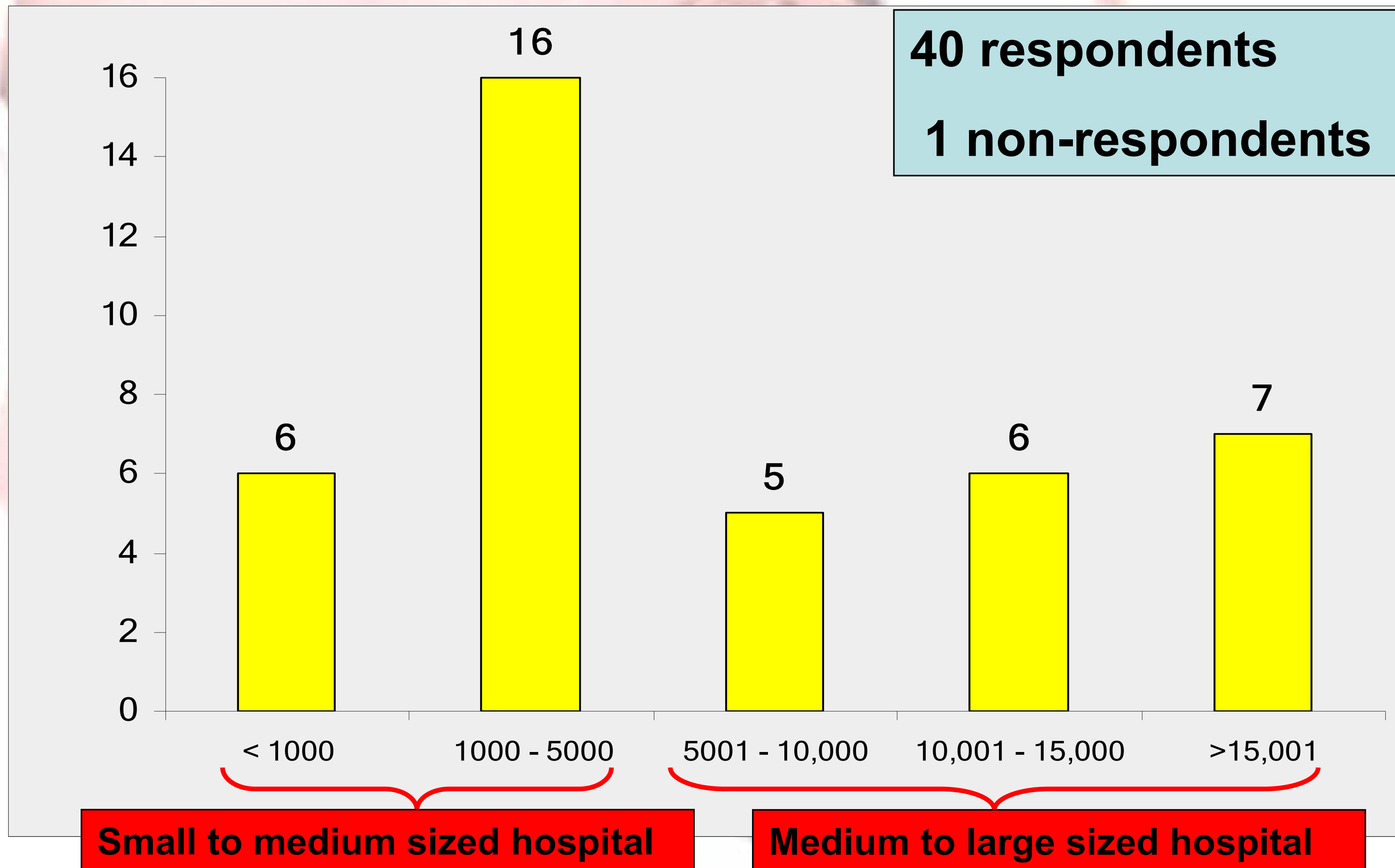
Section 2:

Specimen rejection rates

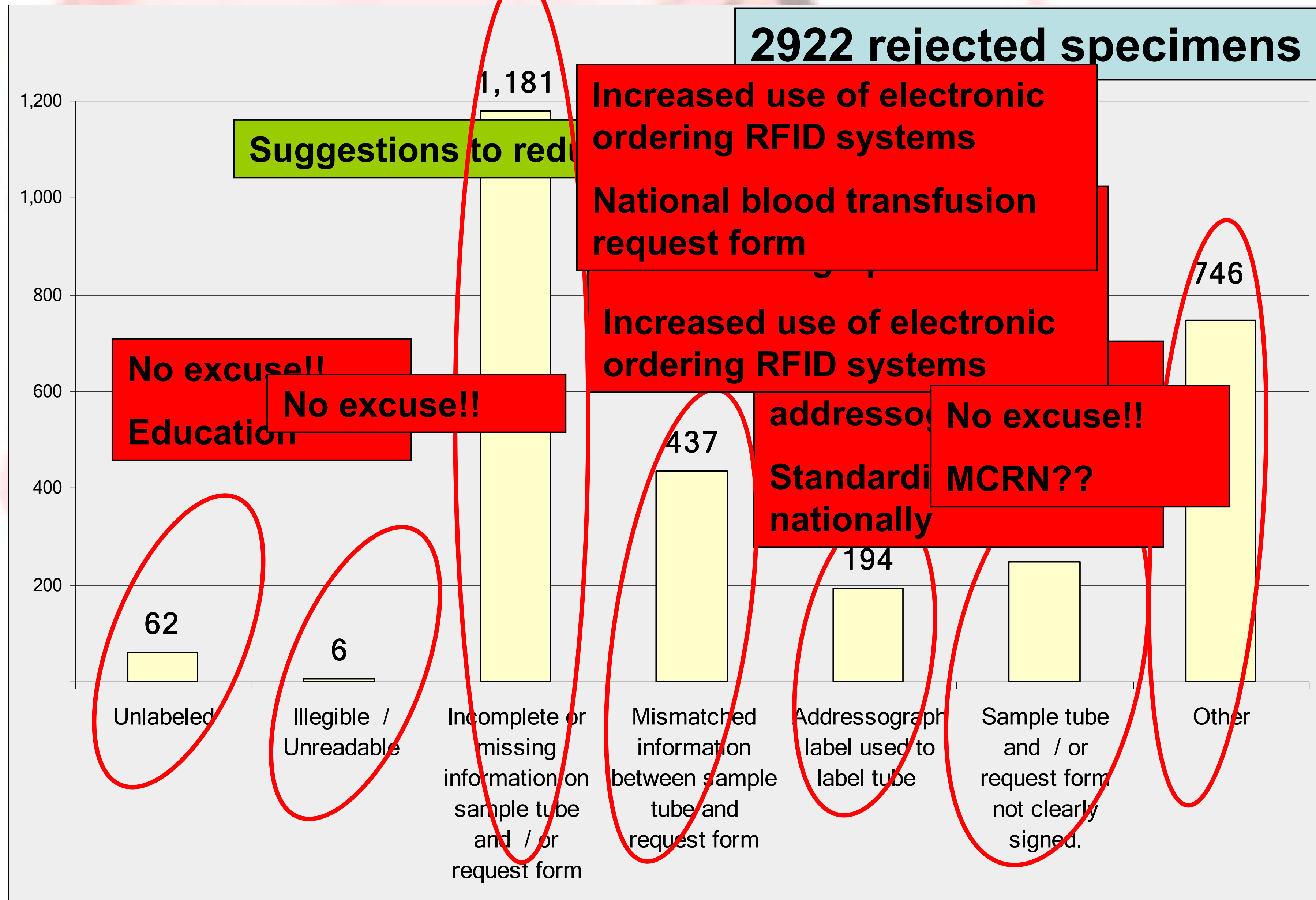
What number of samples are received in the hospital blood bank per annum (2010)?



Total specimens received and rejected June – August 2011

	Samples received	Samples rejected	Average rejection rate per month
Jun ’11	24,082	944	3.9%
Jul ’11	23,374	1,004	4.3%
Aug ’11	23,858	974	4.1%
Total for 3-month period	**71,314**	**2,922**	**4.1%** (or 1 in 24 specimens)

Why were samples rejected?



How do we compare with international figures for mislabelled specimens?

- Murphy *et al*, Transfus Med, 2004 UK study
- <u>Rejection rate of 3.2%</u>
  - "…identified great variation in policies and practice for sample

Or can we learn from the best performing Irish hospitals?

Further analysis of our own data!!

- worldwide study
- Rejection Rate of 0.2% to 1.7%
  - "…great variation worldwide in the reported frequency of mislabelled samples, probably representing from variation in policies for sample acceptance.."

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Total for 3-month period	**71,314**	**2,922**	**4.1% (or 1 in 24 specimens)**

Range in rejection rate for the hospitals who responded is **0.0% to 10.85%**

Number	Response Date	June 2011	July 2011	Aug-11	Total no. of specs	Total rejected	% rejected
31	Oct 12, 2011 9:53 AM	318	302	311	931	101	10.85%
24	Oct 12, 2011 10:16 AM	368	400	365	1133	109	9.62%
16	Oct 12, 2011 10:40 AM	285	220	222	727	69	9.49%
35	Oct 12, 2011 8:42 AM	1623	1704	1652	4979	450	9.04%
32	Oct 12, 2011 9:47 AM	646	590	622	1858	164	8.83%
17	Oct 12, 2011 10:39 AM	1349	1296	1337	3982	348	8.74%
3	Oct 13, 2011 9:33 AM	64	52	67	183	15	8.20%
4	Oct 12, 2011 11:27 AM	75	77	44	196	15	7.65%
20	Oct 12, 2011 10:22 AM	1028	1144	1124	3296	248	7.52%
2	Oct 13, 2011 9:37 AM	1787	1616	1655	5058	274	5.42%
10	Oct 12, 2011 10:56 AM	137	150	158	445	23	5.17%
34	Oct 12, 2011 8:49 AM	131	150	148	429	22	5.13%
28	Oct 12, 2011 10:01 AM	338	296	307	941	41	4.36%
14	Oct 12, 2011 10:47 AM	320	327	296	943	36	3.82%
37	Sep 9, 2011 12:11 PM	946	1007	1018	2971	108	3.64%
1	Oct 13, 2011 9:42 AM	515	490	504	1509	53	3.51%
22	Oct 12, 2011 10:19 AM	951	883	957	2791	92	3.30%
38	Sep 8, 2011 12:52 PM	1320	1234	1277	3831	121	3.16%
36	Sep 13, 2011 2:57 PM	1113	1160	1200	3473	101	2.91%
39	Sep 5, 2011 8:42 AM	607	563	548	1718	46	2.68%

HIGH rejection rates

Jun 2011	Jul 2011	Aug 2011	Total no. of specs (3-mths)	Total rejected	% rejected
318	302	311	931	101	10.85%
368	400	365	1133	109	9.62%
285	220	222	727	69	9.49%
1623	1704	1652	4979	450	9.04%

LOW rejection rates

Jun 2011	Jul 2011	Aug 2011	Total no. of specs (3-mths)	Total rejected	% rejected
761	735	820	2316	22	0.95%
398	401	407	1206	10	0.83%
568	497	507	1572	9	0.57%
274	280	293	847	2	0.24%

Number
ejected
2.47%
2.31%
2.11%
2.02%
1.78%
1.76%
1.65%
1.58%
1.52%
25 Oct 12, 2011 10:08 AM 52 39 53 144 2 1.39%
1.38%
1.20%
1.15%
1.14%
0.95%
0.83%
0.57%
0.24%
0.00%
0.00%

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Section 3:

Wrong Blood In Tube (WBIT) incidents

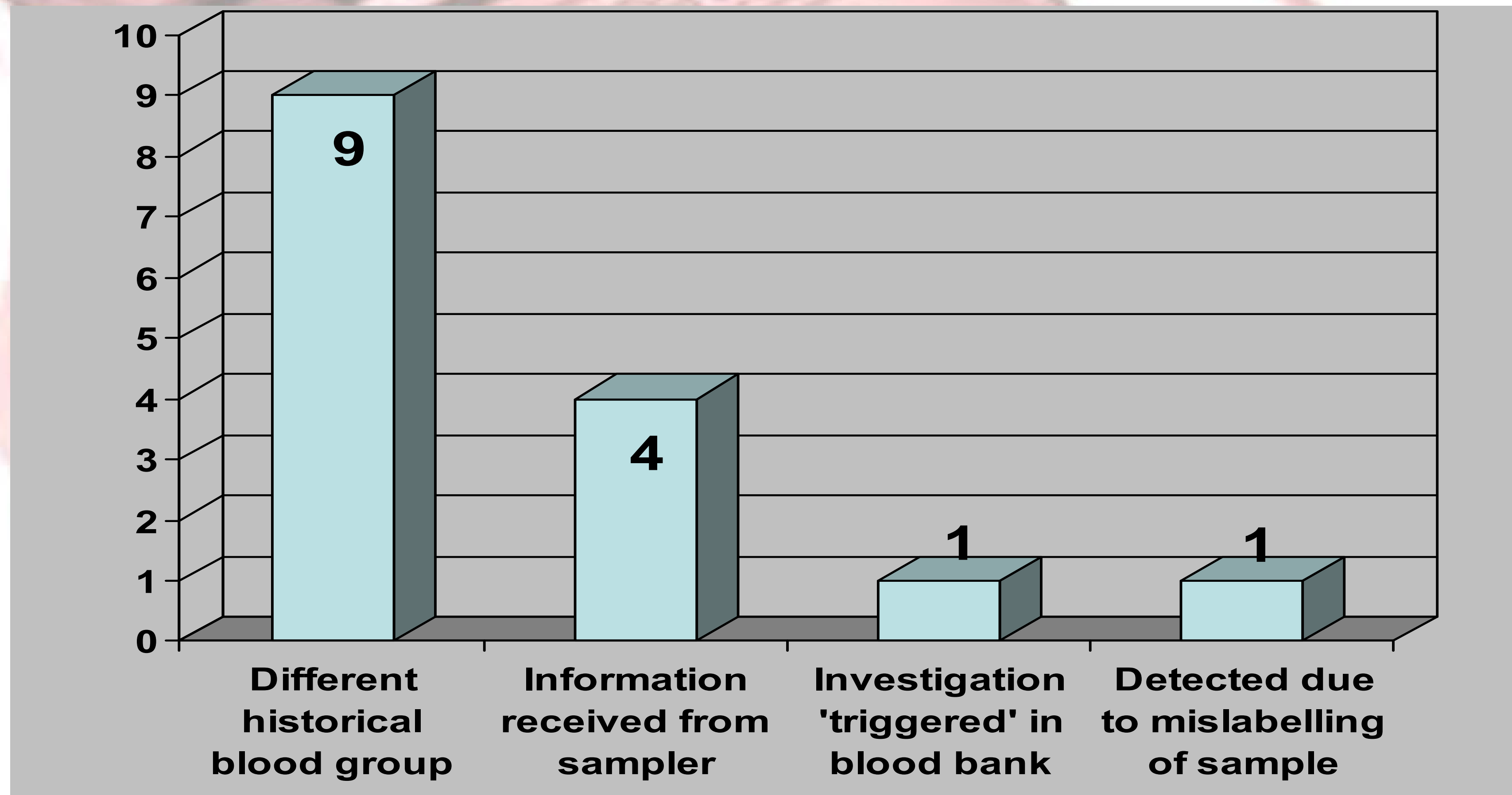
Wrong Blood In Tube (WBIT)

- Some confusion when survey initially sent out
- Initially we were defining WBIT as any incident where the wrong blood was detected through a different historical blood group
- We then sought information of all WBITs irrespective of how determined .i.e.
  - either through a different historical blood group
  - notification/communication from clinical area
  - identified in laboratory through ‘other’ means

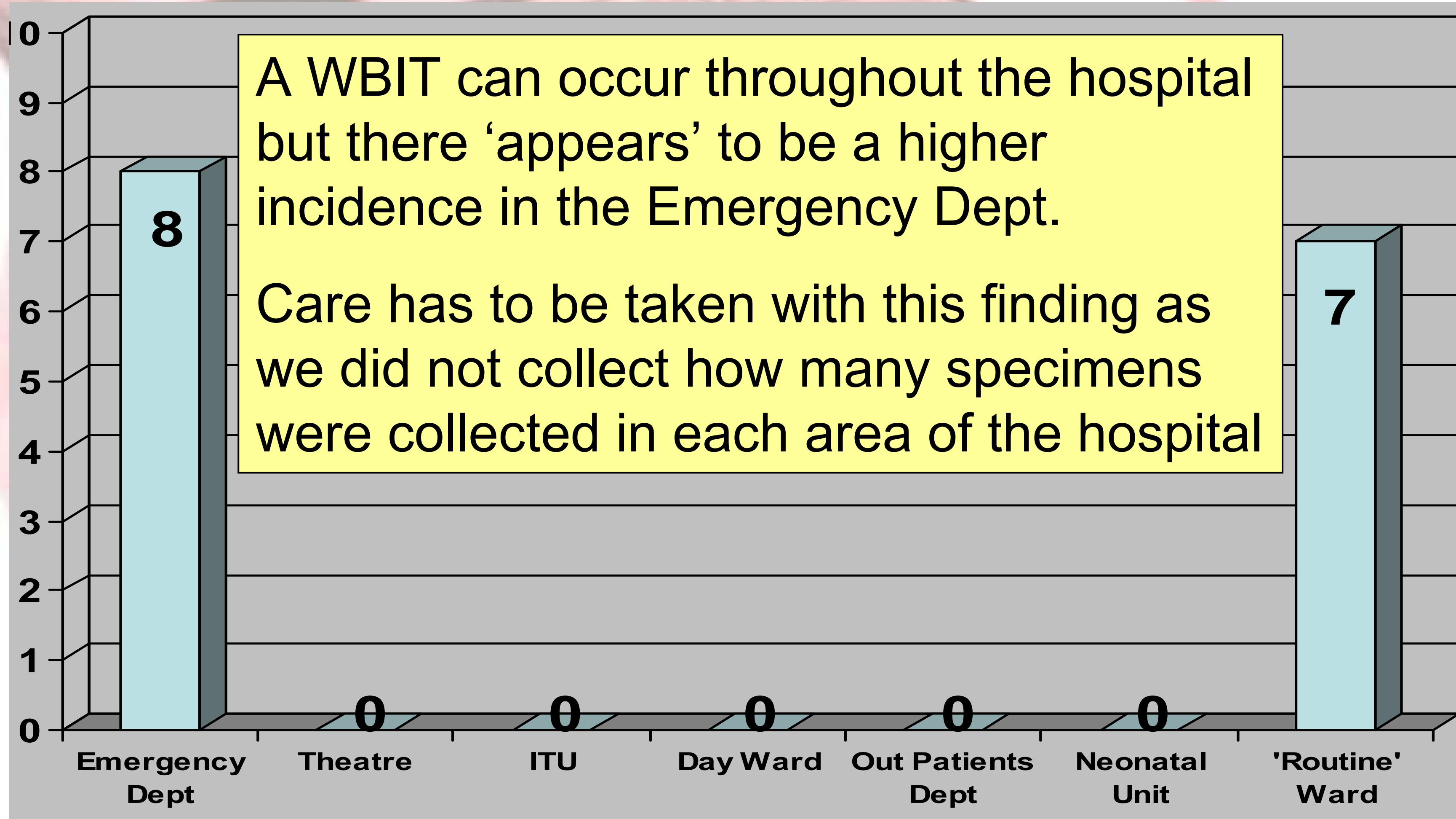
Total specimens received & WBIT incidences June – August 2011

	Samples received	No. of WBIT Incidences	Average incidence of WBIT per month
Jun ’11	24,082	**4**	**0.017%**
Jul ’11	23,374	**5**	**0.021%**
Aug ’11	23,858	**6**	**0.025%**
Total for 3-month period	**71,314**	**15**	**0.021%** (or 1 in 4,743 specimens)

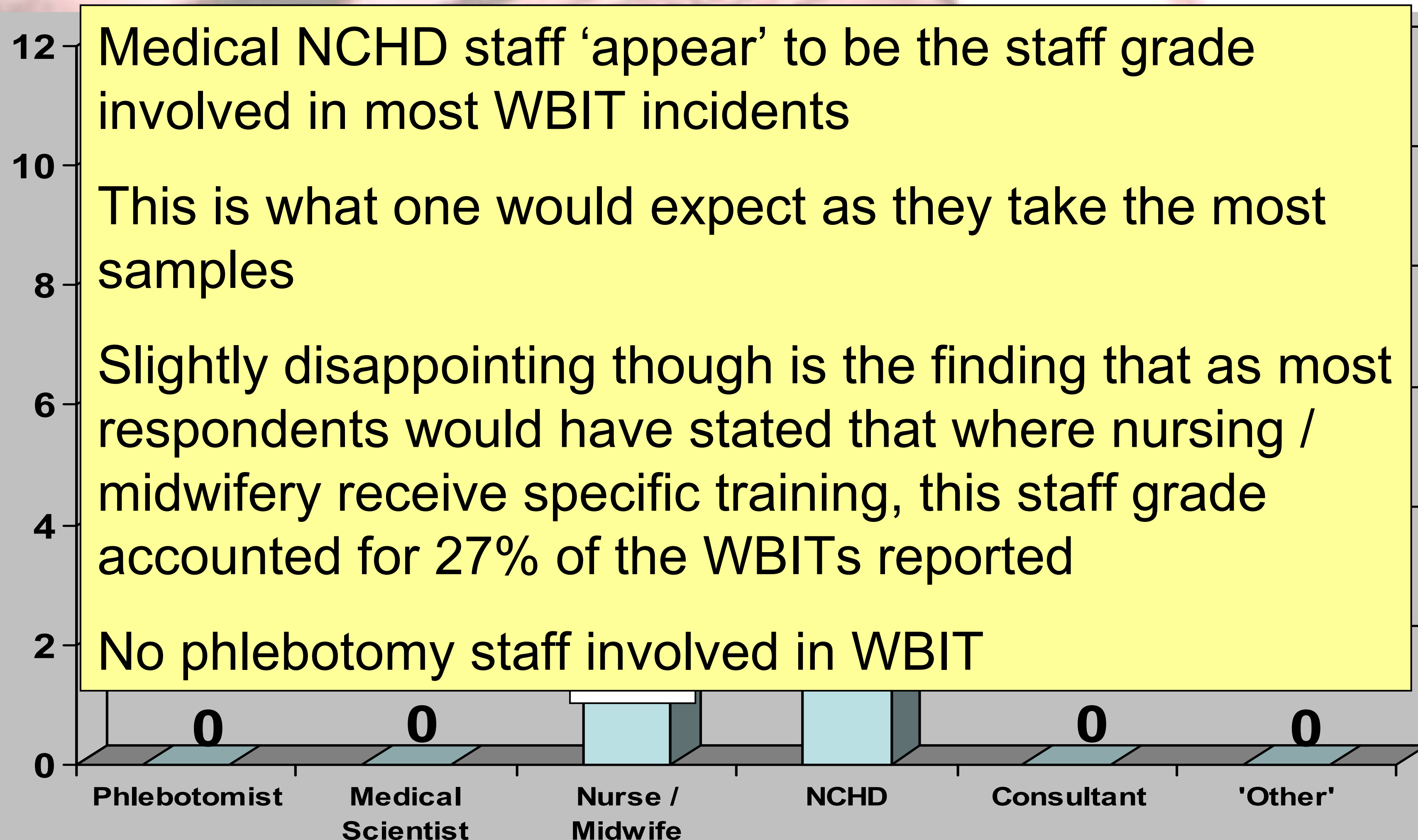
WBIT incidences
How were they detected?



WBIT incidences
Where did they occur?



WBIT incidences
Who took the specimens?



Medical NCHD staff 'appear' to be the staff grade involved in most WBIT incidents

This is what one would expect as they take the most samples

Slightly disappointing though is the finding that as most respondents would have stated that where nursing / midwifery receive specific training, this staff grade accounted for 27% of the WBITs reported

No phlebotomy staff involved in WBIT

How do we compare with international figures for WBIT specimens?

- Dzik et al, Vox Sang, 2003, 10-country worldwide study
- <u>WBIT Rate of 0.03% to 0.09%</u>
  - "…greater variation worldwide in reported frequency of mislabelled samples …incidence of WBIT occurred at a more constant rate.."
- Ansari & Szallasi, Vox Sang, 2011, US study
- <u>WBIT Rate of 0.04%</u>

- Grimm et al, Arch Pathol Lab Med, 2010, US study
- <u>WBIT Rate of 0.04%</u>

Total specimens received & WBIT incidences June – August 2011

	Samples received	No. of WBIT Incidences	Average rate of WBIT per month
			(or 1 in 4,743 specimens)

One hospital accounted for 3 of the 15 WBIT incidences reported in this survey

– a WBIT rate of 0.2% (or 1 in 503 specimens)

This hospital had a mislabelling rate of 3.5%

Range in WBIT incidences for the hospitals who responded is **0.0% to 0.2%**

What have we learned from the study?

- All respondents have policies and procedures
- Training to the samplers is provided though with difficulty gaining access to medical staff
- The data for mislabelling of specimens and WBIT incidents is comparable with international findings though with some variations

Where to go from here??

- Does Ireland need a national common blood transfusion request form?
  - Who will design it?, will we be able to agree?
- Does Ireland need a national common policy on sample acceptance, minimum requirements, use of addressograph label on request from etc,?
- Will the use of electronic RFID help reduce the problem?
- Does the use of phlebotomy staff help to reduce the error rate?
- Does a zero-tolerance approach to mislabelling help to reduce the error rate?
- How can some hospitals achieve a mislabelling rate of <1.0% while hospitals of a similar size are nearer 10%?

Or more importantly any suggestions?????

……..Thank you!!!!