

Trainee involvement in research is a key Progress+ curriculum domain and research can significantly improve clinical outcomes. Trainee involvement in research is good for trainees and for patients.¹

Resources such as the RCPCH academic tool-kit are available but despite this trainees have inequitable access to research opportunities during training with multiple barriers to involvement.^{2,3,4} The REACH (Research, Evaluation and Audit for Child Health) network was established to support trainees keen to learn more and get involved with research, audit, and service evaluation.

The PEAR study was set up to objectively assess paediatric trainee experience of research and QI work within London, and to identify how this could be improved. We particularly collected various demographic data to help understand the variability in experiences between trainees. Here we present our findings including subgroup variation, qualitative themes and our recommendations for equitable access to research and QI work within paediatric training.

Objectives

The PEAR study aimed to assess experiences of research and multi-centre quality improvement (QI) work amongst London School of Paediatrics (LSP) trainees and evaluate access to the London REACH (Research, Evaluation & Audit for Child Health) network.

Methods

The PEAR survey was designed by a subgroup of the REACH central committee and delivered by local leads by NHSmail. All paediatric trainees in London were included, as well as those out of programme. Descriptive summary statistics were created for quantitative data, and qualitative data was analysed using thematic analysis by three researchers.

Results

142 London paediatric trainees completed the survey from 538 contacted paediatric trainees (response rate 26.4%). This included subcategory information such as gender, ethnicity, age, location, IAT (integrated academic training) status, primary medical qualification status (UK or non-UK), LTFT (less than full time) status, and subspecialty training status.

Most trainees reported research outputs such as additional qualifications (69%), poster presentations (89%), oral presentations (53%), and publications (65%). This was particularly high for IAT trainees. Contrastingly, non-UK PMQ trainees had far fewer additional qualifications, and general paediatric trainees were far less likely to have contributed to oral presentations.

99% of trainees reported local QI involvement, in contrast to 37% reporting multisite QI involvement. Despite this, only 34% of trainees had completed a course in audit, QI or service improvement. Subspecialty trainees were more likely to have extensive local or multisite QI involvement.

As shown in Table 1, 44% of trainees conducted all of their research activity during personal unpaid time, and 61% felt like they did not have the capacity for research. Half of the trainees had completed Good Clinical Practice. Academic trainees undertook a higher number of research activities and had more perceived capacity to conduct research. They were also more likely to complete research during paid hours.

As shown in Table 2, 89% of participants wanted more access to research, yet over one third of participants found difficulty in identifying supervisors and/or research opportunities. IAT trainees found it particularly easy to identify research opportunities. Interesting, non-UK PMQ trainees were the least likely to want further access to research with 18% refusing this.

Qualitative themes have been presented in Figure 1. These themes represent trainees' experiences of research during training in terms of the complexities and the idealised preferences for ongoing integration.

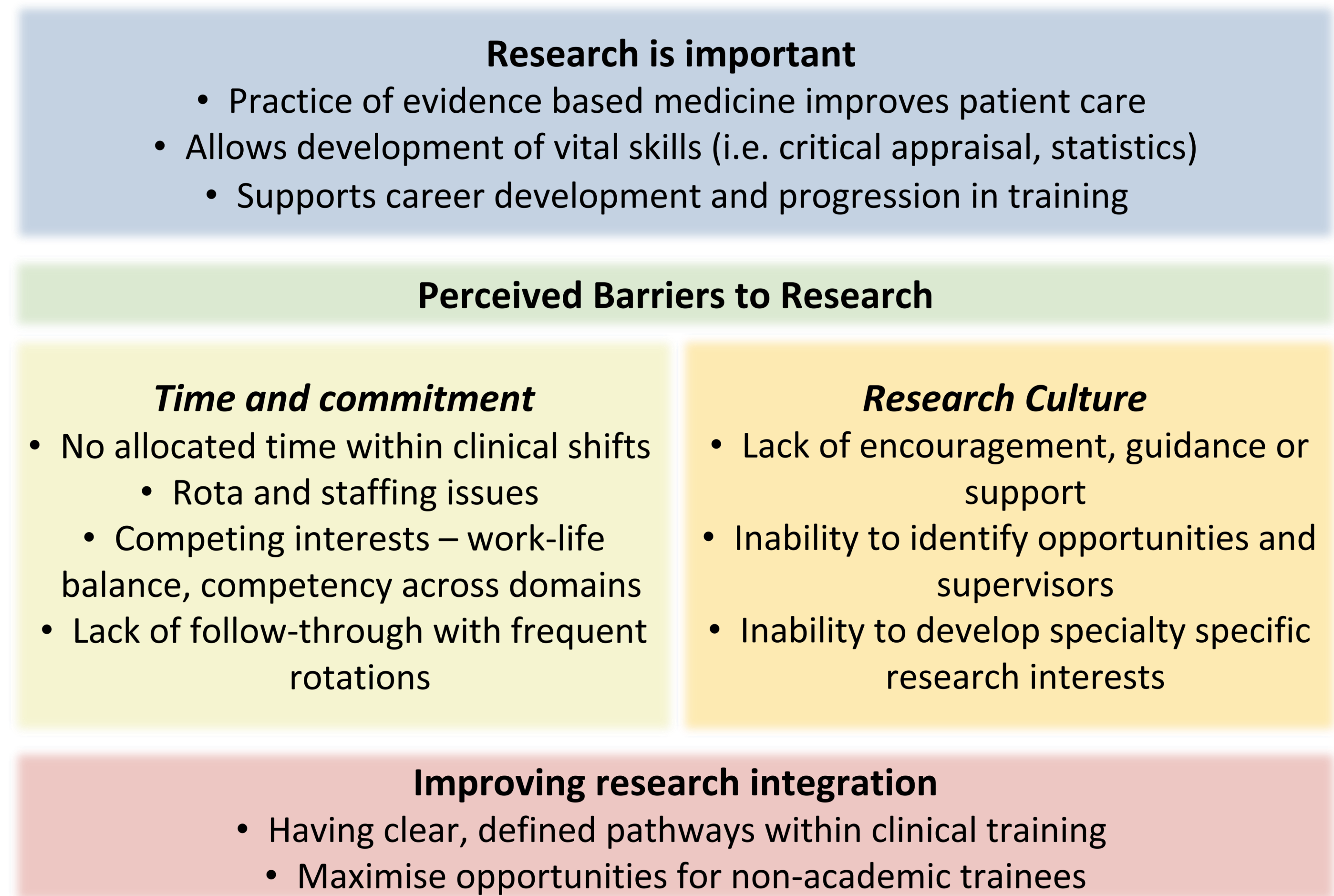
Table 1. Research involvement

	IAT		Gender		PMQ		Ethnicity				Training %		Subspecialty Trainee			Total	
	Yes	No	Male	Female	IMG	UK	White	Asian	Black	Mixed	Other	LTFT	FT	Yes	App.		No
Good Clinical Practice course																	
Yes	65.0%	48.4%	56.4%	48.0%	58.8%	49.6%	51.7%	44.8%	20.0%	53.8%	60.0%	50.0%	51.2%	58.6%	61.7%	38.5%	50.7%
No	35.0%	51.6%	43.6%	52.0%	41.2%	50.4%	48.3%	55.2%	80.0%	46.2%	40.0%	50.0%	48.8%	41.4%	38.3%	61.5%	49.3%
No. research activities																	
0	0.0%	17.2%	5.1%	18.6%	23.5%	13.6%	10.3%	10.3%	60.0%	30.8%	20.0%	15.0%	14.6%	10.3%	14.9%	16.9%	14.8%
1-3	5.0%	44.3%	46.2%	35.3%	41.2%	38.4%	37.9%	44.8%	20.0%	38.5%	40.0%	40.0%	37.8%	34.5%	36.2%	43.1%	38.7%
4-6	55.0%	28.7%	30.8%	33.3%	23.5%	33.6%	34.5%	31.0%	20.0%	23.1%	40.0%	30.0%	34.1%	34.5%	34.0%	30.8%	32.4%
7-8	40.0%	9.8%	17.9%	12.7%	11.8%	14.4%	17.2%	13.8%	0.0%	7.7%	0.0%	15.0%	13.4%	20.7%	14.9%	9.2%	14.1%
Research % in paid hours*																	
0	20.0%	48.3%	34.2%	48.5%	43.8%	44.2%	42.5%	39.3%	40.0%	63.6%	50.0%	39.7%	47.4%	32.1%	33.3%	58.1%	44.1%
10-30	45.0%	40.5%	44.7%	39.2%	43.8%	40.8%	43.7%	39.3%	60.0%	27.3%	50.0%	50.0%	34.6%	57.1%	51.1%	27.4%	41.2%
40-60	30.0%	6.9%	15.8%	8.2%	6.3%	10.8%	10.3%	14.3%	0.0%	0.0%	0.0%	6.9%	12.8%	7.1%	11.1%	9.7%	10.3%
70-90	5.0%	0.9%	0.0%	2.1%	0.0%	1.7%	1.1%	3.6%	0.0%	0.0%	0.0%	0.0%	2.6%	0.0%	2.2%	1.6%	1.5%
100	0.0%	3.4%	5.3%	2.1%	6.3%	2.5%	2.3%	3.6%	0.0%	9.1%	0.0%	3.4%	2.6%	3.6%	2.2%	3.2%	2.9%
"I have capacity for research"																	
Agree	35.0%	21.3%	25.6%	22.5%	29.4%	22.4%	26.4%	17.2%	20.0%	15.4%	40.0%	21.7%	24.4%	24.1%	25.5%	21.5%	23.2%
Neutral	25.0%	13.9%	15.4%	15.7%	11.8%	16.0%	11.5%	27.6%	20.0%	23.1%	0.0%	10.0%	19.5%	10.3%	21.3%	13.8%	15.5%
Disagree	40.0%	64.8%	59.0%	61.8%	58.8%	61.6%	62.1%	55.2%	60.0%	61.5%	60.0%	68.3%	56.1%	65.5%	53.2%	64.6%	61.3%
No. respondents	20	122	39	102	17	125	87	29	5	13	5	60	82	29	47	65	142

Table 2. Research culture

	IAT		Gender		PMQ		Ethnicity				Training %		Subspecialty Trainee			Total	
	Yes	No	Male	Female	IMG	UK	White	Asian	Black	Mixed	Other	LTFT	FT	Yes	App.		No
"I can identify research opportunities"																	
Agree	80.0%	37.7%	53.8%	40.2%	47.1%	43.2%	43.7%	55.2%	20.0%	30.8%	40.0%	31.7%	52.4%	37.9%	53.2%	40.0%	43.7%
Neutral	10.0%	22.1%	17.9%	20.6%	23.5%	20.0%	21.8%	13.8%	20.0%	15.4%	40.0%	25.0%	17.1%	24.1%	17.0%	21.5%	20.4%
Disagree	10.0%	40.2%	28.2%	39.2%	29.4%	36.8%	34.5%	31.0%	60.0%	53.8%	20.0%	43.3%	30.5%	37.9%	29.8%	38.5%	35.9%
"I can identify supervisors"																	
Agree	50.0%	41.3%	51.3%	43.6%	35.3%	46.8%	47.7%	48.3%	20.0%	38.5%	40.0%	39.0%	50.0%	34.5%	55.3%	43.8%	45.4%
Neutral	10.0%	21.5%	12.8%	21.8%	29.4%	18.5%	20.9%	17.2%	20.0%	7.7%	40.0%	22.0%	18.3%	27.6%	23.4%	20.3%	19.9%
Disagree	40.0%	37.2%	35.9%	34.7%	35.3%	34.7%	31.4%	34.5%	60.0%	53.8%	20.0%	39.0%	31.7%	37.9%	21.3%	35.9%	34.8%
"I want access to research"																	
Agree	90.0%	88.5%	87.2%	89.2%	76.5%	90.4%	90.8%	82.8%	100.0%	84.6%	100.0%	86.7%	90.2%	82.8%	93.6%	89.2%	88.7%
Neutral	10.0%	8.2%	10.3%	7.8%	5.9%	8.8%	8.0%	10.3%	0.0%	7.7%	0.0%	11.7%	6.1%	13.8%	2.1%	10.8%	8.5%
Disagree	0.0%	3.3%	2.6%	2.9%	17.6%	0.8%	1.1%	6.9%	0.0%	7.7%	0.0%	1.7%	3.7%	3.4%	4.3%	0.0%	2.8%
No. respondents	20	122	39	102	17	125	87	29	5	13	5	60	82	29	47	65	142

Figure 1. Qualitative themes with descriptors



Conclusion

Overall, paediatric trainees wanted to increase their involvement in research. Many trainees had research experience, but seeking opportunities and finding time to complete them was difficult. IAT trainees were particularly advantaged in terms of their exposure to research and established achievements.

Therefore, it is worth considering whether any aspects of the IAT model can be paralleled within standard paediatric training. Our recommendations include:

- Improving capacity by supporting protected and paid time for research and training (i.e. Good Clinical Practice, QI courses)
- Collaborative research projects (i.e. via REACH Network London) to promote involvement and skills sharing
- Formalised matching of trainees to research opportunities and mentors/supervisors to foster a nurturing culture
- Effective integration of research skills into the curriculum with formal teaching and applicable portfolio-related events

1. <https://www.rcpch.ac.uk/resources/rcpch-progress-domain-resources-research-scholarship>

2. <https://academictoolkit.org/>

3. Randles V, et al. Mind the gap! Research experience of respiratory trainees- a national survey. https://thorax.bmj.com/content/76/suppl_2/a161

4. Mustafa K, et al. Understanding barriers for research involvement among paediatric trainees: a mixed methods study. BMC Med Educ. 2018 Jul 13;18(1):165.