

# **English maternity units which were too small for the 2012 peak in births arising from the World War II baby boom.**

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## **Background**

In England there is a very strong long-term cycle in births which arises from the world War II baby boom [1,2]. The last peak in births occurred around 2012 and the most recent point for minimum births occurred around 2023/2024 [1,2]. The next peak in births will occur around 2033 to 2028, hence, there is time to plan.

Alas the NHS has never been informed about this cycle and its impact on capacity planning regarding capital (beds, equipment) and staffing. As a result many hospitals have low capacity even at the point of the most recent minimum in births [1].

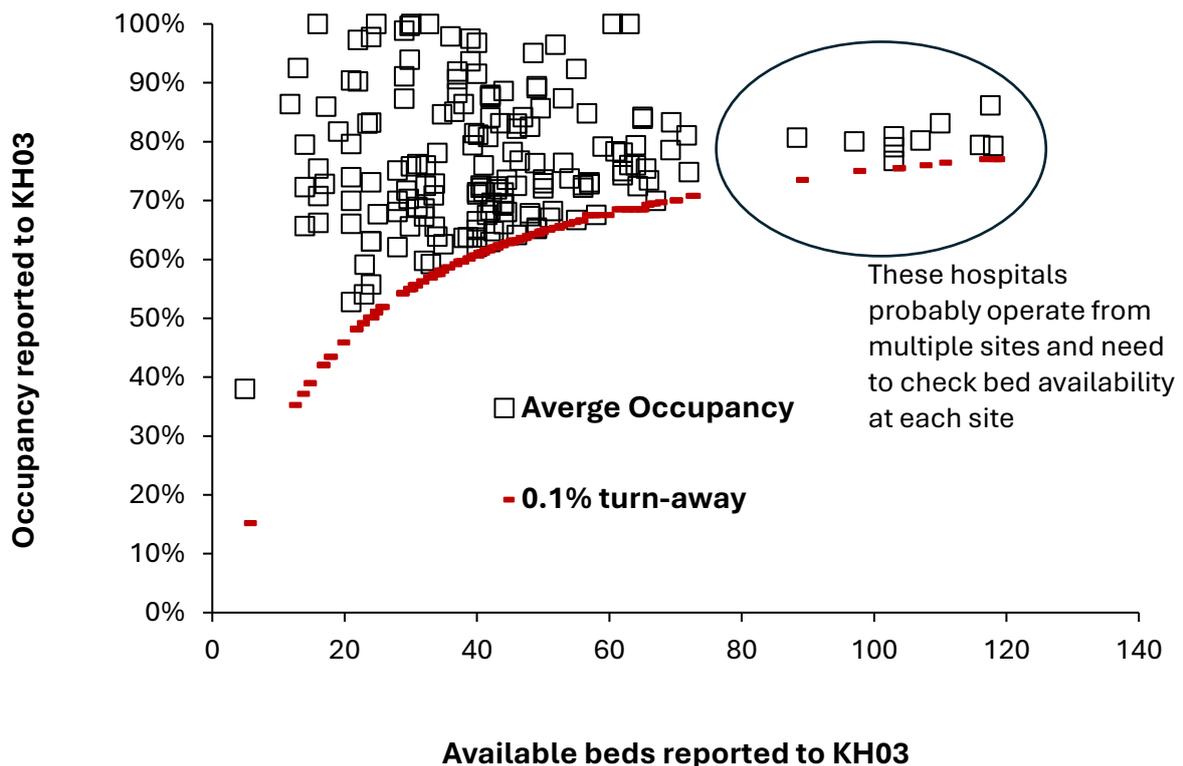
Given that births last peaked around 2012 it is useful to see which maternity units struggled to meet demand at that time so that these units can investigate if they will have sufficient capacity for the next expected peak in births.

A birth forecasting tool has been published [1] and an expanded tool is currently part of a study likely to be published in 2026 [2]. This study is, however, accessible as a preprint. Both studies give considerable detail regarding the ambiguities surrounding birth forecasting.

## **Which units struggled back in 2012?**

Available and occupied maternity beds in England have been reported for many years as the KH03 data series [3]. In England births are known to peak around September [1,2] and hence KH03 data from the quarter ending at September was analysed for the years 2011, 2012, 2013.

Hospitals which had too few beds to meet demand were identified as having average occupancy lying above the 0.1% turn-away line [1,2]. This is illustrated in Figure 1. Turn-away is a measure of the proportion of times that a bed is not immediately available for the next arriving patient. It is also a measure of organisational chaos and premature discharge.



**Figure 1. English s with average occupancy in the September quarter of 2011, 2012, 2013 leading to quarterly average turn-away above 0.1%.**

As can be seen about half of English maternity units had insufficient beds to cope with the 2012 peak in births.

While bed numbers may have changed since 2012 it is strongly recommended that all hospitals identified by this analysis check their bed requirement for the next peak in births likely to occur in around 10 to 15 years time, and to establish any necessary plans to meet this demand.

The full list of hospitals is given in Table 1. Please note that the data may include gross errors in data reporting and that some Trusts have merged since 2011. Trusts operating across multiple sites need to check bed availability on a site-by-site basis.

**Please note that 0.1% turn-away represents a minimum performance standard and turn-away less than 0.1% is recommended.**

## Conclusion

It is sad that the NHS has never been given any formal advice regarding maternity planning [1] and that this advisory study needs to be published.

## References

1. Jones, R.P. Capacity Planning (Capital, Staff and Costs) of Inpatient Maternity Services: Pitfalls for the Unwary. *Int. J. Environ. Res. Public Health* 2025, 22, 87. <https://doi.org/10.3390/ijerph22010087>

2. Jones, R. P. Key Principles for Pediatric/Neonatal Inpatient Capacity Planning in the Face of Uncertain and Volatile Future Demand, Effect of Department Size on Costs, and How to Discern If Sources of Advice Have Genuine Expertise. *Preprints* **2025**, 2025070458.  
<https://doi.org/10.20944/preprints202507.0458.v1>
3. <https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-data-overnight/>

**Table 1.** English Trusts which had insufficient bed capacity to service the 2012 peak in births.

Year	Org Name	Reported Available	Average Occupancy	0.1% turn-away	Too small by x%
2012-13	AIREDALE	41	71%	62%	16%
2011-12	AIREDALE	37	85%	60%	43%
2013-14	BARKING, HAVERING AND REDBRIDGE UNIVERSITY	63	76%	69%	11%
2012-13	BARKING, HAVERING AND REDBRIDGE UNIVERSITY	63	100%	69%	46%
2011-12	BARTS AND THE LONDON	61	100%	69%	46%
2011-12	BASILDON AND THURROCK UNIVERSITY	38	64%	60%	6%
2011-12	BEDFORD HOSPITAL	24	83%	51%	63%
2013-14	BEDFORD HOSPITAL	23	83%	50%	66%
2012-13	BEDFORD HOSPITAL	24	98%	51%	92%
2011-12	BLACKPOOL TEACHING	25	68%	52%	30%
2012-13	BLACKPOOL TEACHING	22	90%	49%	84%
2013-14	BLACKPOOL TEACHING	22	97%	49%	98%
2011-12	BOLTON	72	81%	71%	15%
2012-13	BRIGHTON AND SUSSEX UNIVERSITY	72	75%	71%	6%
2013-14	BRIGHTON AND SUSSEX UNIVERSITY	69	79%	70%	12%
2011-12	BRIGHTON AND SUSSEX UNIVERSITY	65	84%	69%	22%
2012-13	BUCKINGHAMSHIRE HEALTHCARE	57	73%	68%	8%
2011-12	BUCKINGHAMSHIRE HEALTHCARE	57	73%	68%	8%
2011-12	BURTON	44	66%	63%	5%
2011-12	CALDERDALE AND HUDDERSFIELD	40	81%	61%	33%
2012-13	CALDERDALE AND HUDDERSFIELD	12	86%	35%	145%
2012-13	CAMBRIDGE UNIVERSITY	42	63%	62%	2%
2011-12	CAMBRIDGE UNIVERSITY	42	68%	62%	9%
2013-14	CAMBRIDGE UNIVERSITY	42	70%	62%	12%
2011-12	CHELSEA AND WESTMINSTER HOSPITAL	55	92%	67%	39%
2012-13	CHESTERFIELD ROYAL HOSPITAL	28	62%	54%	15%
2012-13	CITY SUNDERLAND	34	64%	58%	10%
2013-14	CITY SUNDERLAND	34	66%	58%	13%
2011-12	CITY SUNDERLAND	34	73%	58%	26%
2013-14	COLCHESTER HOSPITAL UNIVERSITY	35	63%	59%	7%
2011-12	DARTFORD AND GRAVESHAM	40	65%	61%	6%
2012-13	DARTFORD AND GRAVESHAM	40	66%	61%	9%
2011-12	DERBY	62	74%	69%	8%
2012-13	DERBY	62	78%	69%	14%
2013-14	DERBY	61	78%	69%	14%
2011-12	EALING HOSPITAL	42	88%	62%	42%
2013-14	EAST AND NORTH HERTFORDSHIRE	50	73%	65%	12%
2012-13	EAST AND NORTH HERTFORDSHIRE	50	74%	65%	13%
2013-14	EAST CHESHIRE	21	53%	48%	10%
2013-14	EAST KENT UNIVERSITY	53	76%	66%	16%
2013-14	FRIMLEY PARK HOSPITAL	44	69%	63%	10%
2012-13	FRIMLEY PARK HOSPITAL	44	70%	63%	11%
2011-12	FRIMLEY PARK HOSPITAL	44	71%	63%	14%
2013-14	GATESHEAD HEALTH	16	66%	42%	58%
2012-13	GATESHEAD HEALTH	16	71%	42%	69%
2011-12	GATESHEAD HEALTH	16	75%	42%	80%
2011-12	GEORGE ELIOT HOSPITAL	19	82%	46%	78%
2012-13	GEORGE ELIOT HOSPITAL	17	86%	43%	98%
2013-14	GEORGE ELIOT HOSPITAL	13	93%	37%	149%
2011-12	GLOUCESTERSHIRE	54	74%	66%	11%
2013-14	GLOUCESTERSHIRE	46	82%	64%	29%
2012-13	GLOUCESTERSHIRE	46	83%	64%	31%
2012-13	HEART OF ENGLAND	103	77%	76%	2%
2013-14	HEART OF ENGLAND	103	79%	76%	5%
2011-12	HEART OF ENGLAND	103	81%	76%	7%

Year	Org Name	Reported Available	Average Occupancy	0.1% turn-away	Too small by x%
2011-12	HEATHERWOOD AND WEXHAM PARK	33	71%	57%	23%
2013-14	HEATHERWOOD AND WEXHAM PARK	30	94%	56%	69%
2012-13	HEATHERWOOD AND WEXHAM PARK	30	100%	56%	79%
2013-14	HOMERTON UNIVERSITY HOSPITAL	41	72%	62%	17%
2011-12	HOMERTON UNIVERSITY HOSPITAL	41	73%	62%	18%
2012-13	HOMERTON UNIVERSITY HOSPITAL	41	76%	62%	23%
2012-13	KETTERING GENERAL HOSPITAL	49	65%	65%	1%
2013-14	KETTERING GENERAL HOSPITAL	49	65%	65%	1%
2013-14	KING'S COLLEGE HOSPITAL	50	72%	65%	11%
2011-12	KING'S COLLEGE HOSPITAL	69	83%	70%	19%
2012-13	KING'S COLLEGE HOSPITAL	50	86%	65%	32%
2013-14	KINGSTON HOSPITAL	65	84%	69%	21%
2011-12	KINGSTON HOSPITAL	64	72%	69%	6%
2012-13	KINGSTON HOSPITAL	53	87%	66%	32%
2013-14	LEWISHAM AND GREENWICH	42	88%	62%	41%
2011-12	LEWISHAM HEALTHCARE	42	84%	62%	36%
2012-13	LEWISHAM HEALTHCARE	42	88%	62%	42%
2011-12	LIVERPOOL WOMEN'S	118	86%	77%	12%
2011-12	LUTON AND DUNSTABLE HOSPITAL	55	67%	67%	0%
2012-13	MAIDSTONE AND TUNBRIDGE WELLS	48	67%	64%	5%
2013-14	MAIDSTONE AND TUNBRIDGE WELLS	48	68%	64%	5%
2013-14	MEDWAY	51	67%	65%	3%
2013-14	MID CHESHIRE	30	66%	56%	18%
2012-13	MID CHESHIRE	28	68%	54%	26%
2011-12	MID CHESHIRE	28	75%	54%	39%
2011-12	MILTON KEYNES HOSPITAL	43	65%	62%	4%
2013-14	MILTON KEYNES HOSPITAL	42	68%	62%	10%
2012-13	MILTON KEYNES HOSPITAL	43	72%	62%	16%
2011-12	NEWHAM UNIVERSITY HOSPITAL	107	80%	76%	6%
2011-12	NORTH BRISTOL	58	68%	68%	0%
2013-14	NORTH BRISTOL	64	76%	69%	11%
2012-13	NORTH BRISTOL	64	79%	69%	16%
2012-13	NORTH CUMBRIA UNIVERSITY	33	59%	57%	3%
2013-14	NORTH CUMBRIA UNIVERSITY	32	69%	57%	21%
2012-13	NORTH MIDDLESEX UNIVERSITY HOSPITAL	29	87%	55%	59%
2011-12	NORTH MIDDLESEX UNIVERSITY HOSPITAL	29	91%	55%	66%
2013-14	NORTH MIDDLESEX UNIVERSITY HOSPITAL	29	99%	55%	80%
2013-14	NORTH WEST LONDON	67	70%	70%	0%
2012-13	NORTH WEST LONDON	66	73%	69%	6%
2011-12	NORTH WEST LONDON	97	80%	75%	7%
2011-12	NORTHERN DEVON HEALTHCARE	24	56%	51%	9%
2013-14	NORTHERN DEVON HEALTHCARE	14	66%	39%	69%
2012-13	NORTHERN DEVON HEALTHCARE	14	80%	39%	104%
2012-13	OXFORD UNIVERSITY	116	79%	77%	3%
2013-14	POOLE HOSPITAL	37	92%	60%	54%
2011-12	POOLE HOSPITAL	39	94%	61%	54%
2012-13	POOLE HOSPITAL	39	97%	61%	61%
2013-14	PORTSMOUTH	49	76%	65%	18%
2011-12	ROYAL BERKSHIRE	41	72%	62%	17%
2012-13	ROYAL BERKSHIRE	45	78%	63%	24%
2011-12	ROYAL DEVON AND EXETER	34	78%	58%	34%
2013-14	ROYAL FREE LONDON	31	69%	56%	23%
2012-13	ROYAL FREE LONDON	31	76%	56%	35%
2011-12	ROYAL FREE LONDON	25	100%	52%	93%
2012-13	SALISBURY	24	63%	51%	24%
2013-14	SALISBURY	24	63%	51%	24%
2011-12	SALISBURY	24	73%	51%	43%
2011-12	SCARBOROUGH AND NORTH EAST YORKSHIRE	14	72%	39%	86%
2011-12	SHERWOOD FOREST	49	89%	65%	38%

Year	Org Name	Reported Available	Average Occupancy	0.1% turn-away	Too small by x%
2013-14	SHERWOOD FOREST	49	89%	65%	38%
2012-13	SHERWOOD FOREST	48	95%	64%	48%
2011-12	SHREWSBURY AND TELFORD HOSPITAL	66	75%	69%	9%
2012-13	SHREWSBURY AND TELFORD HOSPITAL	59	79%	68%	17%
2012-13	SOUTH LONDON HEALTHCARE	118	79%	77%	3%
2013-14	SOUTH LONDON HEALTHCARE	110	83%	76%	9%
2011-12	SOUTH LONDON HEALTHCARE	88	81%	74%	10%
2011-12	SOUTH WARWICKSHIRE	40	92%	61%	50%
2012-13	SOUTH WARWICKSHIRE	40	97%	61%	58%
2011-12	ST HELENS AND KNOWSLEY	38	86%	60%	44%
2013-14	ST HELENS AND KNOWSLEY	37	88%	60%	48%
2012-13	ST HELENS AND KNOWSLEY	37	91%	60%	52%
2013-14	SURREY AND SUSSEX HEALTHCARE	40	64%	61%	4%
2011-12	SURREY AND SUSSEX HEALTHCARE	46	73%	64%	14%
2012-13	THE DUDLEY GROUP	46	64%	64%	1%
2011-12	THE DUDLEY GROUP	45	68%	63%	8%
2013-14	THE DUDLEY GROUP	43	72%	62%	15%
2011-12	THE PRINCESS ALEXANDRA HOSPITAL	39	79%	61%	31%
2013-14	THE PRINCESS ALEXANDRA HOSPITAL	44	83%	63%	32%
2012-13	THE PRINCESS ALEXANDRA HOSPITAL	40	81%	61%	33%
2011-12	THE QUEEN ELIZABETH HOSPITAL, KING'S LYNN,	21	70%	48%	45%
2013-14	THE QUEEN ELIZABETH HOSPITAL, KING'S LYNN,	21	80%	48%	65%
2012-13	THE QUEEN ELIZABETH HOSPITAL, KING'S LYNN,	21	90%	48%	88%
2011-12	THE ROTHERHAM	33	100%	57%	74%
2012-13	THE ROTHERHAM	30	100%	56%	80%
2013-14	THE ROTHERHAM	16	100%	42%	138%
2013-14	THE ROYAL BOURNEMOUTH AND CHRISTCHURCH	5	38%	15%	150%
2012-13	THE ROYAL WOLVERHAMPTON	44	69%	63%	10%
2011-12	THE ROYAL WOLVERHAMPTON	44	74%	63%	17%
2013-14	THE ROYAL WOLVERHAMPTON	36	98%	59%	65%
2012-13	THE WHITTINGTON HOSPITAL	46	77%	64%	21%
2011-12	THE WHITTINGTON HOSPITAL	42	81%	62%	30%
2013-14	THE WHITTINGTON HOSPITAL	47	84%	64%	32%
2012-13	UNIVERSITY COLLEGE LONDON	40	71%	61%	16%
2011-12	UNIVERSITY COLLEGE LONDON	40	71%	61%	17%
2011-12	UNIVERSITY HOSPITAL OF NORTH STAFFORDSHIRE	57	85%	68%	26%
2013-14	UNIVERSITY HOSPITAL OF NORTH STAFFORDSHIRE	48	83%	64%	28%
2012-13	UNIVERSITY HOSPITAL OF NORTH STAFFORDSHIRE	44	89%	63%	41%
2011-12	UNIVERSITY HOSPITAL OF SOUTH MANCHESTER	39	64%	61%	5%
2011-12	UNIVERSITY HOSPITAL SOUTHAMPTON	51	68%	65%	4%
2011-12	WALSALL HEALTHCARE	32	72%	57%	27%
2012-13	WALSALL HEALTHCARE	32	76%	57%	34%
2013-14	WALSALL HEALTHCARE	35	85%	59%	44%
2013-14	WARRINGTON AND HALTON	40	62%	61%	2%
2012-13	WEST MIDDLESEX UNIVERSITY HOSPITAL	56	72%	68%	7%
2011-12	WEST MIDDLESEX UNIVERSITY HOSPITAL	56	73%	68%	8%
2013-14	WEST MIDDLESEX UNIVERSITY HOSPITAL	52	96%	66%	47%
2011-12	WHIPPS CROSS UNIVERSITY HOSPITAL	62	75%	69%	9%
2013-14	WIRRAL UNIVERSITY TEACHING HOSPITAL	32	60%	57%	5%
2012-13	WIRRAL UNIVERSITY TEACHING HOSPITAL	32	67%	57%	18%
2011-12	WIRRAL UNIVERSITY TEACHING HOSPITAL	28	70%	54%	29%
2012-13	WRIGHTINGTON, WIGAN AND LEIGH	30	70%	56%	26%
2013-14	WRIGHTINGTON, WIGAN AND LEIGH	29	72%	55%	30%
2011-12	WRIGHTINGTON, WIGAN AND LEIGH	30	76%	56%	36%
2012-13	WYE VALLEY	21	66%	48%	37%
2011-12	WYE VALLEY	21	74%	48%	54%
2013-14	WYE VALLEY	17	73%	43%	68%
2013-14	YEOVIL DISTRICT HOSPITAL	23	54%	50%	8%
2011-12	YEOVIL DISTRICT HOSPITAL	23	59%	50%	18%

