Analysis of the provision and allocation of maternity services in the RUH catchment area

Final report of the analysis of the geographic allocation of maternity services

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Executive summary

Background

The Royal United Hospitals NHS Foundation Trust (RUH) in 2014 acquired a number of maternity services within the region for a more integrated approach in their provision. As a result, the maternity service currently comprises an in-house facility in addition to five maternity centres (Frome, Trowbridge, Chippenham, Paulton and Shepton Mallet – Antenatal and postnatal activity only) that offer prenatal, birthing and antenatal services. This rather distinctive service configuration has resulted in what is called the "Bath model" of delivering maternity services. The Women and Children's division at RUH commissioned researchers from the Centre for Healthcare Innovation and Improvement (CHI^2) at the University of Bath School of Management to evaluate the model of service provision currently in use and to support, through quantitative and geographic analysis, decisions around the strategic reconfiguration of the service.

Key findings of the location analysis

We used a specialised software tool developed by researchers in the University of Bath to help with identifying the optimal locations of maternity service facilities. We did so by calculating the minimum distances travelled between a geographic central point of aggregate demand, as defined by the Middle Layer Super Output Area (MSOA), to the closest maternity facility (for the quickest route). Aggregate demand, used as input in the tool, was estimated based on historical data of demand adjusted for the index of deprivation associated with the relevant MSOA.

Our results showed that in all scenarios in which the total number of facilities was reduced, the total adjusted travelling distance along the optimal routes was longer. This was in line with expectations as fewer facilities should lead to longer overall travel distances.

- In the case of having four birthing facilities in total (one acute and three in the community), existing facility locations seem to be well positioned. In this particular scenario, excluding the existing facility in Paulton offers the theoretically optimal solution.
- In the case of three birthing facilities (one acute and two in the community), there is a small difference between existing locations and hypothetically choosing new locations, indicating that existing facilities are well placed. The theoretical optimal solution in this case is achieved by excluding Paulton and Trowbridge from the configuration. It is worth highlighting again that any service configuration with three facilities came off worse in the computer experiments compared to those with four facilities.

- In terms of outpatient services, we observed monotonic increases in the results with every reduction in the number of community facilities (RUH was not considered as an exclusion candidate). In the case of three community outpatients centres in total, Shepton Mallet and Paulton were not part of the optimal solution. In a two community centre configuration, the optimal solution included Chippenham and Frome and in the one community centre scenario the theoretical solution pointed to Frome.

1. Location analysis of maternity services

1.1 Data description

Data were received form the Business Intelligence Unit (BIU) of RUH. In order to overcome some data quality issues, the data were provided for the financial years 2015/16 and 2016/17 (01/04/2015-30/03/2017). Data were included in five different spreadsheets: Bookings, Scans, Outpatients, Admissions and Deliveries. Scholastic data cleaning was performed on all datasets before embarking on statistical descriptive analysis and location analysis using advanced mathematical optimisation methods.

1.2 Descriptive analysis of the deliveries data

During the two financial years of the analysis there were 7,711 deliveries performed by the maternity services. The vast majority (98.76%) was a delivery of a single baby and 1.24% had multiple births (twins & triplets). Mean (SD) of mother age at the time they booked the delivery appointment was 30.1(5.622), ranging between 15 and 49.

Of all deliveries, 1,415 (18.35%) were classified as high risk pregnancies and the remaining 6,296 (81.65%) as low risk. Of those deliveries 99.48% resulted in a live birth, Table 1. Further analysis using the Fisher's exact test indicated that there is no statistically significant difference ($p = 0.185$) between the outcomes of delivery and the risk classification. It should be noted that the risk classification of the pregnancy, according to expert guidance, is allocated at the initial stages of the pregnancy and is not revised during the gestation period.

Table 1: Delivery outcome based on risk of pregnancy

Delivery outcome	High Risk	Low Risk	Total
Live birth	1,404 (18%)	6,267 (82%)	7,671
Stillbirth	8 (25%)	24 (75%)	32
Neonatal death	1 (50%)	1 (50%)	2
Unknown	2 (33%)	4 (67%)	6
Total	1,415 (18%)	6,296 (82%)	7,711

The majority of deliveries are spontaneous vertexes (62.20%), while medically assisted deliveries account for 14.65%, closely followed by emergency Caesarean birth (13.98%). 9.54% are elective Caesarean births and the remaining 0.62% are other methods of deliveries. The various delivery methods are shown by risk of pregnancy in Table 2. Statistical analysis of the differences between the risk of the pregnancy indicated a χ^2 test of 125.6411 (p value <0.001) indicating statistical significance in the difference between risk classification and delivery method.

Table 2: Delivery methods according to pregancny risk

Delivery methods	High Risk	Low Risk	Total
Spontaneous vertex	793 (17%)	4,003 (83%)	4,796
Elective caesarean	218 (30%)	518 (70%)	736
Emergency caesarean	248 (25%)	753 (75%)	1,001
Medically assisted	144 (13%)	986 (87%)	1,130
Other	12 (25%)	36 (75%)	48
Total	1,415 (18%)	6,296 (82%)	7,711

Gestation week ranged from 19 weeks to 43 weeks with a mean (SD) gestation week of 40 (6.81), Table 3.

Table 3: Gestation week distribution

Gestation week	Frequency	Percentage (%)
≤36	417	5.39
37	421	5.46
38	941	12.2
39	1607	20.84
40	2450	31.77
41	1483	19.23
42	297	3.85
43	1	0.01
Unknown	94	1.22
Total	7711	100

Approximately 3% of all deliveries were home births. Table 4, indicates that most of high risk pregnancies are taking place in RUH although many take place in either birthing centres or even home births. It is clear that RUH delivered most babies and Paulton has the smallest number of deliveries Chippenham, Frome and Trowbridge have relatively equal number of deliveries.

Table 4: Location of delivery

Location	High Risk	Low Risk	Total
RUH	1,258 (20%)	4,817 (80%)	6,301
Chippenham BC	34 (9%)	354 (91%)	388
Frome BC	42 (11%)	350 (89%)	392
Paulton BC	12 (6%)	184 (94%)	196
Trowbridge BC	30 (7%)	378 (93%)	408
Home Birth	31 (14%)	195 (86%)	226
Other	8 (31%)	18 (69%)	26
Total	1,415 (18%)	6,296 (82%)	7,711

Of the 7,711 deliveries approximately 5% have been transferred during delivery, Table 5.

Table 5: Deliveries that have been transferred based on delivery location

Delivery Location	Transfer		Total
	No	Yes	
RUH	5802 (95%)	273 (5%)	6087
Chippenham BC	350 (92%)	38 (8%)	380
Frome BC	350 (89%)	42 (11%)	392
Paulton BC	184 (94%)	12 (6%)	196
Trowbridge BC	364 (89%)	44 (11%)	408
RUH Home Births	224 (99%)	2 (1%)	226
Other	24 (92%)	2 (8%)	26
Total	7,298 (95%)	413 (5%)	7,711

1.3 Descriptive analysis of the outpatient data

During the two financial years under investigation there were 213,342 outpatient appointments managed by the maternity services. The appointments were made by 13,943 unique service users. The mean (SD) appointment number per service user was 15.30 (10.13) ranging between 1 and 93. Around 7% of service users had one appointment, 25% had ≤6 appointments and 50% of service users had ≤16 outpatients appointments. 1.4% of the most frequent service users had 40 or more appointments during the 2 years of the data, Figure 1.

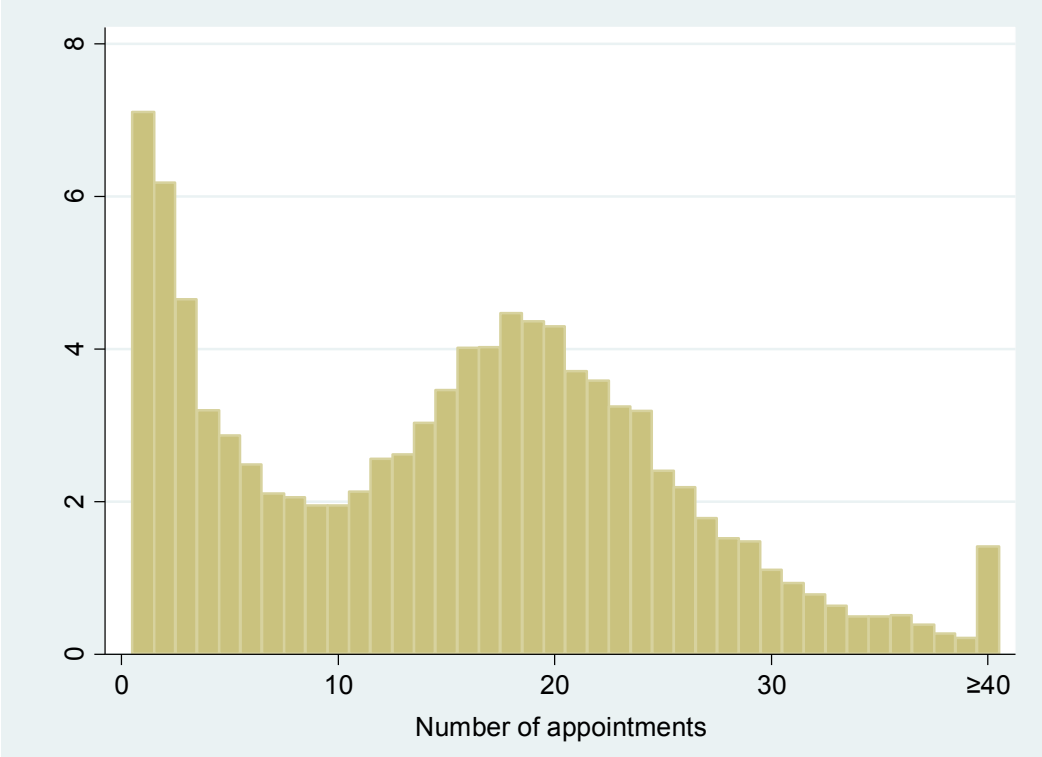

Figure 1: Distribution of number of appointments per unique service users

Figure 2 indicates the cumulative frequency distribution of appointments by service users. It can be clearly seen that service users with 10+ appointments within the two years of the dataset account for approximately 65% of all appointments booked (as indicated by the vertical red line).

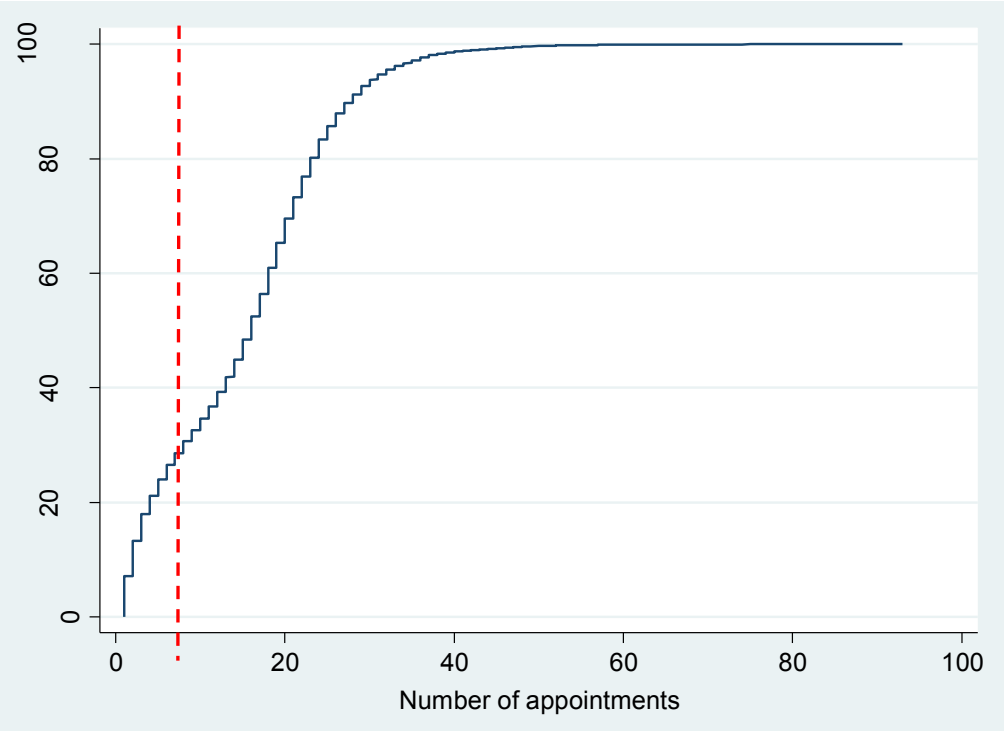

Figure 2: Cumulative frequency distribution of number of appointments by service user

There were 52 different reasons for outpatient appointments. Most appointments were maternity follow ups (65.55%), followed by home visit follow up appointments (13.16%) and new maternity appointments (6.40%). Many of the reasons for outpatient appointments (20), had five service users or fewer each (see Table A1 in the Appendix for detail).

The dataset records the outcome of the appointments. Out of the 213,342 appointments 44.24% were offered another appointment and 27.46% an appointment would be made at a later date. 3.88% were fully discharged by the consultant's care while no outcome was recorded in about 1 in 4 appointments, Table 6.

Table 6: Outcome of outpatient's appointments

Outcome	Frequency	Percent (%)
Another appointment given	94,387	44.24
Appointment to be made at a later date	58,588	27.46
Discharged from consultant's care	8,274	3.88
No Outcome recorded	52,093	24.42
Total	213,342	100

Outpatient's appointments took place in all six maternity service locations. Most common was RUH with almost one in three appointments (30.28%), followed by Chippenham with 24.70%. Smallest number of appointments was to Shepton Mallet with 3.17%, Table 7.

Table 7: Maternity service location of outpatient's appointments

Location	Frequency	Percent (%)
RUH	64,595	30.28
Chippenham BC	52,686	24.70
Frome BC	22,561	10.58
Paulton BC	20,326	9.53
Trowbridge BC	46,357	21.73
Shepton Mallet	6,764	3.17
Other	53	0.02
Total	213,342	100

1.4 Location analysis methodology

The objectives, parameters and scenarios of the location analysis were discussed between the modelling team and the stakeholders. As part of this discussion, we articulated 12 scenarios to form the basis of the location analysis.

The analysis was conducted using software developed by University of Bath researchers based on sophisticated mathematical optimisation techniques.[1] The location of a service user was determined by the Middle layer Super Output Areas (MSOAs)[2] their postcode is located in. The latter information was not provided to the research team due to data confidentiality reasons, and as such MSOA was the finer level of geographical detail our analysis could be performed at.

The objective of the optimisation algorithm, which was calculated for each scenario, is to minimise the sum of the distances from each MSOA to the closest facility, weighted by the demand of the MSOA as well as the deprivation index associated with the MSOA. This objective function aims to find solutions in which the facilities are closer to the MSOAs with higher populations and higher deprivation indices.

[1] Güneş Erdoğan, An open source Spreadsheet Solver for Vehicle Routing Problems, Computers & Operations Research, Volume 84, August 2017, Pages 62-72, ISSN 0305-0548, http://dx.doi.org/10.1016/j.cor.2017.02.022

[2] MSOAs are an aggregate of output areas with similar characteristics. http://webarchive.nationalarchives.gov.uk/20160106001702/http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/census/super-output-areas--soas-/index.html

1.4.1 Assumption and limitations

As is always the case in mathematical analysis, we had to make a number of simplifications and assumptions as follows:

1. In all of the scenarios explored, RUH was the only service which is to be retained at its original location and was not to be removed from the solution.
2. MSOAs were used to calculate the Index of Multiple Deprivation (IMD)[3] for each location.
3. All the calculations were performed based on the population-weighted centroids of the MSOA as provided by the Office of National Statistics (ONS)[4].
4. The optimisation of location was performed on the distance of the shortest driving route (in other words, the distance of the quickest route).
5. Calculations do not include any capacity considerations associated with each facility, only demand for services.
6. The results are mathematically "optimal" but not so in a practical sense. For example, each solution assumes that service user will be referred and indeed attend the facility that is optimally allocated to them.

1.4.2 Scenarios for experimentation

The scenarios agreed to be explored are shown on Table 8.

Table 8: Agreed scenarios for investigation

Scenario number	Demand type	Scenario description
1	Deliveries	All deliveries (low and high risk) and as is locations for all existing facilities
2		Low risk deliveries, all facilities (existing locations)
3		Low risk deliveries, acute unit plus 3 additional community facilities (existing locations)
4		Low risk deliveries, acute unit plus 2 additional community facilities (existing locations)
5		Low risk deliveries, acute unit plus 1 additional community facility (existing locations)
6		Low risk deliveries, acute unit as is and 3 additional community facilities anywhere

[3] IMD is a measure of relative deprivation for small areas (Lower Super Output Areas). It is a combined measure of deprivation based on a total of 37 separate indicators that have been grouped into seven domains, each of which reflects a different aspect of deprivation experienced by individuals living in an area https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015. IMD was calculated for MSOAS by Knowledge and Intelligence Service of Public Health England (PHE) and it is available via the Epidemiology and Surveillance function through EandS-Enquiries@phe.gov.uk

[4] http://webarchive.nationalarchives.gov.uk/20160110200251/http://www.ons.gov.uk/ons/guide-method/geography/products/census/spatial/centroids/index.html

7		Low risk deliveries, acute unit as is and 2 additional community facilities anywhere
8		Low risk deliveries, acute unit as is plus 1 additional community facility anywhere
9		Low risk deliveries, acute unit as is plus 1 additional facility in Bath
10	Outpatients	As is provision
11		Acute unit plus 3 community facilities (existing locations)
12		Acute unit plus 2 community facilities (existing locations)
13		Acute unit plus 1 community facilities (existing locations)

1.5 Results

We present the results of the location analysis by each scenario.

The value of the objective function was calculated for each scenario. This function is the sum of the product of the driving duration of the fastest path from the centroid of each MSOA to the closest birthing centre, the population of the MSOA, and the deprivation index of the MSOA. There are no units associated to this metric and for the purposes of this analysis a smaller value implies a better result. The optimal solution was the one with the smallest increase in the objective function.

1.5.1 Scenario 1

Scenario 1, depicted in Figure 3, reflects the current location of birthing centres and which of these existing centres service users should ideally be referred to, based on fastest path from the population centre point of their MSOA and the deprivation of the MSOA.

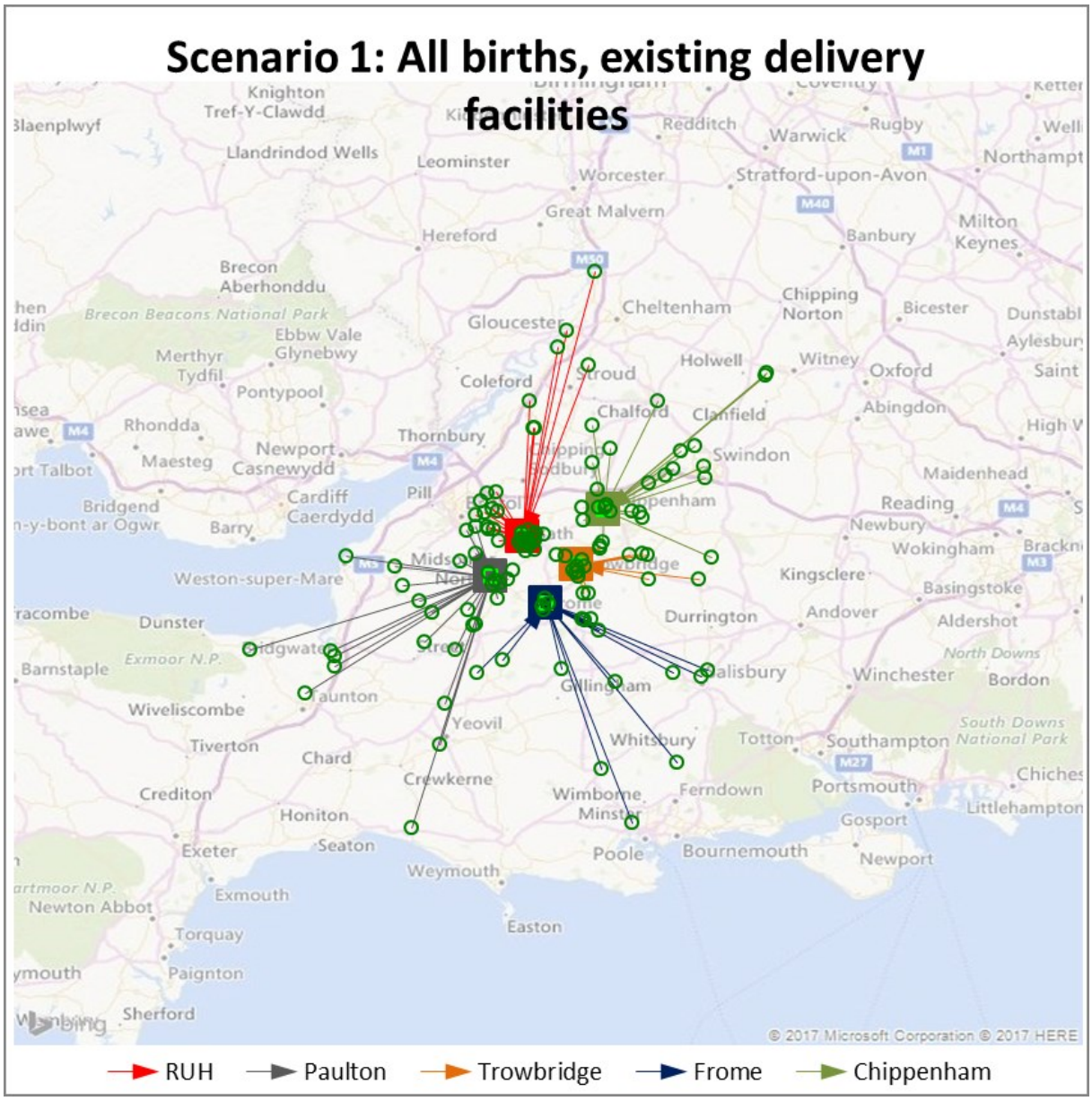

Figure 3: Map of scenario 1 illustrating current locations of facilities in an optimal (hypothetical) scenario of demand assignment

1.5.2 Scenario 2

Scenario 2 is another scenario reflecting the current situation, but this time we are only looking at a subset of low risk pregnancies. As Figure 4 depicts, the scenario gives an almost identical map to scenario 1. This is an expected result, since Table 5 shows that most deliveries happen in RUH despite the risk classification.

Figure 4: Scenario 2. Demand allocation of low risk births in an optimal (hypothetical) scenario of demand assignment

1.5.3 Scenario 3

Scenario 3 explores what would be the optimal location of services if one of the birthing centres were not to be part of the optimal solution, assuming that RUH is constant, and taking into account deprivation of MSOAs and fastest driving path. The results suggested by the optimisation algorithm as the optimal are shown in Figure 5 with Paulton not part of the optimal solution. Additional optimisation results are shown in Table 9, with each birthing facility removed from the solution in turn. Removing Paulton had the smallest impact in the value of objective function (15%), indicating why it was the best to be excluded.

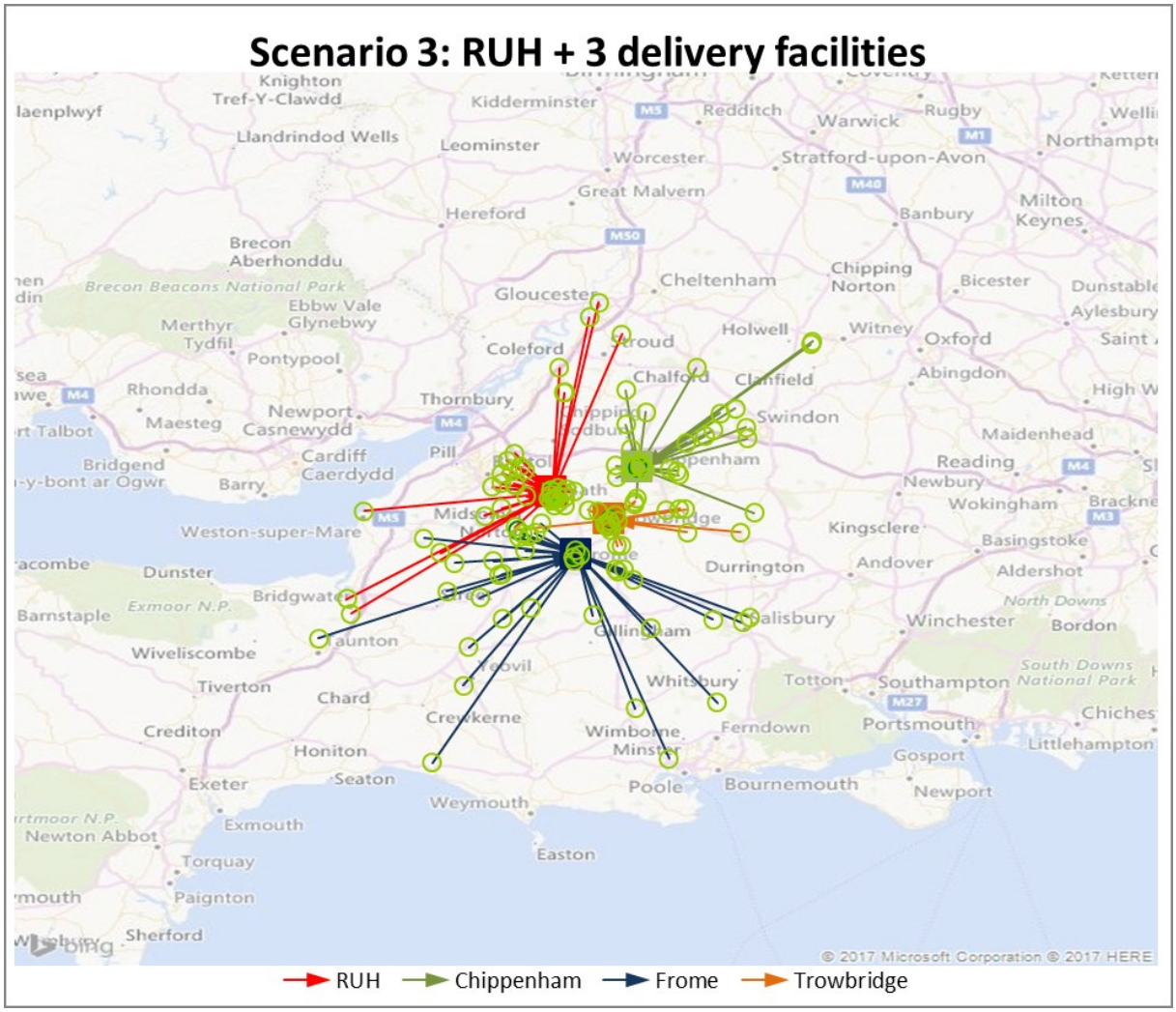

Figure 5: Scenario 3. Acute unit plus 3 additional community facilities

Table 9: Effect on objective function value of leaving one community facility out of the model (the bigger the difference from baseline scenario the worse the outcome)

Facility excluded	Estimated difference
None (Scenario 2)	(baseline)
Chippenham	+26%
Trowbridge	+22%
Paulton	+15%
Frome	+22%

1.5.4 Scenario 4

Scenario 4 investigates which facilities to keep if two facilities were not part of the optimal solution, subject to the assumptions listed in scenario 3. Figure 6 depicts the result, with Trowbridge and Paulton not part of the optimal solution as recommended by the optimisation algorithm and subject to the limiting assumptions mentioned earlier. Detailed optimisation results are shown in Table 10, with each combination of birthing facilities removed from the solution in turn. Removing Paulton and Trowbridge had the smallest impact in the value of objective function (37%), indicating why it was deemed the best combination to be excluded by the algorithm.

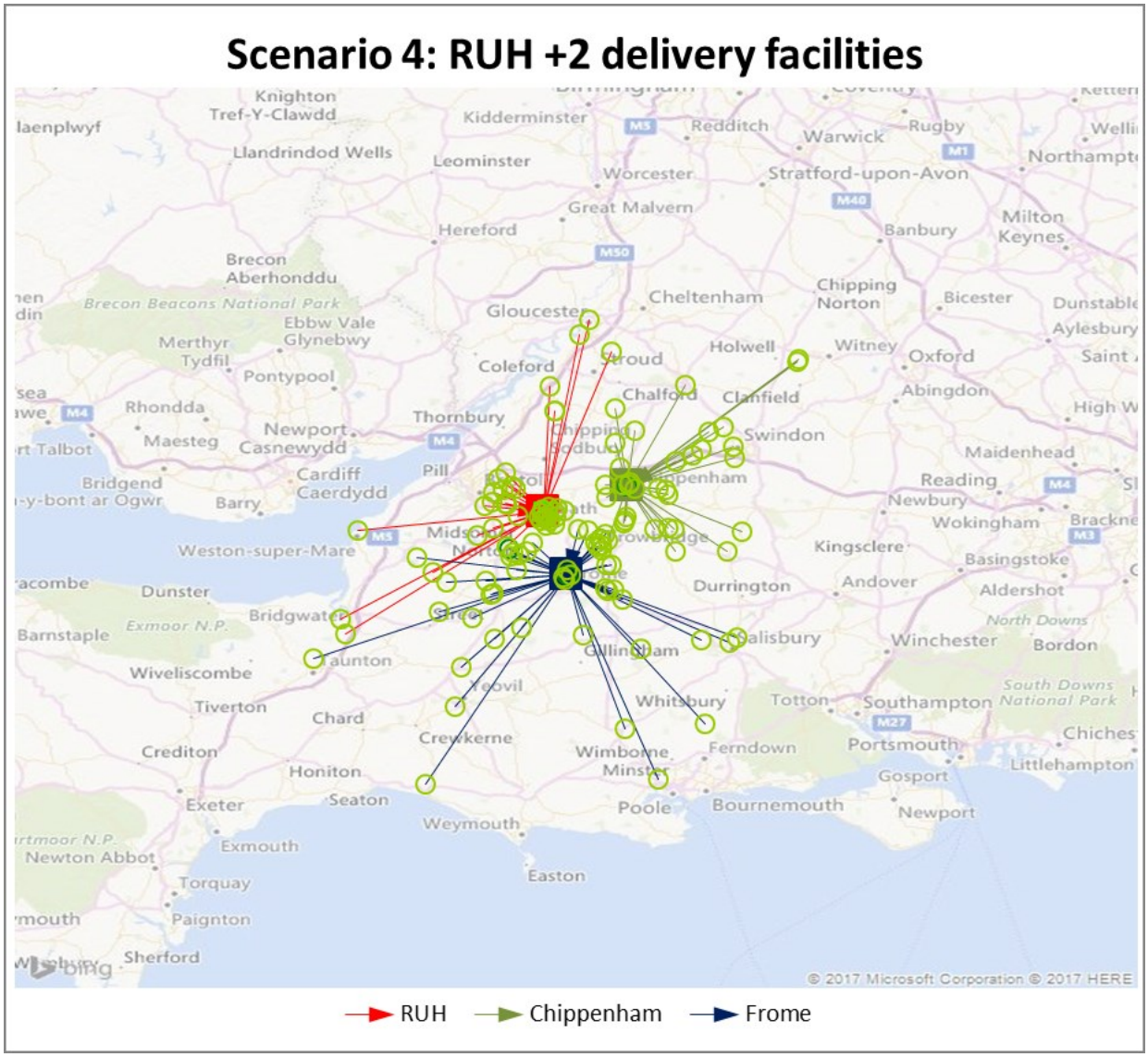

Figure 6: Scenario 4, Low risk births with only two additional community facilities

Table 10: Effect on objective function value of leaving two community facilities out of the model (the bigger the difference from baseline scenario the worse the outcome)

Facilities excluded	Estimated difference
None (Scenario 2)	Baseline
Chippenham, Trowbridge	+63%
Chippenham, Paulton	+41%
Chippenham, Frome	+48%
Trowbridge, Paulton	+37%
Trowbridge, Frome	+65%
Paulton, Frome	+50%

1.5.5 Scenario 5

Scenario 5 explores which facility should remain in the optimal solution if only RUH and one other facility were required. The solution points towards the Trowbridge birthing centre (Figure 7).

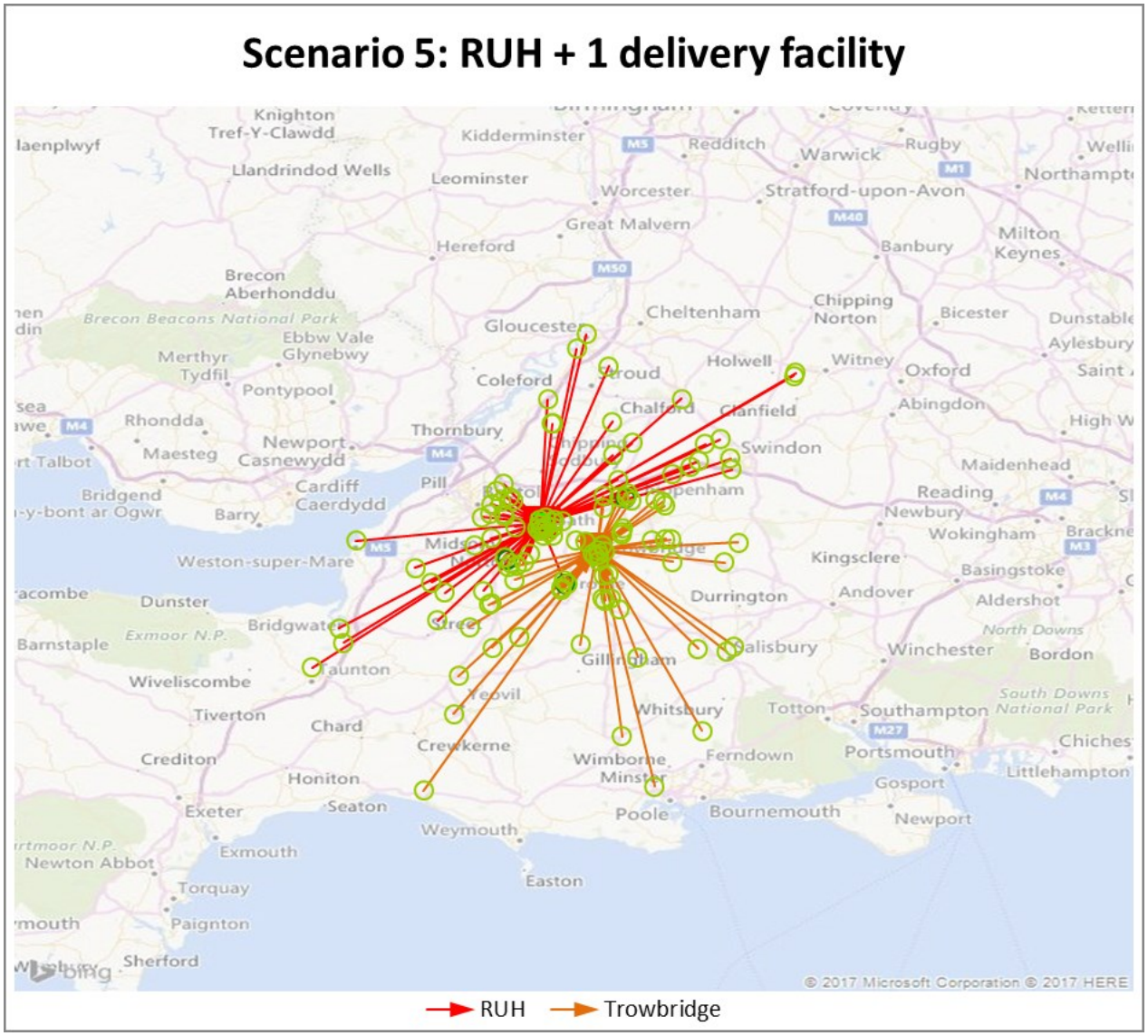

Figure 7: Scenario 5, low risk births + one additional community facility

1.5.6 Scenario 6

Scenario 6 investigates where facilities should be located in a theoretically optimal solution if only RUH (in its existing location) and three other centres anywhere within the patch were required. The optimisation algorithm suggests that the best options are actually near the existing centres of Trowbridge, Chippenham and Paulton. Specifically, facility 2 should be located in 6-97 Malmesbury Rd, Chippenham SN15, UK, Facility 3 in 28A Woodmarsh, North Bradley, Trowbridge BA14 0SB, UK, and Facility 4 in 55 Waterloo Rd, Radstock BA3 3ER, UK.

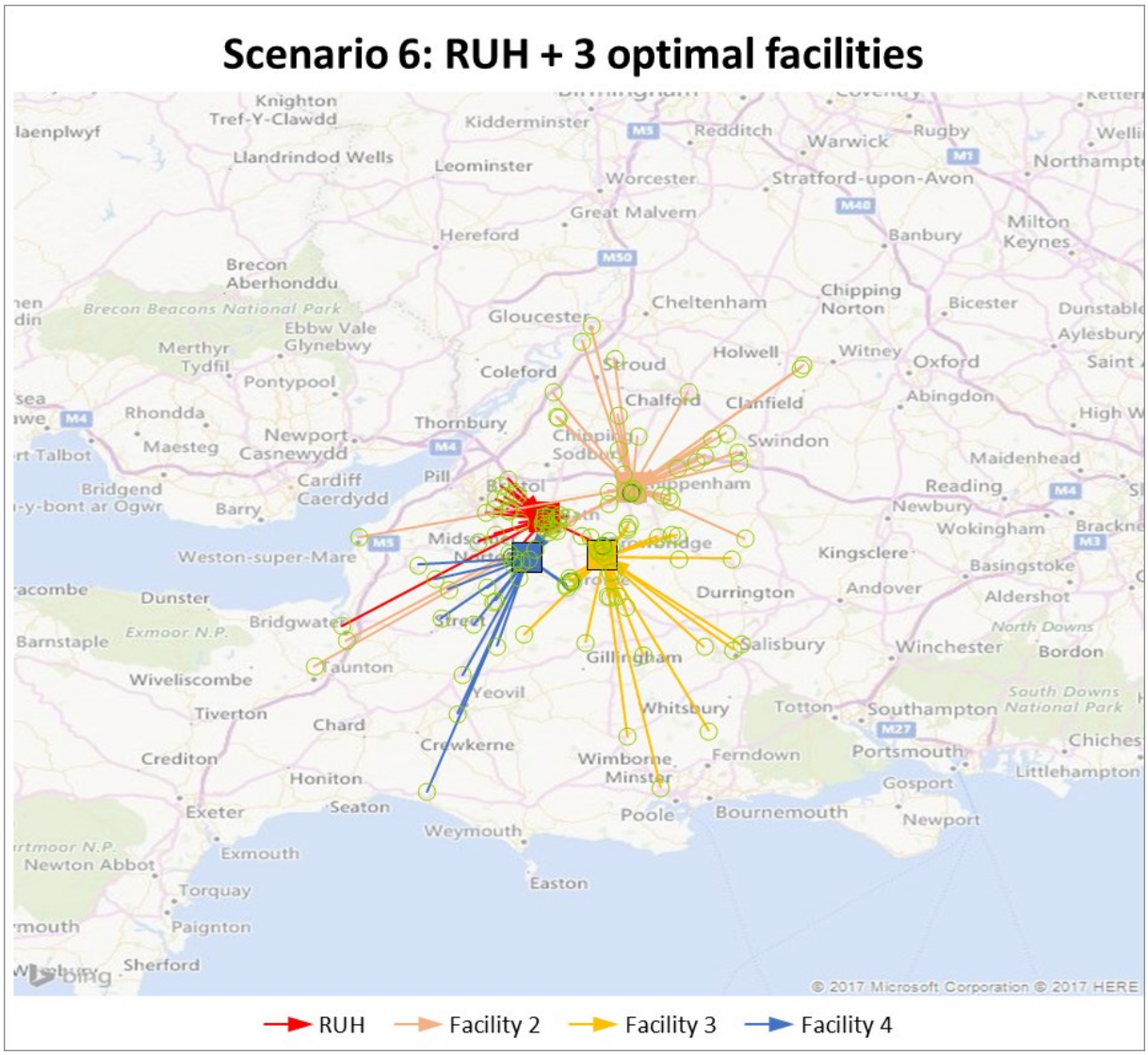

Figure 8: Scenario 6, optimal location with RUH and three additional community facilities anywhere within the region

1.5.7 Scenario 7

Scenario 7 explores where facilities should be located in a mathematical optimal solution if only RUH and two other centres anywhere within the region were required. The solution suggest that these options are actually very near to the existing facilities of Frome and Chippenham. More specifically, Facility 2 should be located in 1 Field View, Chippenham SN15 2QT, UK and Facility 3 in Iron Mill Ln, Frome BA11, UK.

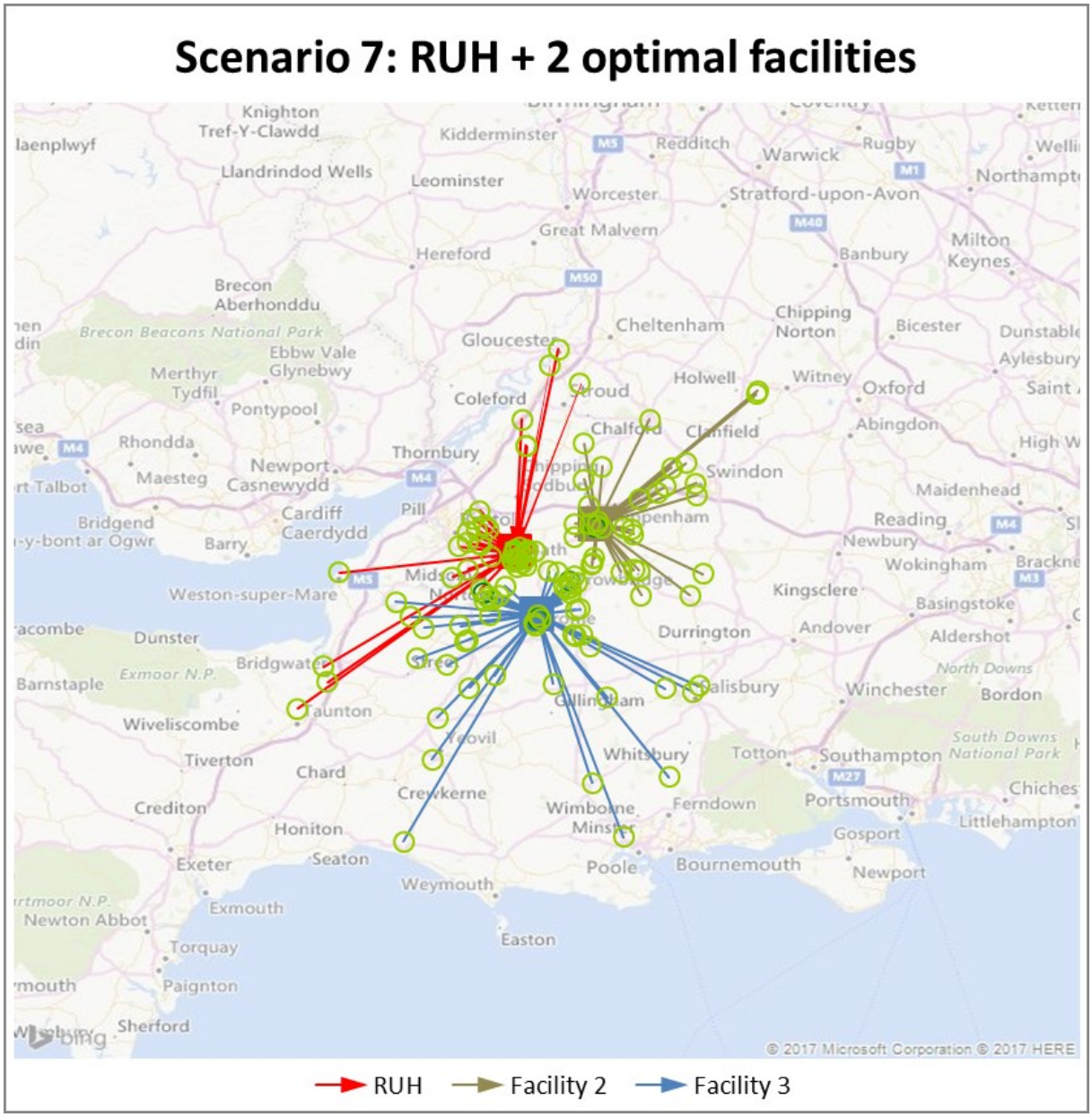

Figure 9: Scenario7, optimal location with RUH and two additional community facilities anywhere within the region

1.5.8 Scenario 8

Scenario 8 is investigating where facilities should be located in an optimal solution if only RUH and one other facility anywhere within the region were required. The solution suggests the best option is very close to the existing facility of Trowbridge. More specifically, Facility 2 should be located in 28A Woodmarsh, North Bradley, Trowbridge BA14 0SB, UK.

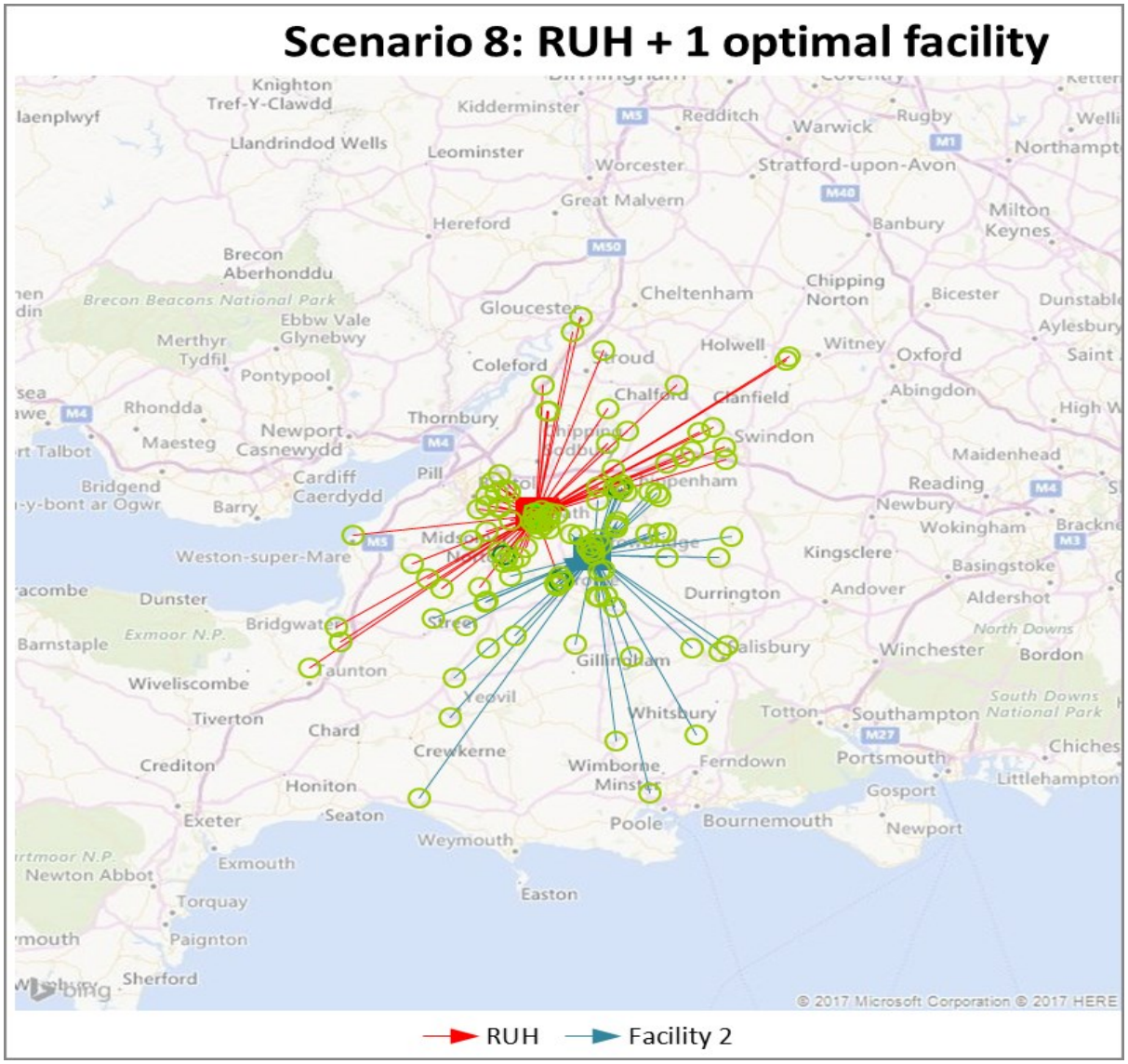

Figure 10: Scenario 8, optimal location with RUH and one additional community facility anywhere within the region

1.5.9 Scenario 9

Scenario 9 investigates where facilities should be located in a theoretical optimal solution with RUH and one other facility anywhere within Bath only. For this scenario, we restricted the location of the secondary facility in one of the 26 MSOAs that make up Bath geographically according to ONS. The mathematical solution suggests that the best option is very near to the existing centre of Paulton (suggested address is 55 Waterloo Rd, Radstock BA3 3ER, UK).

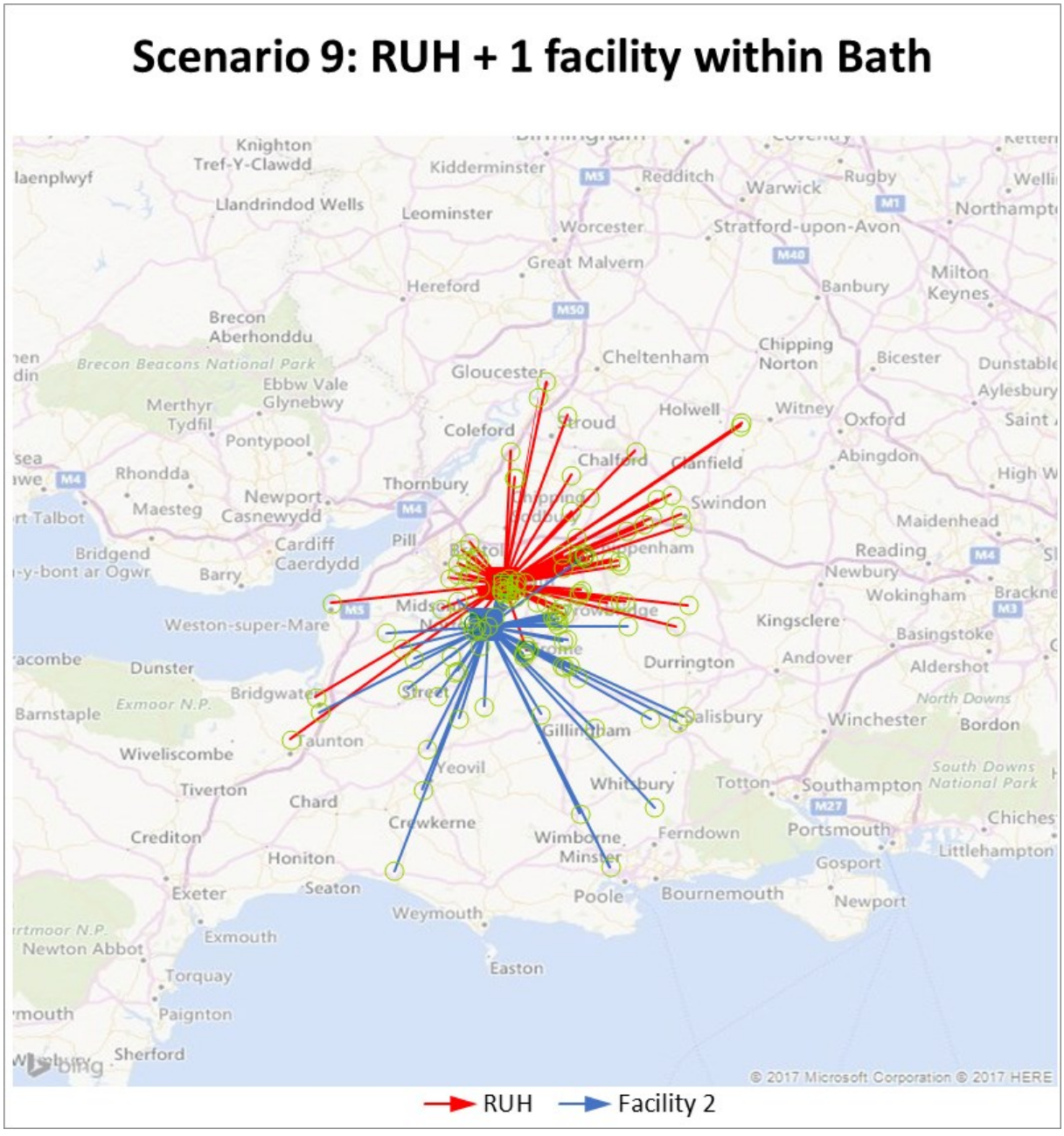

Figure 11: Scenario 9, optimal solution for RUH with1 birthing centre within Bath

1.5.10 Scenario 10

Scenario 10, depicted in Figure 12, illustrates the current location of facilities offering outpatient appointments and where service users should theoretical be referred to in order to minimise their travel times (fastest path from the population centre point of their MSOA) and the deprivation of the MSOA.

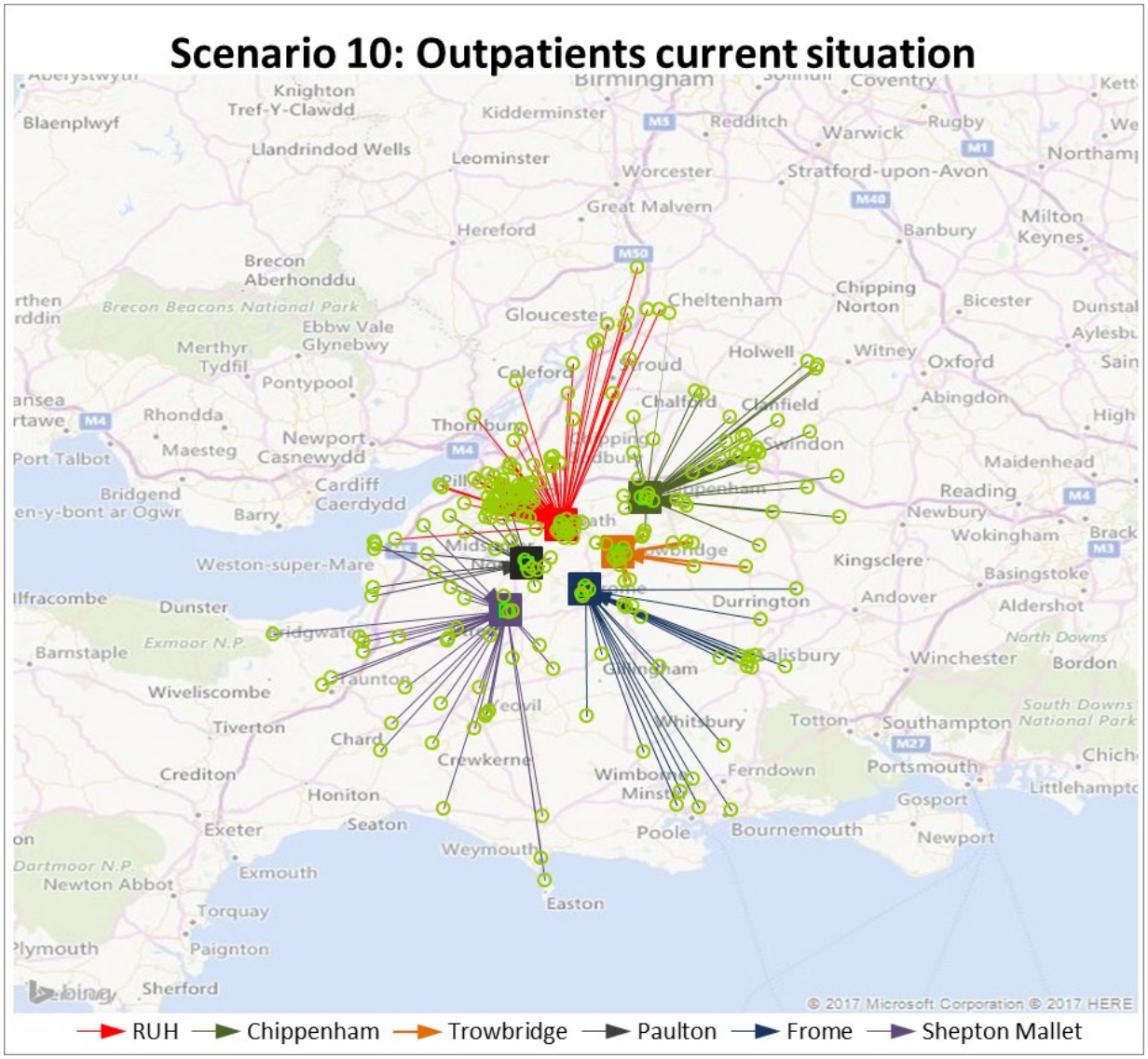

Figure 12: Scenario 10, current situation of outpatients with (hypothetical) optimal assignment of patients to facilities

1.5.11 Scenario 11

Scenario 11 investigates which would be the facilities to maintain if three facilities plus RUH were to be part of the optimal solution, subject to the assumptions listed in scenario 11. Figure 13 depicts the result, with Chippenham, Trowbridge and Frome being part of the optimal solution as recommended by the optimisation algorithm and subject to the limiting assumptions mentioned earlier.

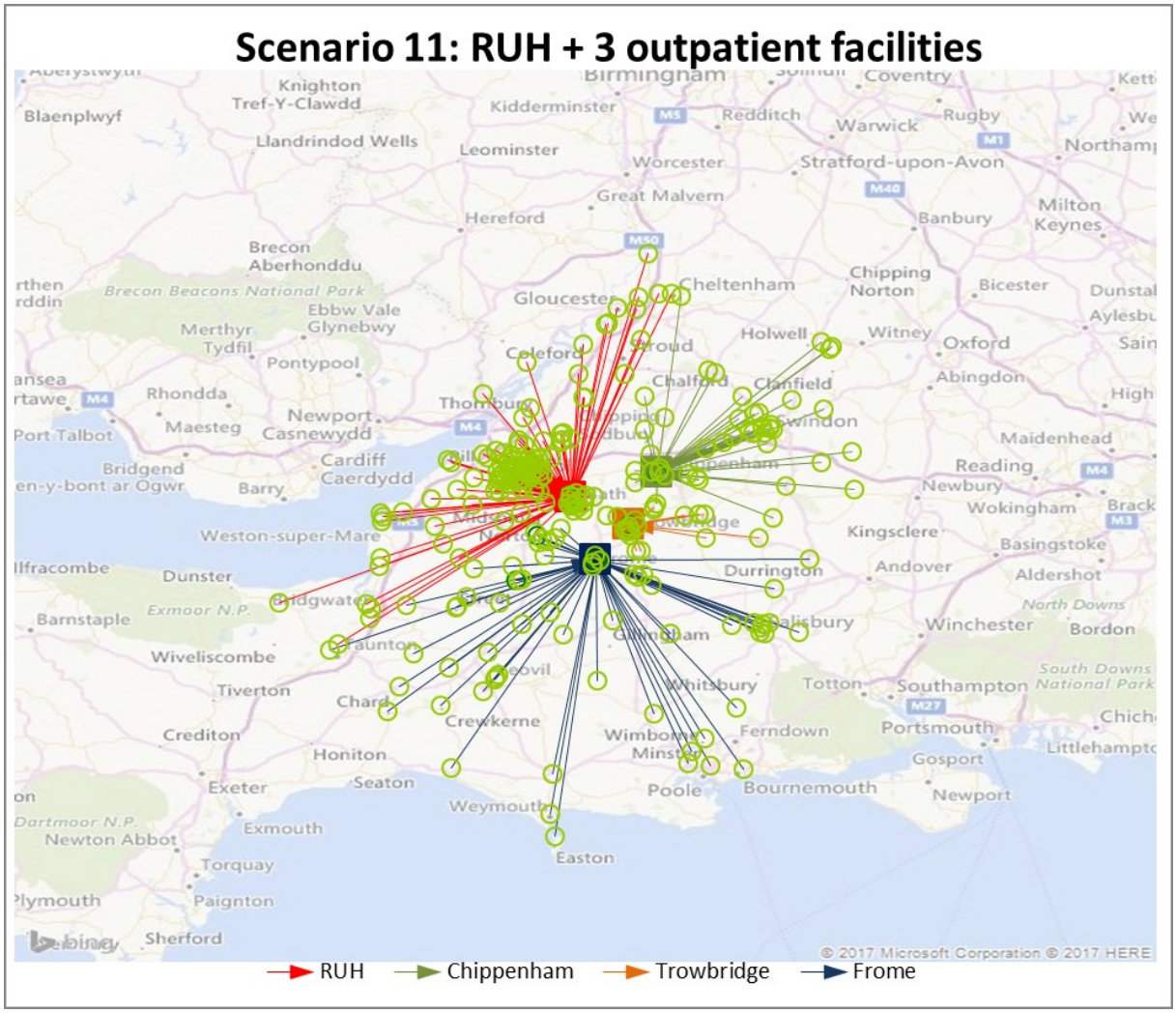

Figure 13: Scenario 11, Outpatients in RUH plus 3 more outpatient facilities

1.5.12 Scenario 12

Scenario 12 investigates which would be the facilities to keep if three facilities were not part of the optimal solution, subject to the assumptions listed in scenario 12. Figure 14 depicts the result, with Trowbridge, Paulton and Shepton Mallet not being part of the optimal solution as recommended by the optimisation algorithm and subject to the limiting assumptions mentioned earlier.

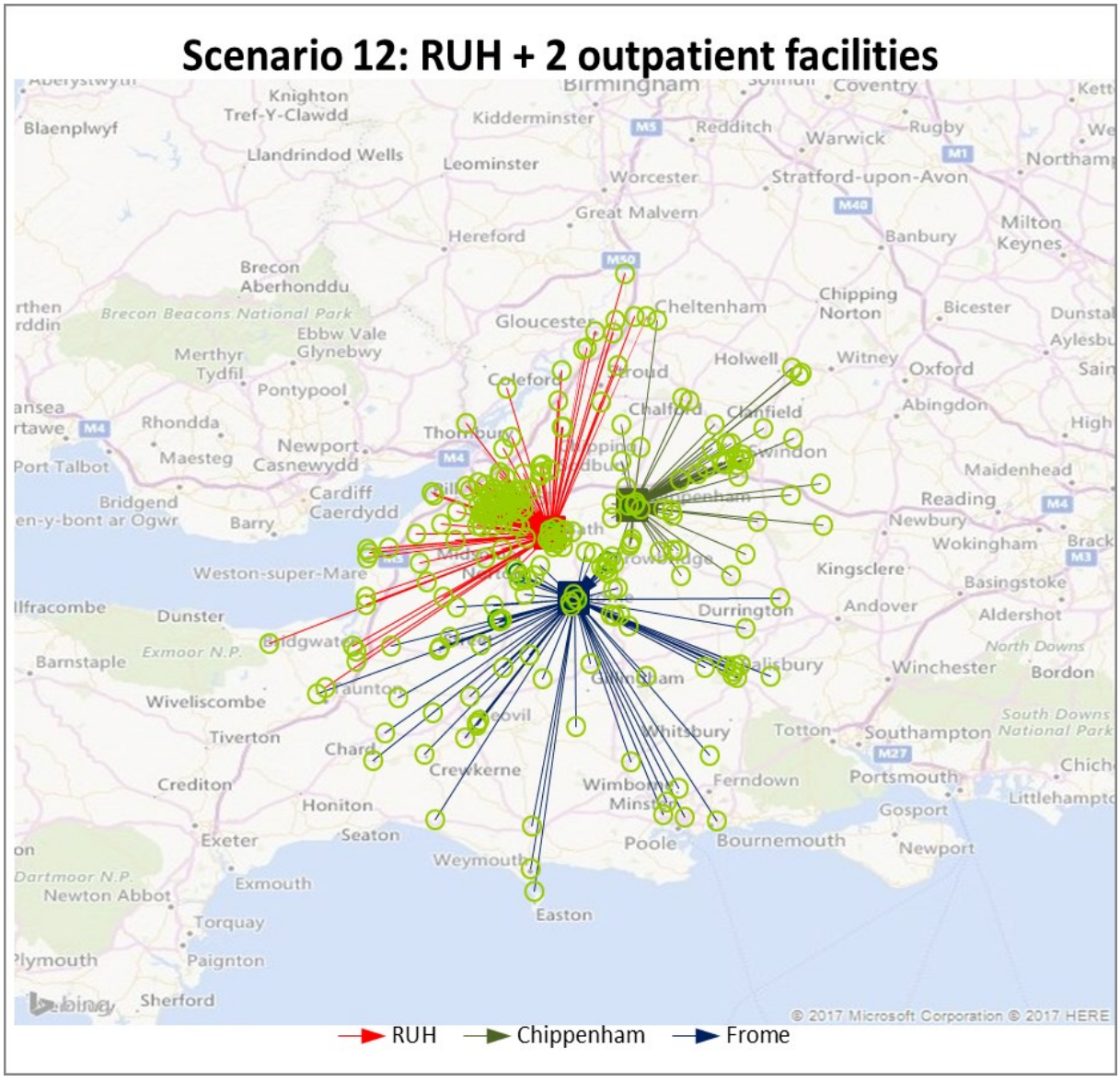

Figure 14: Scenario 12, Outpatients of RUH plus 2 more outpatient facilities

1.5.13 Scenario 13

Scenario 13 investigates which would be the facility to keep if four facilities were not part of the optimal solution, subject to the assumptions listed in scenario 13. Figure 15 depicts the result, with Frome being part of the optimal solution as recommended by the optimisation algorithm and subject to the limiting assumptions mentioned earlier.

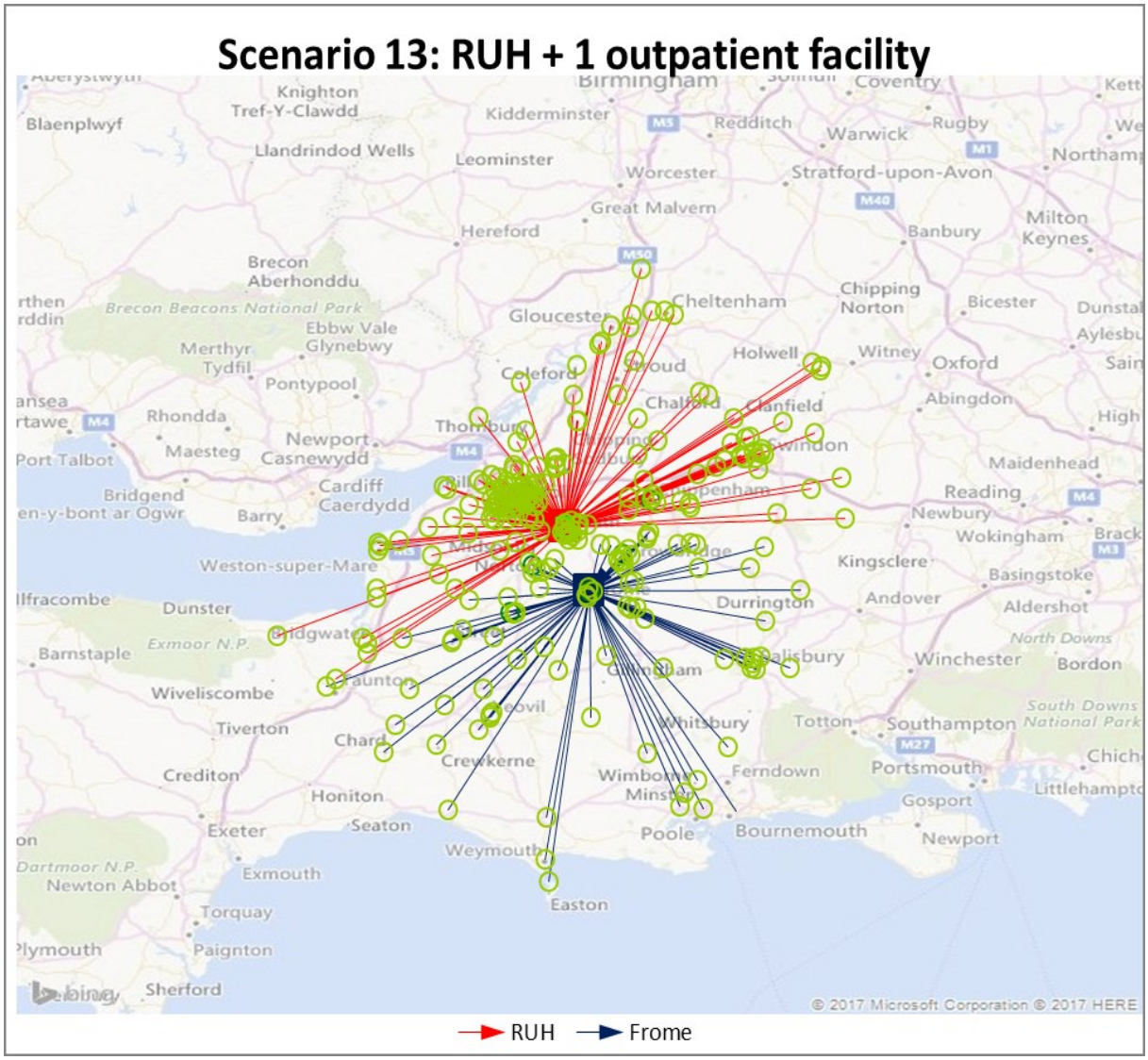

Figure 15: Scenario 13, Outpatient in RUH and 1 more facility

1.6 Summary of results

Table 11 shows the objective function values for the scenarios for deliveries and Table 12 shows the results for the scenarios investigating outpatients, as explained above.

Table 11: Results of optimisation modelling for scenarios investigating delivery facilities (the bigger the difference from baseline scenario the worse the outcome)

Scenario	Number of facilities	Facilities excluded	Estimated difference	Baseline
1	5	N/A	N/A	N/A
2	5	N/A	N/A	N/A
3	4	Paulton	+15%	Scenario 2
4	3	Trowbridge, Paulton	+37%	Scenario 2
5	2	Chippenham, Paulton, Frome	+76%	Scenario 2
6	4	N/A	+9%	Scenario 2
7	3	N/A	+34%	Scenario 2
8	2	N/A	+64%	Scenario 2
9	2	N/A	+105%	Scenario 2

Table 12: Results of optimisation modelling for scenarios investigating outpatients facilities

Scenario	Number of facilities	Facilities excluded	Estimated difference	Baseline
10	6	N/A		
11	4	Paulton, Shepton Mallet	+20%	Scenario 10
12	3	Trowbridge, Paulton, Shepton Mallet	+39%	Scenario 10
13	2	Chippenham, Frome, Paulton, Shepton Mallet	+83%	Scenario 10

In sum:

1. In every scenario in which the number of facilities was reduced, the objective function value as estimated by the optimisation algorithm is expected to increase, pointing towards longer travel distances. This is to be expected as service users, on average, would have to travel farther to access fewer facilities.
2. In the case of having four birthing facilities in total (Scenario 3, one acute and three in the community, see Table 65), Paulton was not part of the optimal solution since the effect of excluding this facility (15%) was not as negative as any of the others. Excluding either Trowbridge or Frome was associated with an estimated increase of 22% each and Chippenham with 26%.

3. When considering four birthing facilities in total (as in the point above), existing locations seem to be well positioned (RUH, Chippenham, Frome and Trowbridge).
4. In the hypothetical scenario of having three facilities in total (Scenario 4, one acute and two elsewhere), excluding Trowbridge and Paulton from the optimal solution is preferable to any other combination. This is because the pair was associated with the smallest estimated increase in the results (37%), with next closest combination being Chippenham and Paulton (41%).
5. In the case of three birthing facilities in total (as in the point above), there is a difference, albeit a small one, between existing locations and choosing entirely new hypothetical locations for the two community facilities (Scenarios 4 and 7, 37% compared to 34 %) indicating that existing facilities are relatively well placed.
6. In terms of outpatient services (Scenarios 10 to 13), we observed monotonic increases in the results with every reduction in the number of community facilities (RUH was not considered as an exclusion candidate).
7. In the case of three community outpatients centres in total, Shepton Mallet and Paulton were not part of the optimal solution. In a two community centre configuration, the optimal solution included Chippenham and Frome and in the one community centre scenario, the theoretical solution pointed to Frome.

Appendix

Table A1.

Appointment type	Number	Percentage (%)
Maternity F/Up	139842	65.28
Maternity Home Visit F/Up	28076	13.47
Maternity New	13660	6.86
Maternity Consultant F/Up	11633	4.99
Maternity Ward Attender F/up	6346	2.87
Maternity Consultant New	3449	1.68
Maternity Consultant Scan	1891	0.82
Maternity Labour Group	1709	0.79
Maternity Infant Feeding Group	1082	0.50
Ward Attender F/Up	749	0.33
Maternity Home Visit New	565	0.29
Maternity Tongue Tie	501	0.24
Maternity Antenatal F/Up	472	0.22
Maternity Consultant Scan New	438	0.22
Maternity Labour F/Up	403	0.22
Maternity Postnatal F/Up	384	0.20
Research Maternity New	357	0.16
Maternity VBAC Group	351	0.16
Maternity Breastfeeding F/Up	226	0.13
Maternity Tour Of Unit	223	0.11
Maternity Health Promotion	211	0.08
Maternity Combined Mental Health F/Up	180	0.07
Maternity Ward Attender New	175	0.10
Maternity Feeding F/Up	96	0.05
Research New	74	0.03
Maternity Tens/Epidural Group	54	0.03
Maternity Anaesthetic Referral	42	0.02
Maternity Tour Of Unit New	39	0.02
Maternity Tongue Tie New	31	0.02
Maternity Telephone Appointment	17	0.01
Maternity Screening F/Up	15	0.01
Maternity Health Promotion New	12	0.01
Pre Assessment Nurse New	5	0.00
Maternity VBAC New	5	0.00
Research Maternity F/Up	4	0.00
Ward Attender New	2	0.00
Urology F/Up	2	0.00
Dermatology F/Up	2	0.00
Gynaecology MOPS Essure F/Up	2	0.00
Diabetes Pump F/Up	2	0.00
Gen Surg F/Up	2	0.00
Gynaecology MOPS F/Up	2	0.00
Maternity Anaesthetic F/Up	2	0.00

Gynaecology New	1	0.00
Physiotherapy Obs New	1	0.00
Gynaecology EPAC New	1	0.00
Home IV Therapy New	1	0.00
Gastro IBD Nurse Telephone F/Up	1	0.00
Gynaecology F/Up	1	0.00
Gastro Hepatology New	1	0.00
Physiotherapy Obs F/Up	1	0.00
Maternity Screening New	1	0.00
Total	213342	100