

# Epidemics in Tudor and Stuart Guildford

by J R BIGNALL

There are few references to plague and other pestilences in the records of the Borough of Guildford that have survived from the 16th and 17th centuries. In the Loseley Manuscripts there is a petition dated 12 September 1563 from the inhabitants to the mayor that 'in consideration of the prevailing pestilence an order be issued to restrain people from having recourse to the hill of St Catherine's for the annual fair'.<sup>1</sup> This epidemic is also mentioned in the Richard Symmes Manuscript, which states that: 'This year the plague was in the towne *Mem* — that in this time of plague the mercate house was builded, with the clock and dyall'.<sup>2</sup> A letter from the Privy Council to the mayor in October 1578 has been preserved, stating that the fair of 11 November must not be held owing to the prevalence of the plague in and around London, from 'whence so many usually attend'.<sup>3</sup>

This report concerns an investigation of the registers of the three parishes of the borough from 1560 to 1669. The 'old style' calendar — the start of the year being 25 March — is used throughout. 1560 is the first year that registers of the two larger parishes are both complete, and the last date was chosen to include the end of plague as a major cause of death in this country.

## The Town

The small town lay by the river Wey on the road leading from London, 30 miles away, to Portsmouth — an important military and trading route. The only surviving plan of the whole town from the period is a rough sketch in the early 17th century Austen Estate Records.<sup>4</sup> It is clearly no more than diagrammatic, but it does give some indication of the general arrangement of the town. Most of the houses were on either side of the steep High Street extending for about 400 yards eastwards from the river bridge. There may have been a few houses on lanes leading off the eastern part of the High Street to the North and South Town Ditches. At the west end of the town near the river there were groups of houses around the church of St Nicholas and along roads north by the Friary and south past the castle.<sup>5</sup>

## Parish Registers

The registers are available from 1541 for the parish of St Mary, 1558 for Holy Trinity and 1562 for St Nicholas.<sup>6</sup> That of St Mary has incomplete entries for two single years in the 1540s and for 1555–9, Holy Trinity for 1609 and the period of the Civil War during 1642–6, and St Nicholas from 1592–1600, 1617–22, 1657 and also during the Civil War. In both these latter parishes the incumbents were deprived of their livings at this time.

Only a small part of St Nicholas parish was within the borough; most was the rural tithing of Artington. This seems to have been sparsely populated and the portion within the borough may have contained a large proportion of the inhabitants of the parish. However, the 'urban' and 'rural' populations cannot be separated, so the aggregations from the parish register refer to the whole parish.

## Population

The Hearth Tax of 1664 gives a total of 371 entries and 1270 hearths (3.4 per household) with an exemption rate of 40%.<sup>7</sup> Assuming a mean of 4.5 persons per household the population would have been about 1700.<sup>8</sup> The mean annual number of baptisms during 1660–9 was 59, giving a baptismal rate of 35 per 1000. Allowing for, say, 15% under-recording of births, the birth rate would have been 40 per 1000 — a not unreasonable estimate for that time.

During 1560–9, at the start of the period, the mean number of baptisms was 46. If the baptismal rate were the same as at the end of the period (and there is nothing at all to suggest that it was), the population would have been about 1300, with about 600 in Holy Trinity, 500 in St Mary and 300 in St Nicholas. However, because of the small numbers and the inherent imprecision of the method of calculation, it seems wise to estimate the population of the borough only to the nearest 500 and to ignore estimates of parish populations, except as rough indications of relative size. Thus, at the start of the period there were probably only 1000 to 1500 people living in the borough.

## Social Differences between Parishes

The occurrence and severity of epidemics can be influenced by social factors such as density of population and poverty. Unfortunately there is nothing in the records to indicate differences of density and very little concerning financial status.

It is difficult to estimate, other than very approximately, the relative wealth of the parishes from the list of tax-payers for the Fifteenth and Tenth Tax in 1546.<sup>9</sup> It seems likely, however, that St Nicholas was the poorest and that Holy Trinity may in general have been higher in the social hierarchy than St Mary. At the end of the period the Hearth Tax records suggest that similar differences persisted.<sup>10</sup>

## Epidemics

### 'EPIDEMIC YEARS'

An 'epidemic year' has been arbitrarily defined as one in which the number of burials in a parish was at least twice the mean for the preceding ten years (or since the last 'epidemic' if this occurred less than ten years earlier). With this criterion 'epidemics' occurred in 1563, 1576, 1584, 1593, 1603, 1615, 1630, 1635, 1643–4 and 1661 (table 1; fig 1)

### CAUSES OF EPIDEMICS

The causes of these ten epidemics can only be guessed at in the complete absence of any eye-witness accounts. There are, however, some pointers to them that can be extracted from the registers and other sources.

Plague was the most lethal epidemic disease of the period throughout the whole country.<sup>11</sup> It commonly appeared during the summer months, dying down in the autumn and seldom persisting throughout the winter. Characteristically the largest number of deaths occurred in older children and young adults, though the mortality rate, the risk of dying, was in fact much greater in infants and the aged.<sup>12</sup> Deaths tended to be clustered in certain families, others escaping entirely. Plague was carried from place to place by infected rats or by rat fleas on the persons or in the baggage of travellers. Guildford was only 30 miles from London and there was much commercial traffic between them, due to the busy wool trade (in the early part of the period) and the supply of agricultural produce to the capital. The occurrence of an epidemic in Guildford at the time when plague was known to be rife in London is, therefore, a point in favour of the local outbreak also being plague.

## BURIALS

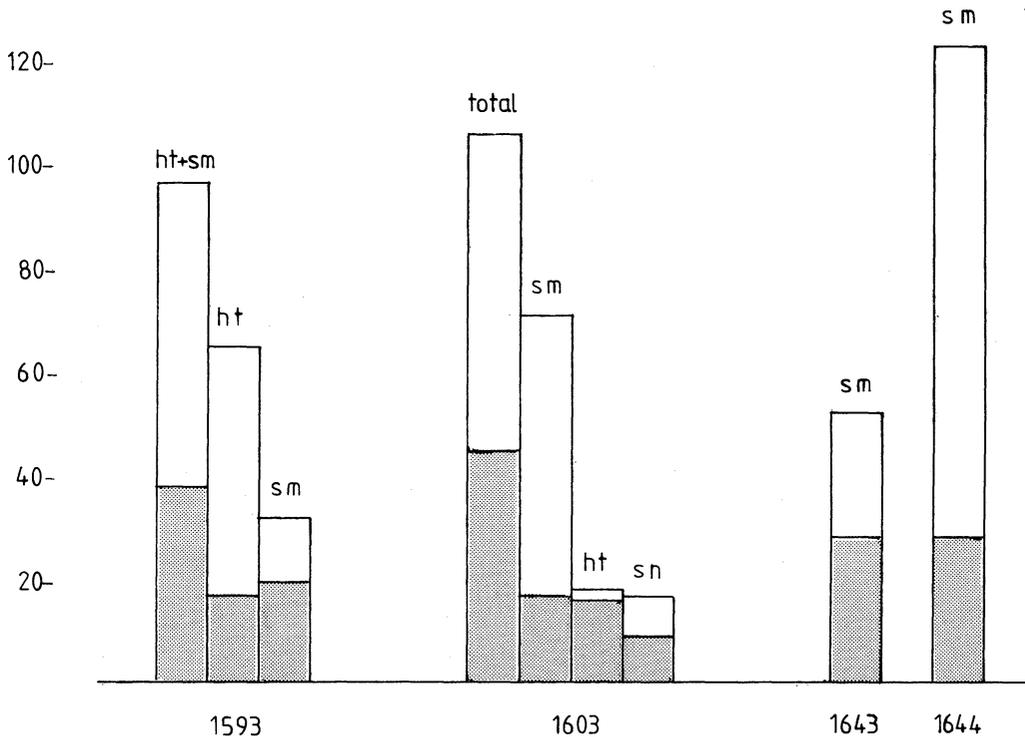


Fig 1. The number of burials in the three major epidemics. The lower portions indicate the previous mean annual burials (ht, Holy Trinity; sm, St Mary; sn, St Nicholas).

1563

Only two parishes appear to have been affected (records for St Nicholas begin only in 1562). The epidemic was not severe, though sufficient to alarm the community and lead to the petition concerning St Catherine's fair, an alarm no doubt increased by knowing that there was at the time a large epidemic of plague in London.

In Holy Trinity it began in mid-August and continued into the early winter. Between August and December there were 31 burials, 22 (70%) being of children and young adults (if 5 'servants' are included). Over half the burials (17) were from 6 families, 14 of children and 3 of parents. Of the 22 'sons', 'daughters' and 'servants' all but 4 were probably more than 4 years old. In St Mary, although there was an 'epidemic' increase of burials during the whole year, with 17 of the 22 during July to September, there was no suggestive age or family pattern.

The outbreak of plague in London started in June and rapidly declined at the end of October. The epidemic in Guildford may also have been plague.

1576

The slight excess of burials in St Mary in 1576 was during the spring with no pattern suggestive of plague, and there was no outbreak in London. The cause is unknown.

**Table 1** The years in which the numbers of burials in a parish was at least twice the previous annual mean.\*

Year	Total		Holy Trinity		St Mary		St Nicholas	
	No	Mean	No	Mean	No	Mean	No	Mean
1563 <sup>1</sup>	65	(33)	35	(13)	22	(10)	8	(8)
1576	41	26	10	11	21	10	10	5
1584	47	33	25	12	19	14	3	6
1593 <sup>2</sup>	97	38	65	17	32	20	—	—
1603	106	(45) <sup>3</sup>	18	16	71	17	17	(9) <sup>3</sup>
1615	65	41	15	15	41	18	9	9
1630	73	53	25	20	21	22	27	10
1635	75	(58) <sup>4</sup>	22	21	41	20	12	(15) <sup>4</sup>
1644	—	—	— <sup>5</sup>	—	123	28	—	—
1661	94	56	23	19	48	23	23	14

\* The means are for the previous ten years, or since the last 'epidemic' if this had been less than ten years earlier. Means in brackets are based on less than ten years. Numbers of burials equal to or greater than twice the mean are shown in italics.

<sup>1</sup> The mean for Holy Trinity is based on 1559–62, for St Mary 1558–62 and for St Nicholas and the total borough only one year, 1562, is available.

<sup>2</sup> Holy Trinity and St Mary only.

<sup>3</sup> 1597–8 and 1601–2.

<sup>4</sup> 1631–4

<sup>5</sup> Recorded in the register that '52 were buried this year of the pestilence.'

1584

The small epidemic in Holy Trinity in 1584 was unusual. There was a high proportion of children — 20 (80%) of the 25 burials. The date of baptism is recorded for only 13 of them. Among these the age pattern was similar to that during 'non-epidemic' years,<sup>13</sup> there being about half under 1 year and only one over the age of 5. There were no instances of two burials in the same family. Half the child burials were during August. The cause may have been dysentery, which in the grossly insanitary conditions of a Tudor town must have been a common illness, especially in summer. This disease is most lethal in the very young.

1593

During 1592–3 the plague outbreak in London was one of the worst recorded. It began in autumn 1592, reached its height the following spring and continued at a low level during 1594. In May 1593 the Earl of Nottingham wrote to Sir William and Sir George More, Justices of the Peace in Surrey, concerning precautions to be taken against the plague as the Queen intended to reside in the county during the summer.<sup>14</sup> Among other instructions the inhabitants were 'not to receive any child born in London, the suburbs and confines thereto adjoining to be nursed in any of their houses.'

Guildford did not escape. In all three parishes the number of burials in 1591 rose above the mean but in none was it 'epidemic'. Again in 1592 there was a small increase in Holy Trinity. Unfortunately there are no burial records for St Nicholas for the next two years. In St Mary there was no excess in 1592 and only a 'sub-epidemic' one in 1593.

In Holy Trinity, on the other hand, the burials rose steeply in 1593 to 65, about four times the mean. The pattern was again that of plague, with 50 burials in June to August, 32 of them in July. There was a clustering into families, 35 (about half) being in 11 families. The

approximate age of all but 4 of the 50 who died during the three summer months can be inferred from the records. These 46 include 15 'sons' and 'daughters' and 2 'servants' whose baptisms are not recorded; however it seems reasonable to class them as children or young adults. Of the 29 whose baptisms are recorded, only 5 were less than 5 years old, 9 were aged 5 to 19 and 15 were over 20. Thus all but these 15 (31 (67%) of 46) were probably children or young adults.

It has been estimated that the mode of transmission of bubonic plague from rat to man should lead to an interval between deaths within families of around 14 days.<sup>15</sup> Bradley investigated the epidemic in Eyam in 1565–6 and from the records of 59 families found that the intervals between successive burials fell into two main groups, 1–4 days and 10–12 days, although there was considerable spread between 5 and 15 days.<sup>16</sup> Schofield found 119 intervals within families in the severe epidemic in Colyton in 1645–6.<sup>17</sup> 40% were of less than 4 days, but there was no clear grouping around 10 to 12 days. With the known variation in the incubation period and duration to death, the possibility that pneumonic plague was present with the bubonic form, the absence of any indication that a particular death was due to plague and probable variations in the time between death and burial, it is not surprising that the observed pattern should differ from the theoretical. The number of intervals available in the Holy Trinity epidemic is small, only 25 in 11 families. Nine (36%) were of less than 4 days, 7 of 4–6 days, 4 of 7–9 days and the remaining 5 between 11 and 24 days. The pattern is consistent with that in Colyton.

Frequently during plague epidemics one parish was affected later or to a less extent than an adjacent one or escaped entirely. This appears to have occurred in Guildford. Of the 32 burials in St Mary during 1593 only 11 were during June to August but there were 15 from September to January. If, as seems likely, the infection spread from London it is not surprising that it should have earlier and more severely affected the parish, Holy Trinity, which the traveller on the London road would first enter and which had more hostelryes and probably more merchants' houses than St Mary further down the High Street. However; this was the last epidemic in Holy Trinity for 50 years and in 1603, when there was another severe outbreak of plague in London, it was the turn of St Mary to suffer.

1603

There were 71 burials in St Mary in 1603, more than 4 times the mean. St Nicholas was also affected, with 17 burials. In Holy Trinity there was no excess at all. The epidemic in St Mary lasted from August to December, with 51 burials, 50% of them children and 28 (more than half) in 9 families. Of the 18 intervals between family burials 11 (60%) were of under 5 days, 5 were between 10 and 15 and only 2 between 20 and 25 days. By October the epidemic was fading and by the end of the year it was over. It was almost certainly plague.

1615 AND 1630

After 1603 there were no major peaks of burials for 40 years. In 1615 there was a small epidemic in St Mary during the winter months of November to February, with 24 burials and no family having more than one. There was also a small epidemic in St Nicholas in 1630 — the only occasion on which this parish had one of its own. This also was in the winter months. Both could have been influenza.

1635

St Mary again had a small epidemic in 1635 with a peak in May to August. At first sight it might seem to have been another minor plague outbreak, but there were important differences. Only 13 (32%) of the 41 burials were of children and only 4 were during the peak period when there were 22 burials in all. In only 4 families was there more than one burial and in 2 of these a husband and wife were buried but none of their children. The shortest interval between

family burials was 12 days. In neither of the other two parishes was there an excess of burials or a significant decrease in the proportion of children among those buried.

The low proportion of children buried during the peak period is consistent with typhus, for although children contract the disease they seldom die from it. Typhus was often associated with concentrations of troops. It was common during the Civil War a few years later. There is no record of such conditions in Guildford in 1635. However, the town was on the militarily important road to Portsmouth and France. There had been troops billeted in it in 1628, as shown by the records of payments to householders.<sup>18</sup> It is possible that in 1635 there were still troops concentrated in the town, perhaps mainly in St Mary, and that the overcrowded conditions produced this small epidemic.

One peculiar and unexplained feature was the high proportion of 'wives' among the buried. During the whole year there were 13, compared with a previous annual mean of 2, and 11 of these occurred during the peak months. The number of burials of adults other than 'wives' was twice the previous mean, that of 'wives' 7 times the mean. The deaths were not associated with child bearing, for none of the women appeared from the records to have had a child during the previous 12 months.

1643-4

The records are deficient in Holy Trinity and St Nicholas from 1642 to 1647. In St Mary the mean annual number of burials from 1636 to 1642 had been 24. It rose to 52 in 1643 and soared to 123 in 1644. There was a summer peak in 1643 and in June of the following year burials increased once more. By October there had been 105. Sixty-seven (64%) were of children or young adults. In 25 families there was more than one burial, with 49 intervals between them. In about 40% it was less than 4 days with only 5% between 10 and 12 days. There was however a slight concentration of 6 (12%) between 13 and 15 days.

In Russell's *History of Guildford* there is a note that 'in 1644 50 persons died. St Nicholas Reg. Money was then paid in basins of water.'<sup>19</sup> This appears to be an error. In the existing register of St Nicholas the pages are intact and no burials at all are recorded in 1644-6. Unless the author had access to an earlier register since lost it seems likely that he confused two parishes. In the register of Holy Trinity for 1644 there is a list of 52 'buryed of the pestilence'. The names of the dead, with few exceptions, are not given, only the numbers buried from various households, including '6 at Lyon', '2 at halfe moon' and '7 at the Bell'.

Plague was continuing at a low level during the 1640s with regular summer increases. There was also widespread typhus in the country. Although there appears to have been no major increase of plague in London in 1643-4 the pattern of the epidemic in Guildford appears to suggest this disease.

The epidemic seriously affected the life of the town, coming as it did during the turmoil of the Civil War.<sup>20</sup> Some indication of its effects on trade and employment appears in the records of Trinity Hospital, which had been founded by George Abbot, Archbishop of Canterbury, the son of a Guildford clothier. In July 1644 application was made to one of the trustees for £50 to be used for relieving the poor. He replied: '... when the towne standeth so much in need, occasioned by an extraordinary hande, in respect of the warre which decayed all trade which makes swarms of poor; in respect of the taxes which impoverish many that were formerly able to have relieved others: and in respect of the plague, which is so sore a visitation in its selfe . . . I shall therefore give my full consent'.<sup>21</sup> In September a further £50 was given to aid unemployed weavers.

1661

There was only one further epidemic during the period, in 1661. Again Holy Trinity was little, if at all, affected. In St Nicholas there was a 'sub-epidemic' rise in burials; but in St Mary it was greater. Once more it was a summer and autumn outbreak with 35 burials in the parish

between August and December, 26 (75%) being of children. However, among the 7 families with more than one burial there was only 1 in which the interval between burials was less than 30 days. There was no major plague in London during the year, though there was both 'fever' and smallpox. The unusually high proportion of children suggests that the epidemic may have been smallpox.

The Great Plague of London in 1665 left Guildford quite unscathed. There were only 48 burials in the whole borough, well below the mean of 54 for the previous 3 years.

**Effects of epidemics on Population**

The population appears to have been rising steadily during the 20 years from 1570 (fig 2).<sup>22</sup> There was a 60% increase in the 10-year mean number of baptisms (from 46 to 74), a similar increase in burials (from 25 to 41) and an excess of baptisms over burials of 534. Much of this, if not all, may have been due to the natural increase of a population with a high birth rate and relatively low death rate in the absence of major epidemics. However, another factor may have been immigration from surrounding villages. The staple industry of the town was cloth making. In 1557-8 an Act had laid down that no one should make cloth except in a town wherein it had been made for the previous 10 years.<sup>23</sup> If this were enforced it could have forced clothiers to move from villages to towns. Some attempt at enforcement was certainly made in Surrey. For instance, in 1561 two clothiers were charged with having made woollen cloth at Frensham and another at Witley.<sup>24</sup> Again, in 1606 eight clothiers from villages near Guildford were accused.<sup>25</sup>

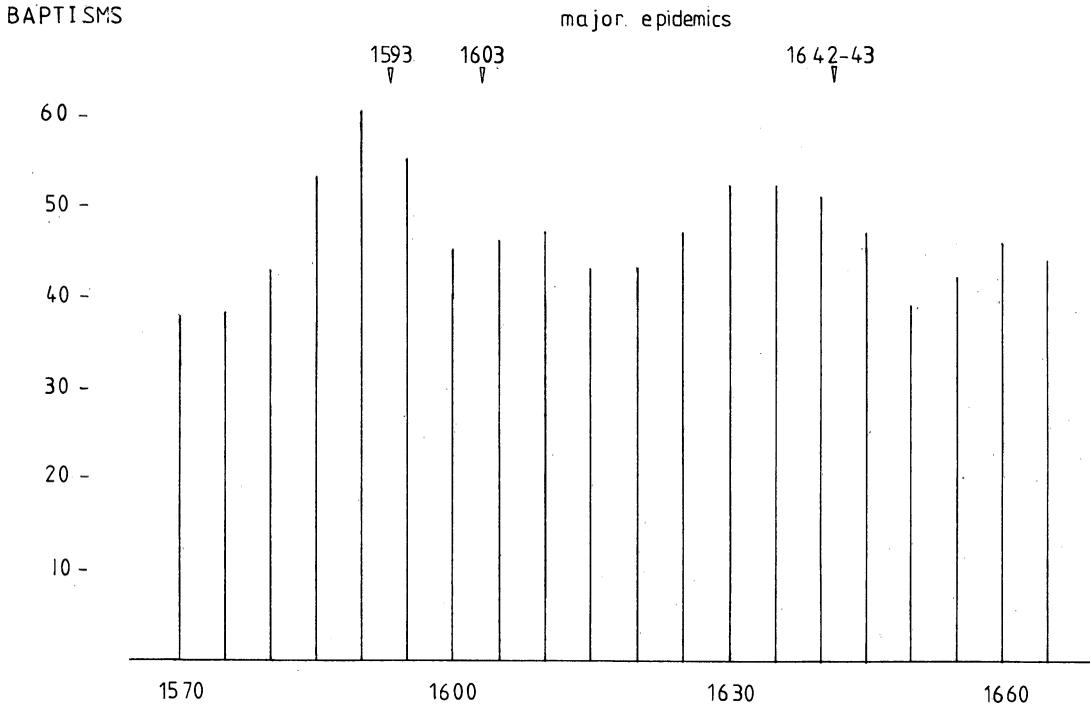


Fig 2. The mean annual baptisms (10-year running mean) at 5-year intervals from 1570 to 1665 in the combined parishes of Holy Trinity and St Mary (for Holy Trinity the numbers for the missing years of 1609 and 1642 have been estimated).

Although 1593 was the 'epidemic year' the burials began to rise in 1591. In the two parishes with intact records the annual number of baptisms from 1581 to 1590 was a mean of 60. From 1594 to 1602, just before the next epidemic, it was only 43 — a significant fall of 28%. Baptisms did not further decline in the ten years after 1603. However, two epidemics only ten years apart may have had a considerable effect on the size of the population. The mean annual number of baptisms rose only slowly after the 1603 epidemic. By 1625 it had reached 65 and it remained about this number until the major epidemic of 1643–4. One important factor may have been economic decline, for there is evidence that the cloth trade was in considerable difficulties.<sup>26</sup>

Unfortunately again there are gaps in the registers for the major epidemic of the period. Only in St Mary is there a continuous record. Burials rose in 1643 and soared in 1644. Between 1633 and 1642 the mean annual number of baptisms had been 28. For the ten years after 1644 it was 24 — only a 14% decrease. The corresponding figures for the whole borough can be calculated for 1632–41 and 1647–56. In the 'pre-epidemic' period the annual number was 67 and after the epidemic 55 — an 18% decrease. Once more the succeeding rise in baptisms was slow and by 1665 the mean annual number had reached only 59. Baptisms and burials had almost balanced each other: over the twenty years from 1650 to 1669 the excess of baptisms was only 25.

In the absence of any indication of what in fact the baptismal rate was at different periods all that can be concluded is that the population probably rose in the latter part of the 16th century in the absence of major epidemics and possibly also through economic factors associated with the wool industry; that after the epidemics of 1591–3 and 1603 it probably fell, to rise only slowly during the period of industrial recession until the big epidemic of 1642–3 reduced it to a level probably little more than it had been at the start of the period.

As there is no precise indication of the actual size of the population during the period it is impossible to estimate accurately changes in the general mortality rate. A rough approximation of the population can be obtained by applying an annual rate of 35 baptisms per 1000 population to two periods of relative freedom from major epidemics, 1570–89 and 1625–39. During the earlier period of 20 years there were on average 62 baptisms each year and 35 burials, and during the later period of 15 years, 67 and 59 respectively. The population during the first 20 years would have been around 1800 and during the second period 1900. The burial rates would then have been about 20 per 1000 and 30 per 1000 respectively. At the end of the period, during 1660 to 1669 with a population of about 1700, as estimated from the Hearth Tax, the burial rate would have been even higher, 35 per 1000.

Although the impact of plague was declining during the 17th century, other epidemic diseases such as smallpox, typhus and influenza were taking their toll. It seems likely that Guildford was a somewhat healthier town to live in during the reign of Queen Elizabeth than at the time of the Restoration.

### Summary

Aggregations from the registers of the three parishes of Guildford between 1562 and 1669 suggest that ten epidemics occurred during the period. Only three of them were major ones with the number of burials during the year rising to three or more times the previous mean. These were in 1593 in Holy Trinity parish, in 1603 in St Mary and in 1644, the most severe, probably in all three parishes, though there are incomplete records for two of them.

The time of year at which they occurred, the age distribution of those buried and the family grouping suggest that all three may have been outbreaks of plague, as may a minor epidemic in 1563. In all but one of these years (1644) there were at the same time major epidemics of plague in London.

At the time of the Great Plague of London Guildford escaped, the number of burials in 1665 being, in fact, less than the previous mean.

## ACKNOWLEDGEMENTS

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## NOTES

- 1 Historical Manuscripts Commission, Appendix to the Seventh Report, 1879, 617
- 2 BL, Add MS 6167, 203v
- 3 GMR BR/OC/5 Letter No 11
- 4 GMR 111/2/3
- 5 Norden's 'Survey of Guildford Park' of 1607 (BM) shows only a small part of the town, to just east of what is now South Street. See also O'Connell, M, *Historic towns in Surrey*, Res Vol SyAS, 5, 1977, 29-33.
- 6 GMR. A Table showing the annual number of burials and baptisms between 1560 and 1669 has been lodged in the Library of the SyAS.
- 7 Meekings, C A F (ed) *Surrey Hearth Tax 1664*, SyRS, **XVII**, 1940, cx
- 8 The difficulty of estimating the multiplier to be used to calculate the population from tax records is discussed by T H Hollingsworth in his *Historical demography*, 1969, 117-21. A figure of 4.2 was suggested for Norwich for 1696 using available census data (Glass, D V, in *Population in history*, 1965, 177) The multiplier for Guildford can only be guessed at in the absence of any actual population counts during this period. Assuming that it was between 3 and 5, the estimated range for the population would be 1100 to 1900.
- 9 Dance, E M (ed) *Guildford Borough Records 1515-46*, SyRS, **XXIV**, 1958, 133-9
- 10 The proportion of households 'unchargeable' in the Holy Trinity Hearth Tax returns was 31%, in St Mary 43% and St Nicholas 52%. The number of hearths per household was 3.4, 3.7 and 2.7 respectively.
- 11 See Creighton, C, *A history of epidemics in Britain*, 1894 (2 edn 1965) for an account of recorded epidemics during the period. For a critical analysis of plague in the 16th and 17th centuries in England see *The plague reconsidered*, Local Population Stud Supp, 1977
- 12 Schofield, R, *ibid*, 117
- 13 In Holy Trinity during 1570-90 (excluding the 'epidemic year' of 1584) there were 243 burials. One hundred and fifteen (47%) were of 'sons' or 'daughters'. The interval from baptism to burial can be obtained from the register in three quarters of them. It was less than 1 year in 65%, 1 to 4 years in 26% and 5 years or more in only 8%.
- 14 Kempe, A J (ed) *The Loseley manuscripts*, 1836, 279
- 15 Shrewsbury, J F D, *A history of bubonic plague in the British Isles*, 1970, 181
- 16 Bradley, L, in *The plague reconsidered*, 1977, 94
- 17 Schofield, R, *ibid*, 108
- 18 GMR LM 1330/73
- 19 *The history of Guildford*, printed by J & S Russell, 1801, 315
- 20 In the parish of St Mary during 1643-4 there were 175 burials. The population of the parish, based on a previous mean annual number of baptisms of 28 and a baptismal rate of 35 per 1000, would have been about 800. Thus in these two years about 1 in 5 of the population may have died.
- 21 Palmer, S P, undated MS (SP 677.3) in the Reference Section, Guildford Public Library.
- 22 The fluctuations in the mean annual baptisms shown in fig 2 should not be interpreted as precisely reflecting fluctuations in the size of population. There may, for instance, have been changes in the birth rate, especially during and after epidemics. It is however likely that the pattern of population change was of the same general form.
- 23 VCH 2, 243
- 24 *Ibid*, 343
- 25 *Ibid*, 344
- 26 For instance the Court Book contains two letters, in 1614 and 1627, from George Abbot, Archbishop of Canterbury (GMR BR/OC/1/2, 84 and 101). He gave £100 to the borough to provide revenue to alleviate the hardship of workers in the declining cloth trade by developing the cultivation of hemp and flax and the manufacture of cordage and linen goods. The scheme was not a success and in 1656 it was decided to apply the fund to enable a number of honest tradesmen to purchase stock.