## Rats and the Plague.

An interesting Blue Book (New Series, No. 52), containing reports and papers on the suspected cases of human plague in East Suffolk, and on an epizootic of plague in rodents in that district, has just been published. The reports are submitted to the President of the Local Government Board by Dr. Newsholme, who in his introduction summarises the situation.

HUMAN CASES OF ILLNESS.

It was on October 2nd, 1910, that Dr. Sleigh, the Medical Officer of Health of the Samford rural district notified to the Board four cases of "pneumonic plague" at Freston. Dr. Bulstrode was instructed to investigate the circumstances, and to tender such advice as might be required. The results of the inquiry into the character of these four fatal cases of illness, are fully set out in Dr. Bulstrode's report.

The bacteriological diagnosis of these cases was not subsequently fully confirmed by inoculation tests; but having regard to subsequent events, it is a reasonable inference that they may have been plague; and there is the further possibility that two previous limited outbreaks of illness in the same part of Suffolk may also have been plague.

EXTENT OF PLAGUE IN RODENTS.

Dr. Newsholme proceeds to relate that as the inquiry proceeded it became clear that rodents were involved, and rats and hares found dead and examined by Dr. Klein were pronounced to have had plague, and that rats were infected over a somewhat extensive area. When the grave significance of this was realised no efforts were spared to cope with the situation; local authorities were warned and stimulated to activity, two inspectors, Dr. Fletcher and Dr. Reece, in addition to Dr. Bulstrode, took up the work, conferring with, and advising also, the officers of local authorities outside the known infected area. In order also that every sanitary authority in England and Wales might be put on the alert to detect any human or rodent cases of plague, the Board sent out a circular letter, covering a Memorandum on Plague, by the Medical Officer of the Board, and attention was drawn to the fact that the Board were prepared to continue their practice of many years to examine material from human beings, or from rodents, forwarded by medical officers of health, which might be regarded with suspicion.

A special circular letter was also sent to the principal port sanitary authorities, advising the examination of rats with a view to ascertaining whether any were infected with plague. Advice as to rat destruction was always associated with the still more important counsel as to the need for preventing the access of rats under and into dwellings, and stress was laid on the importance of securing a diminution of rats by preventing their access to supplies of food.

DR. BULSTRODE'S REPORT.

Dr. Bulstrode in this report gives the history of the development of the illness. The invaded area forms a peninsula between the estuaries of the Orwell and the Stour, and at Butterman's Bay, near Chelmondiston, large vessels laden with grain, mainly from North and South America, which owing to their deep draft, are unable to proceed to Ipswich docks, are lightened, proceeding to Ipswich when their draft has been sufficiently reduced. The first inmate of the invaded house to be

The first inmate of the invaded house to be attacked was a child, aged 9, who had been staying at a farm near the middle of the Samford peninsula. Four days after this child died, death being certified as due to "gastric catarrh and pneumonia."

The mother of the child was taken ill on September 21st and died on September 23rd, the cause of death being recorded as "septic pneumonia."

The father was taken ill on September 26th, but nevertheless attended his wife's funeral. He died on September 29th. Death was certified as due to "influenza and pneumonia."

The fourth victim lived a short distance away, but nursed the mother on the night of September 22nd-23rd. She was taken ill on September 26th and died on September 29th.

Dr. Bulstrode states that the anomalous nature of the attacks first attracted attention. The disease could not be classified. The condition of the patients was more serious than the physical signs warranted, and the patients became rapidly worse without any clear evidence of corresponding lung involvement. The temperature was in the majority of cases out of proportion to the physical signs. Although there was definite evidence of lung congestion in every case, in only one was there extensive pneumonic consolidation. Diarrhœa and vomiting was pronounced in three of the four In other words there was probably cases. lobular pneumonia, which is such a characteristic feature of pneumonic plague.

Although the infectivity of the disease was obviously high, continuous and intimate association seems to have been necessary for infection, and this by persons relatively ignorant of the importance of taking precautions. The two Ipswich nurses, who to their great credit volunteered for service after the



