discharge more often. G. W. Brown and colleagues studied cohorts of patients admitted to three London mental hospitals in 1951 and 1956. They found that the mean length of stay during a three-year follow-up period (including periods of readmission) decreased from 17 to 11 months, but that the proportion of them readmitted rose from 50% to 64%. The only national statistics available are for patients admitted for the first time, whose prognosis is better than those who have been in hospital before.

In different areas there are large variations in readmission rate, the reasons for which are complex. Hospitals serving the London conurbation, for example, readmit a high proportion of discharged patients. A Medical Research Council survey of schizophrenic patients discharged from eight London mental hospitals showed that return to hospital (which occurred in 42% of cases) could be predicted by factors such as a poor record of employment, severity of symptoms at discharge, unconstructive attitudes on the part of the patient, and an intense emotional relationship between the patient and a key member of his family when both were observed at a joint interview. Very few families received help from social workers or skilled advice about employment problems, and readmission to hospital usually followed a crisis in which the patient's abnormal behaviour could no longer be contained at home. In this study a high readmission rate reflected a high morbidity. The London services may have improved during the past few years, but the difficulties of providing good aftercare in a large conurbation remain considerable.

Edinburgh may be setting a better example. There C. A. Renton and colleagues found that only 18% of schizophrenics were readmitted to hospital. Their employment records were much the same as in the London series, and in both cities there was a striking relationship between failure to continue medication and relapse. The clearest difference was in the proportion of patients who still had considerable symptoms at the time of discharge from hospital—59% in London and 45% in Edinburgh. This difference, together with shorter length of stay in hospital of the London group and better community facilities in Edinburgh, may perhaps explain the differences in the readmission rate.

Several other workers have reported a rather low proportion of patients readmitted to hospital. But many of these studies do not supply the kind of information necessary to evaluate the extent to which an administrative index like readmission rate reflects morbidity. Some preliminary results from another Medical Research Council study, in which schizophrenic patients admitted in 1956 to three mental hospitals were followed up for five years, show that differences in length of stay or readmission rate do not necessarily reflect differences in unemployment, abnormal behaviour at home, or relatives' problems. Even in the area where co-operation between local authority and mental hospital was greatest only about half the seriously disturbed patients were in touch with community services. It can in fact be misleading of use such administrative indices as the main measures of morbidity, because it is much easier to prevent readmission than to prevent the abnormal behaviour which hitherto has made readmission necessary. Claims for various types of social or administrative treatment need to be examined critically. Though it is rarely possible to conduct controlled experiments in this field, systematic comparisons can be made.

**Peritoneal Dialysis for Acute Pancreatitis**

Despite the application of modern methods—such as intestinal decompression and the correction of dehydration, electrolyte imbalance, and shock—to the treatment of acute pancreatitis, the mortality from this is still 15%. When acute renal failure develops as well the mortality may be as high as 78%.

A new approach has recently been made at specific therapy for acute pancreatitis, using Trasylol, which inhibits both trypsin and kallikrein. This treatment is based on the theory that acute pancreatitis is caused by the activation of trypsinogen in the pancreas. Subsequently the pancreas itself is digested and this leads to the activation of the enzymes kallikrein and bradykinin. It has been claimed that these two substances might cause the severe clinical state. Though the initial reports of the results of using Trasylol by the intravenous and intraperitoneal routes were encouraging, other trials have shown that it produces no benefit.

Another method of treatment has been tried by A. J. Wall, who used peritoneal dialysis as well as general supportive measures and Trasylol given intraperitoneally. Two of his patients with acute pancreatitis were also uraemic at the start of peritoneal dialysis, which produced a considerable improvement in their condition—though this may have been due only to the control of the uraemia. The first patient, a 26-year-old alcoholic, received the conventional treatment for acute pancreatitis for 18 hours. Nevertheless, his condition steadily deteriorated, and peritoneal dialysis was therefore begun when the blood-urea concentration was 256 mg. per 100 ml. Within six hours he had regained consciousness and clinical improvement occurred rapidly. The second patient, a 50-year-old man with known chronic glomerulonephritis, developed acute pancreatitis and was dialysed within one hour of admission to hospital, when his blood-urea level was 630 mg. per 100 ml. The pancreatitis subsided after three days of continuous peritoneal dialysis.
but the patient died from uraemia on the 17th day. Necropsy showed resolving pancreatitis and chronic glomerulonephritis. The third patient, a 40-year-old woman with acute relapsing pancreatitis, was dialysed with a blood-urea level before dialysis of only 50 mg per 100 ml. Her condition improved dramatically several hours after starting dialysis. This improvement was considered to be due to the washing out during dialysis of the enzymes irritating the peritoneal cavity. Subsequently, dialysis has been continued in all patients until the serum-amylose level has fallen to within normal limits.

Though operative lavage is now contraindicated in acute pancreatitis, it seems justified to attempt peritoneal dialysis, provided this can be performed under good conditions. Bacterial peritonitis improves with peritoneal lavage, and in experienced centres using a fluid for dialysis that contains acetate and a closed cycling system infection due to peritoneal dialysis is extremely rare. In inexperienced hands, on the other hand, peritoneal dialysis remains extremely dangerous, and it often produces severe peritoneal infection or haemorrhage. Hence the widespread use of peritoneal dialysis for acute pancreatitis in a general surgical ward cannot be safely advocated, though it should be considered in specialist units.

### Spread of Colds

Common colds and similar infections of the respiratory tract are due to a great variety of viruses which belong to several different families. The most important are probably the rhinoviruses.1 About eighty serotypes in this group are being studied in various laboratories, and more will doubtless be found by new methods.2 The virus strains spread rather slowly, especially among children,3 so that only when they reach adolescence have they acquired antibodies against a useful proportion of them.4 Any one serotype is likely to persist in a particular area for only a few weeks. It may then disappear for years,5 possibly skulking around somewhere else in the country ready to return when there are again enough people without antibodies to it.

Another and entirely different group of viruses, the myxoviruses, often cause lower respiratory disease in children and the common cold in adults. They seem to spread very effectively among children.6-11 In this group are the respiratory syncytial and parainfluenza type 3 viruses, which probably infect all children within a year or two of birth, and the parainfluenza types 1 and 2 viruses, which attack most of them a few years later. Parainfluenza 3 seems to be around much of the year, but parainfluenza 1 and the respiratory syncytial virus cause sharp winter outbreaks. The presence of the last can be recognized clinically because it causes bronchiolitis in infants. No one knows if these viruses survive between epidemics by infecting a few people all the time or existing in symptomless carriers. Some children certainly shed parainfluenza 3 virus for a long time, but family outbreaks of illness associated with parainfluenza viruses are not much longer than those associated with rhinoviruses. Adenoviruses and enterviruses infections cause prolonged family outbreaks of respiratory disease, and the virus is discharged for many weeks, particularly in the faeces.12

Many of these viruses have been recovered only in the countries where well-equipped virus laboratories are operating, and there is a general belief that infections of the respiratory tract are more common and troublesome in these countries, with their temperate climates, than in those near the equator. It is therefore worth noting that antibodies to some representative rhinoviruses and parainfluenza, influenza, and respiratory syncytial viruses are common in the sera of children and adults living in places as varied as Liverpool, Kingston in Jamaica, Kampa, Vellore, Capetown, and Beirut.13 14 This is consistent with the finding that when young adults from such places come to Britain to study they have no more colds than British students do.15 Clearly the respiratory viruses spread easily throughout the world—in contrast, for example, to arboviruses, such as the virus of yellow-fever, which infect man only where a combination of infected host and vector exists.

In contrast to the data on distribution little is known about the shedding and transmission of the viruses which colonize the upper respiratory tract. Textbooks of medicine which refer to the spread of colds by talking, coughing, and sneezing are simply making an intelligent guess. Recently quantitative studies have been made at the Medical Research Council's Common Cold Research Unit on human volunteers infected with a virus, Coxsackie A21, which closely resembles a rhinovirus and causes colds. An infected individual had on the average a chance of about one in five of infecting the partner with whom he lived while he had a cold. The experiments showed that the virus was present in high concentration only at the onset of the cold, and that the concentration in nasal secretions was higher than in the throat and saliva; in fact the virus in these two places had probably overflowed to them from the nose. Little virus was shed during talking or coughing, but large amounts were shed during sneezing or blowing the nose. However, nearly all of this virus was carried in blobs of mucus which fell to the floor or stayed in the handkerchief, and only about 0.1% was contained in droplets of the right size to stay airborne for a little while and be trapped in the nose when inhaled. Furthermore, this small amount of virus was rapidly inactivated in the air; virus carried in very fine droplets which could remain airborne for longer periods was particularly unstable. A small dose in a droplet was enough to infect a volunteer when inhaled and trapped in the nose, but the conjunctiva and throat were relatively resistant. It is also possible to infect volunteers with very fine droplets, but these are trapped in the trachea.

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14 Doggett, J. E., ibid., 1965, 32, 849.