eases spread slowly, taking 5 months to infect 19 persons. The primary vaccination response of eight villagers during the period of containment is a sign of probable susceptibility, and suggests that transmission might have continued had containment measures not been instituted.

The transmission pattern in Mandeelo was not unique. Four other examples of prolonged transmission in small Somalí population groups were also detected (table II).

In outbreak 911 it was possible to determine individual weeks of attack. In this village, a nomadic woman, herself a case of smallpox, was able to identify the week of attack for each case (fig. 2).

The spread of smallpox over long periods in rural areas has not been a major problem during the global eradication campaign. In the densely populated, highly mobile populations of Asia, rural smallpox foci were usually quickly detected in large population centres to which cases were imported or by reports brought by travellers. Prolonged undetected transmission of the type observed in Somalia was not observed. Several possible explanations exist for the slow spread observed among Somalí nomads. The strain of smallpox in Somalia, Varicella minor, is of low virulence. The case-fatality rate was 0-9% compared with that of West Africa's 10-15% and Asia's 15-40%. Patients in Somalia were less seriously ill and remained mobile even during the acute phase of illness so that the disease was not readily recognised as smallpox. Secondly, most nomadic activity occurs in the open and opportunities for concentrated aerosol exposure within closed spaces are less common than in settled populations. Thirdly, nomadic patterns of activity (herding, farming, collecting water) limit contact between members of the group. The main exception to this is the contact between children who gather daily for school. The lower attack-rate in those older than 15 years may reflect low exposure or may relate to protection due to unrecollected vaccination or smallpox illness as young children.

The implication of prolonged smallpox transmission in isolated nomadic groups is clear. Smallpox can maintain itself in isolated rural populations in eastern Africa for periods of at least 5 months. Documentation that smallpox transmission has been interrupted will thus require careful surveillance of such populations, especially remote nomadic groups, during the next 2 years.

Requests for reprints should be addressed to S.O.F., Bureau of Smallpox Eradication, Center for Disease Control, Public Health Service, Atlanta, Georgia 30333, U.S.A.

MARKERS FOR HEPATITIS B EXPOSURE IN DONATED BLOOD

<table>
<thead>
<tr>
<th>New donors</th>
<th>No.</th>
<th>HBsAg+</th>
<th>HBsAb+</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of jaundice</td>
<td>2561</td>
<td>6 (0.23%)</td>
<td>5 (0.20%)</td>
</tr>
<tr>
<td>No history of jaundice</td>
<td>38333</td>
<td>26 (0.07%)</td>
<td>16 (0.04%)</td>
</tr>
<tr>
<td>χ²</td>
<td>&lt;0.005</td>
<td>11.02</td>
<td></td>
</tr>
</tbody>
</table>

The sera were tested for HBsAg by 'Hepatest' (Wellcome Reagents) and for HBsAb by the insensitive immunodiffusion technique. Donors with a history of jaundice were 3-5 times as likely to be HBsAg positive as donors without such a history and 4-7 times as likely to have HBsAb. Clearly, hepatitis B was the cause of their jaundice, at least in some cases. Nevertheless, the rate of HBsAg positives amongst these people is still small, and with the sensitive tests at present in use we do not believe that these figures mean that such donors ought to be excluded from the panels. The regular inclusion of such donors might lead to the detection of additional HBsAg positive being detected in every 10,000 new donors; we believe that the modified hepatest is approximately 97.5% efficient so we should expect to have 1 extra undetected positive in 400,000 new donors. This is an acceptable level of risk, and even these estimates are probably too high because many would-be donors with a history of jaundice were waiting to give blood as soon as this was allowed, so the proportion of donors with such a history will probably be less in future. On the other hand, the epidemiology of hepatitis B is complex and may be different in other areas or indeed at other times, so that studies of the rate of HBsAg positivity amongst people with a history of jaundice in other areas would be of great interest.

P. H. RENTON
D. G. ROACH
F. STRATTON

SOMATOSTATIN IN ACUTE GASTRODUODENAL HEMORRHAGE

SIR,—Somatostatin (S.S.T.) is a potent inhibitor of test-meal and pentagastrin-stimulated gastric acid secretion and of gastrin release. Because it inhibits these ulcerogenic factors, partly prevents stress ulcer formation in rats, and