USSR Letter

Urgent admissions to a large general hospital

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In the Soviet Union, as in many other countries, the treatment of inpatients claims the lion's share of health service expenditure. However, analysis of the activity of Soviet hospitals remains at a rudimentary level in certain major respects, one explanation for which is likely to be the comparatively low figures for cost per case and cost per bed-day. Given that little attention is devoted to seeking information and to critical scrutiny in this area, special interest attaches to the findings of a survey recently carried out at one of the Union's largest general hospitals.¹

Characteristics of the case-load

This unit, which is most probably located in Leningrad, contained 1860 beds and admitted as urgent cases a total of 13 608 patients over a period of 18 months. (The precise dates are not given.) Representing 30.4% of all admissions, the survey group contained almost equal numbers of men and women. The age distribution was given as follows: up to 19 (24.0%); 20-39 (35.2%); 40-60 (29.9%); over 60 (10.9%). Thus well over half of all urgent admissions were under 40. Unfortunately, the survey report does not attend to the question of whether the age distribution and other characteristics of these patients are broadly typical—an omission that may be explained quite straightforwardly by the absence of similar studies.

Nevertheless, one point emerges about Soviet hospitals in general—namely, the salience assumed by what could be termed a system of entry through several doors. The text records that 925 patients (6.8% of the total) had been admitted to hospital after presenting themselves spontaneously at the reception department without any referral note. The second channel in the multiple access system is the emergency service, which accounted for “only” 25.5% of urgent admissions. From the qualifying “only” it must be assumed that the authors had expected a higher proportion from this source, with corresponding reductions elsewhere. The largest contingent, 66.8% of the total, had been referred by doctors practising in polyclinics. A simple calculation shows that (assuming the figures in the text are correct) a further 0.9% of urgent admissions remain to be accounted for; I conjecture that they consist of inter-hospital transfers.

As for the clinical picture presented by the urgent admissions, a classification is given in table I. This shows that the largest single group—23.9% of the total—were admitted to hospital with diseases of the gastrointestinal tract. Within that grouping, cases of acute appendicitis accounted for 10.7%; while patients suffering from acute cholecystitis and acute pancreatitis made up 2.4% and 1.0% of the total. Diseases of the cardiovascular

TABLE I—Classification of patients admitted to hospital as urgent cases

Disease category	Absolute numbers	Percentages
Diseases of gastrointestinal tract	3251	23.9
Cardiovascular diseases	1981	14.6
Accidents and traumas	1845	13.6
Diseases of respiratory organs	1813	13.3
Diseases of oral cavity	1000	7.3
Diseases of osteomuscular system and skin	576	4.2*
Diseases of ear	503	3.7
Diseases of female and male sexual organs	493	3.6
Neoplasms	379	2.8
Diseases of kidneys	346	2.5*
Diseases of eyes	186	1.4
Infectious diseases	159	1.2
Endocrinological disorders	137	1.0
Diseases of nervous system	67	0.5
Others	872	6.4*
	13608	100

* These percentages have been recalculated since original percentages did not accord with absolute numbers shown in table.

system were diagnosed in 14.6% of admissions, with various forms of ischaemic heart disease and cerebrovascular disease accounting for 7.6% and 3.6% of the total, respectively. Among diseases of the respiratory organs, acute pneumonia figures prominently.

One concept that recurs frequently in the relevant Soviet publications is “timeliness of hospitalisation,” and this helps to explain why the survey's authors chose to include data on the period elapsing between onset of a disease and admittance to hospital—19.1% of patients had been admitted within six hours and 65% within the first 24 hours from the onset of illness. Variations emerged between departments, with general medicine having a better record than the surgical departments: 60.3% of cases admitted to hospital within 24 hours as against 52.7%.

Attempting to identify the factors which caused delays in admission, the authors examined duration of “incapacity for work” among employed adults who were admitted to hospital as urgent cases. It transpired that 14% of patients already held current sick notes and that 6% had been on sick leave for longer than three days. In respect of urgent surgical conditions, the authors concluded that “delayed hospitalisation most frequently results from patients' late attendance for medical care.” As for cases in the general medical departments, the basic explanation for delay is given as “incorrect diagnosis of the patient's condition by doctors at the prehospital stage.”

Errors of diagnosis

It is appropriate to follow up that stricture by citing a number of findings remarkable for the light they cast on diagnostic competence among doctors employed in the polyclinic and emergency services. An especially unflattering conclusion was that in a substantial number of cases urgent admittance to hospital had not been justified. Thus according to the “final

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clinical diagnoses," urgent admission was not indicated for one-third of the patients suffering from gastrointestinal and lung diseases and for one-half of those with cardiovascular diseases.

In explaining this striking phenomenon, the researchers draw attention to the extent of diagnostic error at the prehospital stage. A high percentage of hyperdiagnostic errors occurred in connection with croupous pneumonia, the disease being confirmed in only 129 out of 265 cases that had been so diagnosed initially. Not surprisingly, the authors take the opportunity to spell out the management implications of their findings, stating that: "hyperdiagnostic errors of urgent conditions hamper the work of reception departments, reduce effectiveness in the use of the bed complement and in the activity of the emergency service while having no substantial influence on a patient's fate."

At the other extreme, evidence of underdiagnosis was not lacking. Over half of all cases of acute pneumonia and each fourth case of acute myocardial infarct came to be identified only in hospital. Among urgent admissions to surgical wards, acute appendicitis accounted for nearly half the total and the lowest proportion of hypodiagnostic errors (8.0%). In cases presenting with less frequently encountered surgical conditions the proportion of such errors stood much higher and, as can be seen from table II, reached 75% in the category labelled acute gynaecological diseases.

TABLE II—*Diagnostic errors made at prehospital stage*

Disease category	Hyperdiagnosis		Hypodiagnosis		Final diagnosis (absolute numbers)
	Absolute numbers	Percentages	Absolute numbers	Percentages	
Myocardial infarct	373	105.7*	91	25.8	353
Acute cerebrovascular disease	197	39.3*	88	19.3*	455
Acute pneumonia	63	19.9	184	58.2	316
Croupous pneumonia	265	205.4	20	15.5	129
Acute appendicitis	256	19.3	106	8.0*	1327
Acute cholecistitis	92	46.5	123	62.1	198
Acute pancreatitis	68	49.6	69	50.4	137
Other acute illnesses of gastrointestinal tract	125	88.0	104	73.2*	142
Acute gynaecological diseases	45	28.1*	120	75.0*	160

* These percentages have been recalculated since the original percentages did not accord with the absolute numbers shown in the table.

Examining outcome

Analysis of activity in the various wards of the hospital was limited to surgical departments, which had received 32% of all urgent admissions. Although the information published is far from detailed, it seems worth recording here as providing some indication of the surgical intervention considered necessary or desirable in what is most probably a "centre of excellence" among Soviet hospitals.

According to the survey data, operations were performed on just under half (47.3%) of the patients: the overwhelming majority of this group had been operated on within the first six hours after admission to the surgical departments. The highest level of surgical intervention occurred in cases of acute appendicitis (92.2%) and postnatal mastitis (80.4%). At lower places in rank-order came malignant neoplasms (58.2%), hernias of the abdominal cavity (45.5%), and ulcerous conditions of the stomach (36.8%). The decision to operate was taken far less frequently in respect of "other acute surgical conditions" and ranged from 2.0% in gynaecological diseases to 16.4% in cases of acute cholecistitis. Commenting on "low operative activity," the authors note that absence of surgical intervention was explained most frequently "by the advantages of a conservative method of treating patients at certain stages of these illnesses."

Measurement of the outcome or effectiveness of treatment in Soviet hospitals appears to be one research area to which health statisticians and others have devoted little attention, although they certainly display great interest in the annual number of

work days lost due to certified illness. So a substantial rarity value may be assigned to the report's figures for deaths of urgent admissions that occurred in hospital. The overall fatality rate stood at 2.9%, and the highest specific rates were reported among patients suffering from malignant tumours that caused cerebrovascular disease (17.3%) and from acute myocardial infarct (14.3%).

Deaths in hospital occurred at a much lower level among patients with acute lung diseases and surgical conditions of the abdominal cavity. For cases of pneumonia the rate was 0.8%, while for acute cholecistitis it was 2.3%. Average duration of stay for patients dying in hospital was highest in acute cholecistitis and pancreatitis (51.5 and 43.3 days respectively) and lowest in cerebrovascular disease and myocardial infarct (8.9 and 14.3 days respectively). The authors go on to point out that "surgical patients die later as a result of progressive complications in the basic conditions or as a result of operative intervention."

Comment

The discovery that a number of patients in hospital wards should not be there cannot be considered startling in itself, nor can the finding that doctors responsible for referrals have committed various errors of diagnosis. Obviously, it is crucial to inquire what proportions these problems have assumed, and the evidence of the survey proves that, at least in one Soviet hospital, their extent was far from insignificant.

Well aware of this, the authors proceeded from description and evaluation to recommend a specific policy development. Conceivably, they could have offered a radical critique at a conceptual level, condemning the official strategy of increasing the country's complement of hospital beds year after year, on the ground that it creates a situation identified in the variant of Parkinson's Law that states: "additional patients always appear in order to occupy additional beds." Most significantly, however, what they propose is no more than a marginal institutional adjustment—namely, "the establishment in large general hospitals of diagnostic departments which would provide not only up-to-date diagnosis but also adequate observation of these patients" (that is, urgent admissions).

From the viewpoint of hard-pressed ward staff, the idea of such a sorting device may hold considerable attractions. Nevertheless, if other elements in the health service strategy remain unchanged, it is likely to have the long-term effect of exacerbating the very problems it aims to solve. These almost certainly arise to a large extent from the low professional standing, competence, and self-image of the doctors who practise "at the prehospital stage." The proposal in question places additional emphasis on the dominant role of hospitals in what is already an excessively hospital-orientated system of medical care.

Reference

- ¹ Petrov MN, Sokolova Yu A. Ekstrennaya hospitalizatsiya bolnikh v krupnuyu mnogoprofilnuyu bolnitsu. *Sov Zdravookh* 1980;11:27-31.

How should one treat a three-year-old subcutaneous BCG abscess?

Accidental injection of BCG subcutaneously occasionally results in local abscess formation. While this is a harmless lesion it may be a nuisance and should be treated by aspiration if, as in this case, it does not clear spontaneously. If this is not successful it should be incised and treated with local applications daily of PAS or isoniazid powder. I have never heard of systemic treatment with isoniazid being necessary. The patient should be assured of the harmless nature of the lesion.