

NINETEENTH WORLD HEALTH ASSEMBLY

Supplementary agenda item



A19/AFL/16 ✓
5 May 1966

ORIGINAL: ENGLISH

TRAVEL STANDARDS

Fifth Report of the Ad Hoc Committee of the Executive Board

1. At its thirty-seventh session of the Executive Board, in resolution EB37.R46,¹ established an Ad Hoc Committee consisting of Dr K. Evang, Dr J. Watt and Dr J. Benyakhlef, to meet on Monday 2 May 1966. In the resolution the Committee was requested, inter alia, to consider the subject of travel standards, in pursuance of the discussions in the Executive Board, which are reflected in its report on the proposed programme and budget estimates for 1967.²
2. The Ad Hoc Committee met on 2 May 1966 in the Palais des Nations. Dr J. Watt was elected Chairman.
3. In considering this matter the Committee had before it two reports of the Director-General, which are reproduced in Annexes A and B. The Committee noted from the Director-General's report (Annex A) that the subject of "Standards of air travel accommodation" had been on the agenda and discussed by the Consultative Committee on Administrative Questions (CCAQ) at its twenty-seventh session in March 1966, because the Administrative Committee on Co-ordination (ACC) would be submitting a report on this matter to the International Civil Service Advisory Board (ICSAB) at its forthcoming session in July 1966, pursuant to a request of ICSAB at its XIIIth session in 1965. The report prepared by CCAQ and approved by ACC is appended to the report of the Director-General.

¹ Off. Rec. Wld Hlth Org., 146, 30.

² Off. Rec. Wld Hlth Org., 149, 61, 64-65, paragraphs 7-16.

4. As will be seen from this report to ICSAB, the organizations agreed to reiterate the principle that travel standards for international staff should be based on those prevailing for national officials of comparable rank and responsibility. On the basis of data collected by the International Civil Aviation Organization (ICAO), the organizations (with one reserving its position) considered that an appropriate rule for international staff on duty travel on relatively long-distance flights would be first-class for the Director and Principal Officer category (D1 and above) and higher levels and economy class for others. On short journeys, such as those in Europe, it was agreed that directors should also travel economy class (with one organization reserving its position). The organizations also considered it desirable that ICSAB review the subject of travel standards and make recommendations in order to provide a basis on which uniform action could be taken.
5. In paragraph 3 of the report to ICSAB the actions taken by the General Assembly of the United Nations at its twentieth session with regard to travel standards is set forth in some detail.
6. The Committee also noted that the CCAQ had given serious considerations to possible changes in present practices for rest periods before, after and during air journeys of long duration. However, as CCAQ considered that any study which WHO might undertake on the health aspects of long distance air travel could have an effect on this question, it decided to defer the matter for the time being. A brief preliminary report by the Director-General on "The effects of long distance air travel upon the health of passengers" is attached as Annex B.
7. Paragraph 3 of the Director-General's report (Annex A) describes the position of the World Health Organization, from which it will be seen that the standards of air travel accommodation as presently applied to the staff in WHO coincide with the conclusions reached by the organizations as reflected in the report to ICSAB and that these standards had already been established in 1962 by WHO, which was the first organization to introduce them. The Ad Hoc Committee shares the view of the Director-General that no change in the standards of air travel accommodation for the staff should be introduced for the time being, but that the outcome of the deliberations of ICSAB and the subsequent further inter-organizational consultations, with the object of reaching uniformity of practice, should be awaited.

6. The Committee also discussed the standards of air travel accommodation for members of expert committees and scientific groups referred to in paragraph 3.3 of the Director-General's report (Annex A). The Ad Hoc Committee, for the reasons given in this paragraph, agrees with the views expressed by the Director-General that no change should be made in the present practice of the Organization with respect to air travel accommodation for these experts.

9. The Director-General in paragraph 3.4 of his report (Annex A), reviewed the history of the basis for the reimbursement by the Organization for the travel of a delegate to the World Health Assembly and members of the Executive Board and pointed out that this is a matter for the decision of the Health Assembly. While making no recommendations, the Committee felt that in this connexion it should bring to the attention of the Nineteenth World Health Assembly two significant differences between the United Nations and the World Health Organization. Firstly, in the United Nations the rules governing travel expenses of delegates provide for the reimbursement of up to five delegates from each Member, whereas in WHO reimbursement is limited to one delegate. Secondly, the sessions of the General Assembly of the United Nations last for at least three months whereas the sessions of the World Health Assembly do not exceed three weeks.

10. In the light of its considerations, as outlined above, the Ad Hoc Committee recommends that the Nineteenth World Health Assembly adopt a resolution along the following lines:

"The Nineteenth World Health Assembly,

Having considered the reports of the Director-General and the Ad Hoc Committee of the Executive Board on travel standards;¹ and

Considering that the travel standards for staff will be studied by the International Civil Service Advisory Board in July 1966,

NOTES these reports; and

REQUESTS the Director-General to report on further developments to the Executive Board at its thirty-ninth session".

¹ Document A19/AFL/16

REPORT OF THE EXECUTIVE BOARD ON THE PROGRAMME AND BUDGET FOR 1967

(TRAVEL STANDARDS)

(Report by the Director-General)

1. Introduction

1.1 In the course of its examination of the Director-General's proposed Programme and Budget estimates for 1967, the Executive Board obtained information in reply to questions on the travel standards applied by WHO as compared with those applied by the United Nations following the decisions taken by the General Assembly at its twentieth session. This information also showed what the effect would be on the budget estimates for 1967 if the governing bodies of WHO and the Director-General were to take decisions similar to those taken by the General Assembly of the United Nations.¹

1.2 The Board was also informed that the subject of travel standards was on the agenda of the Consultative Committee on Administrative Questions (CCAQ) at its Spring session in March 1966¹ and it therefore decided to refer the subject to its Ad Hoc Committee,² meeting immediately prior to the Nineteenth World Health Assembly, for further consideration in the light of the information given and of the outcome of the CCAQ deliberations.

1.3 Furthermore the Director-General provided some preliminary information to the Board on surveys that had been carried out on the effect of long-distance air travel upon the health of passengers and it was agreed that any information in this connexion, which might be submitted to the Nineteenth World Health Assembly, should be submitted through the Ad Hoc Committee of the Board. A preliminary report is contained in Annex B.

¹ Off. Rec. Wld Hlth Org. 149, 81, 84-85, paragraphs 7-16.

² Off. Rec. Wld Hlth Org. 148, 30 (resolution EB37.R48).

2. Report to the International Civil Service Advisory Board (ICSAB)

2.1 The subject of "standards of air travel accommodation" was on the agenda of the 27th session of CCAQ, which met in March 1966, because ICSAB at its XIIIth session, in 1965, had noted the divergence of practice among the organizations and expressed the hope "that the organizations will pursue their efforts towards more uniformity in this field and that they might be in a position to show, at the next session, that good progress had been achieved in that direction". A report was therefore required to be made to ICSAB on this subject for its forthcoming session in July 1966. In addition, the action of the General Assembly of the United Nations at its twentieth session and the discussions in the WHO Executive Board at its thirty-seventh session emphasized the need for further consideration of this matter. The report prepared by CCAQ and approved by ACC at its forty-first session for submission to ICSAB is appended to this report.

2.2 As will be seen from the report, there was general agreement among the organizations that in principle the standards of air travel accommodation for international staff should be based on the standards applied to national public servants of comparable rank and responsibility. The latest study of ICAO indicated that an appropriate rule for international staff on duty travel on relatively long-distance flights would be first class for the director and principal officer category (D1 and above) and higher levels, and economy class for others. One organization made a reservation to the effect that such a rule would be appropriate for transatlantic flights, but not for flights of longer duration. On short journeys, such as those in Europe, it was agreed that directors should also travel economy class. One organization made a reservation to the effect that on short journeys all staff below executive heads should travel economy class.

2.3 The discussions in CCAQ were concentrated on duty travel, it being felt that once agreement was reached in this respect, it should be possible to settle related questions, such as travel on home leave, recruitment and repatriation, etc. The question of rest periods was considered, particularly with a view to introducing a simplified formula to the effect that an official should be required to arrive at his destination a full twenty-four hours before starting work following an air journey of over nine hours and that stop-overs en route should be eliminated.

However, the Committee felt that, as any study which WHO might undertake on the health aspects of long-distance air travel could have an effect on the question of what kind and what duration of journey necessitated such rest periods, this matter should be deferred for the time being.

2.4 It will be seen from the attached report that the action taken by the General Assembly of the United Nations at its twentieth session is described in some detail and that emphasis is, inter alia, put on the fact that the decision of the General Assembly to limit reimbursement of the costs of travel of delegates and members of committees and commissions to the cost of economy class was in no way intended to affect the actual travel standards to which those persons were entitled, since those standards continued to be governed by the regulations of the national service concerned.

2.5 The report to ICSAB further indicates the desirability of ICSAB reviewing the subject of travel standards and making recommendations in order to provide a basis on which uniform action could be taken.

3. The position of the World Health Organization

3.1 The conclusions reached by the organizations as reflected in the report to ICSAB coincide with the standards of air travel accommodation as presently applied to the staff in WHO, namely that directors and above travel first class (except that within Europe directors travel economy class) whereas P6 and below travel economy class. These standards were established in 1962 by WHO, which was the first organization to introduce them.

3.2 In as much as ICSAB has been invited to review and make recommendations concerning this subject and in view of the fact that one organization has made a reservation concerning application of the generally agreed principle, the Director-General does not for the time being propose to introduce any change. He considers that the outcome of the ICSAB deliberations and subsequent further inter-organization consultations with the object of reaching uniformity of practice should be awaited before any change is introduced.

3.3 As was pointed out by the Director-General to the Board at the thirty-seventh session, members of expert committees and scientific groups provide their services free to the Organization and receive no salary remuneration. The provision of first class air travel for those people was of some importance for their effective contribution to such meetings; they could normally ill afford the extra time required if they were to have a rest prior to and after the meetings. It is the view of the Director-General therefore that these experts should continue to be offered first class air travel accommodation.

3.4 The question of reimbursement by the Organization for the travel of chief delegates to the Health Assembly and members of the Executive Board is a matter for the decision of the Health Assembly. It should be emphasized again, as was done in the General Assembly of the United Nations at its twentieth session, that whatever decision the Health Assembly may take on the basis of the Organization's reimbursement it should not, in principle, affect the actual travel standards used by delegates, as they would be governed by the regulations of the national services concerned. However, it should be noted that the arrangements originally conceived for reimbursement of the transportation costs by WHO of one delegate to attend the sessions of the World Health Assembly were intended to ensure that each Member of the Organization would be represented.¹ When this matter was discussed it was generally considered that the important aspect of the question was the participation in the Health Assembly of all Members and the basis for reimbursement was the cost of a round trip air ticket first class. The Health Assembly will wish to consider whether a reduction of reimbursement to economy class fares will, in fact, be the course of action which will ensure the continuation of the original purpose of the arrangement.

¹ Off. Rec. Wld Hlth Org. 13, page 200 (Minutes of Committee on Administration and Finance), Off. Rec. Wld Hlth Org. 21, page 226 (Minutes of Committee on Administration and Finance).

REPORT TO THE INTERNATIONAL CIVIL SERVICE ADVISORY BOARD

STANDARDS OF AIR TRAVEL ACCOMMODATION

Report by the Organizations in the United Nations Common System

1. In its Report on Divergencies in the Application of the Common System (ICSAB/XIII/2) the Board noted that the organizations in the United Nations common system had been unable to reach agreement on travel standards for all grades. It commented:

"It seems to the Board that there should be no obstacle to uniformity in this field. Staff members of different organizations are increasingly called upon to travel together on joint projects. Discrepancies in accommodation standards are not only difficult to justify, they also create morale problems which could easily be avoided and to which the representatives of FICSA called attention.

"The Board hopes that the organizations will pursue their efforts towards more uniformity in this field and that they might be in a position to show, at the next session, that good progress had been achieved in that direction."

2. At the time the Board reported (mid-1965) the extent of inter-organization agreement was represented by the following text, drawn up in 1963:

"... in establishing travel accommodation standards for international officials, regard should be had to the standards prevailing for national officials of comparable rank and responsibilities. ... National practices, however, varied, and data which ICAO had obtained from forty-two countries showed that there was room for legitimate differences of opinion as to where the organization should draw the line between first-class and tourist or economy class in air travel, though broadly speaking it appeared to be at about the P.5 level.

"As regards travel by air on official business, at least, there was general agreement that first-class should apply to the Director and Principle Officer category and above. Subject to easements for flights of long duration, a majority also agreed that staff at P.4 and below should travel in tourist class."

3. Since the Board reported, and before the organizations had been able to consider the matter further, the United Nations General Assembly, at its twentieth session, has taken decisions which will result in extended use of economy class, both by United Nations staff and by members of committees, etc. travelling at the expense of

the United Nations. The circumstances in which those decisions were reached, and their nature, are set out in Annex 1. Briefly, however, it may be said that the discussions in the Fifth Committee of the Assembly centred on a proposal of the Advisory Committee on Administrative and Budgetary Questions that the United Nations should reimburse to Member States, in respect of the travel costs of their representatives at the General Assembly, only the amount of the tourist/economy air fares between the national capital cities and New York. Having decided in favour of this proposal, the Fifth Committee went on to discuss travel standards for the staff, and recommended that all staff should travel economy class "with the exception of the Secretary-General and officers who accompany him and whom he shall appoint".¹ Subsequently, the General Assembly, in plenary meeting, decided that as regards members of organs and subsidiary organs of the United Nations reimbursement of travel expenses, where applicable, by the United Nations should be limited to the cost of economy class accommodation by air or its equivalent by recognized public transport. It also approved the recommendation of the Fifth Committee with regard to standards of accommodation for staff travel. Under the Staff Regulations, however, the conditions for staff travel are to be laid down by the Secretary-General, who made a formal reservation to the plenary meeting of the General Assembly on this point. The Secretary-General has nevertheless modified the travel rules to provide that after 1 January 1966 all staff travel will normally be by economy class, except that certain travel may be authorized at a higher standard when it is considered in the best interest of the organization. The decision to limit reimbursement in respect of delegates' travel was not intended to affect the actual travel standards to which the representatives are entitled, since these continue to be governed by the rules and regulations of the national services concerned; this point was, indeed, emphasized in the Fifth Committee discussions.

4. The organizations have re-examined the matter in the light of these discussions. They believe that the principles set out in paragraph 2 above are sound, namely that the travel standards for international staff should be based on the standards prevailing for national officials of comparable rank. The main question to be resolved is where to draw the line between first class and economy class entitlement. The data collected

¹ Report of the Fifth Committee, A/6223.

by ICAO in 1963 from forty-two Member States, summarized in Annex 2, led ACC to the conclusion that the line should be drawn at about the P.5 level. Since there may have been changes in national standards in the last three years, ICAO has again approached the forty-six Member States from which information was sought in 1963 to ascertain their current practices. At the date of preparation of this report (April 1966), twenty-six Member States had replied, of which five had adopted somewhat more rigorous standards since 1963, while two had adopted more liberal standards for the higher ranks of their foreign services.

5. If the twenty States still to reply have made no changes in their rules, the position will be that a clear majority of the States provide only economy class entitlement to First Secretaries and below, whereas just under two-thirds of the Counsellors would be entitled to first class, at least on the longer journeys, such as transatlantic crossings.

6. If the outstanding replies show this to be the case, it appears that the travel standards of the majority of national officials of comparable or corresponding rank, on duty travel on relatively long-distance flights, would indicate first class for Director and Principal Officer category and economy class for others. One organization, however, feels that while such a rule would be appropriate for transatlantic flights different rules might be applied to flights of longer duration. In the case of short journeys, such as those made by staff in Europe between the various European capital cities - for which frequently only economy class seats are available on aircraft - the organizations agree that economy class would be appropriate for all officials at the D.2 level and below. One organization considered that in these cases economy class would be appropriate for all staff below the executive head.

7. It is hoped that it will be possible to give the Board additional information by the time it meets. Cost estimates will be prepared to show the financial effect of drawing the line between first and economy at the level judged appropriate in the light of the facts. Review and recommendation by the Board seem to the organizations to be necessary to provide a basis on which uniform action can be taken.

8. Once the main question of staff entitlements for duty travel by air are settled, it will be possible to settle various related questions, such as entitlements on home leave journeys, recruitment and repatriation travel, etc.

UNITED NATIONS ACTION ON TRAVEL STANDARDS

In 1962, in the absence of inter-organization agreement on standards WHO adopted standards more stringent than any previously in force in any organization. They provided that:

(a) on all flights outside Europe (including home leave flights) entitlements should be:

(i) D.2 and above, first-class;

(ii) P.6 (D.1) and below, economy class. On flights of nine hours or more, these staff were entitled to arrive at their destination one full day before commencing duty;

(b) on all flights within Europe, D.2s also were entitled only to economy class. First-class was restricted to ungraded officials.

2. In its report on the United Nations budget estimates for 1963, the Advisory Committee on Administrative and Budgetary Questions recommended (paragraph 44, A/5207) that the United Nations should adopt the same standards as WHO, with a consequential saving on the budget of \$ 444 300. There was some division of opinion in the Fifth Committee, though there was a consensus that the WHO standards were in line with the trend in world travel. It was finally decided:

(a) to reduce the budget by the \$ 443 000, but

(b) to leave it to the Secretary-General to decide the travel standards, taking account of the views expressed in the Fifth Committee.

3. In the following year's report (A/5507) ACABQ explicitly endorsed the action which the Secretary-General had taken as a result of this decision. That action consisted of fixing the entitlements for air journeys as follows:

(a) on official business journeys (excluding home leave):

(i) D.1 and above, first-class;

(ii) P.5 and below, economy class, with easement for flights over nine hours;

(b) on home leave journeys, D.2s and D.1s were entitled only to economy class.

4. In its 1962 report (A/5207) ACABQ had also drawn the attention of the General Assembly to the fact that if the standards it had proposed for the staff were also applied "as a ceiling for the reimbursement of travel expenses of representatives, members of commissions, committees and other subsidiary bodies" there would be a further saving. The Assembly did not take the hint, and in the following year ACABQ made the point again (paragraph 100, A/5507) and suggested that the General Assembly might wish to review the situation and decide "whether in the light of the trend towards use of economy class in national services and also of the critical financial position of the organization an expenditure of nearly a quarter of a million dollars which does not affect the work of the organization is really justified".

5. The related report of the Fifth Committee (A/5601) shows that there were divided views on the matter, and the ACABQ was merely asked to report again, with specific recommendations on the question, to the next (nineteenth) session of the General Assembly.

6. The report is contained in paragraphs 55-62 of the ACABQ report (A/5607) on the 1965 estimates. It summarized the discussions in the Fifth Committee in 1963; stressed the worsening financial position of the organization; and said that the ACABQ remained of the opinion that reimbursement in respect of representatives' travel costs should be limited to economy class fare. The report said, however, that:

"The Advisory Committee wishes to make it clear once again that this proposal is not intended to impose a particular class of travel on representatives and members of United Nations organs. This is not a matter for the Committee ..."

7. Because the nineteenth session of the General Assembly was not in a position to establish its committees, discussion of the matter did not take place until the twentieth session. The proposal to limit reimbursement to economy fares was then approved by the Fifth Committee. During the debate, India proposed an amendment by which:

(a) reimbursement in respect of one member of each delegation would be at the first-class rate;

(b) members of committees etc. who were serving in a personal capacity would have remained entitled to first-class travel.

The first amendment was defeated by 27 votes to 19, with 26 abstentions. The second (under which ACABQ members would have retained first-class entitlement) was defeated by 56 to 14, with 16 abstentions.

6. The Fifth Committee then discussed the entitlements of the Secretariat. The representative of the Secretary-General, supported by the Advisory Committee, argued that the Secretary-General should retain some discretion in the matter. They suggested that if, for example, the Secretary-General sent a high official on a special mission he should be able to allow him first-class travel. Representatives of a number of Member States resisted this on the grounds that by its vote on delegates' travel the Fifth Committee had already decided that travel in economy class involved no loss of dignity for any rank. Nigeria formally proposed that economy class should apply to all members of the Secretariat "except the Secretary-General and those whom he might in certain circumstances request to accompany him". Nigeria emphasized, however, that this should not mean that all officials accompanying the Secretary-General should travel first-class, but only his immediate advisers. It proposed also that: "All officials travelling on special missions should travel economy class". (Quotations from summary record, A/C.5/SR.1072.) The motion was carried by 64-1, with 11 abstentions, but the records contain statements which suggest that some representatives were not quite sure - the motion being an oral one - what they were voting on. The representative of the Secretary-General, after the vote, said he must reserve the position of the Secretary-General (who, under the Staff Regulations, is the authority empowered to make the detailed travel rules).

SUMMARY OF DATA ON NATIONAL GOVERNMENT PRACTICE WITH RESPECT TO
STANDARDS OF AIR TRAVEL, 1963, FOR FOREIGN SERVICE OFFICIALS

Forty-two countries¹ provided data to ICAO. The standard allowed on a transatlantic air journey was taken as the basic standard, and in this respect:

three countries used economy class for all ranks;

twelve countries used first-class for all ranks;

twenty-seven used first-class for senior ranks and economy for junior, the dividing line varying.

2. In a few cases the conditions were more restrictive for shorter flights and more liberal for other flights. The over-all pattern is shown by the following table:

Number of countries out of 42 allowing first-
class air travel

Rank	Transatlantic flights	Flights within Europe	Other flights
Ambassador	39	36	39
Counsellor	26	25	26
First Secretary	19	16	21
Second Secretary	13	13	15
Third Secretary	12	11	13

(See paragraph 4 of body of report for changes in practice made by 1966, on basis of incomplete replies to further enquiry.)

¹ Australia, Austria, Belgium, Burma, Canada, Chile, China, Colombia, Denmark, Ethiopia, Finland, Germany, Ghana, Greece, Iceland, Indonesia, Ireland, Israel, Japan, Korea, Lebanon, Luxembourg, Malaya, Morocco, Netherlands, New Zealand, Nicaragua, Nigeria, Portugal, South Africa, Spain, Sudan, Sweden, Switzerland, Tanganyika, Turkey, United Kingdom, United States of America, Upper Volta, Venezuela, Viet-Nam, Yugoslavia.

Thirty-seventh Session

ANNEX B

Ad Hoc Committee

ORIGINAL: ENGLISH

THE EFFECTS OF LONG DISTANCE AIR TRAVEL UPON
THE HEALTH OF PASSENGERS

(A brief preliminary Report by the Director-General)

1. INTRODUCTION

This preliminary report is based mainly on a review of the literature covering recent studies which include:

- (a) studies in physiological laboratories;
- (b) studies in the field;
- (c) studies on military air transport; and
- (d) studies on civil aviation air crews.

It should be noted that these studies cover flights made in both propeller and jet planes, the former of which have been almost entirely discontinued in long distance travel.

2. MAIN PHYSIOLOGICAL EFFECTS OF LONG DISTANCE AIR TRAVEL

The effect upon man of long distance air travel is caused by several different factors, the most important of which are:

- (a) the time changes encountered in flying from east to west or from west to east and the adaptation of the body to these changes;
- (b) the change of climate from heat to cold and vice versa;
- (c) the effect of relative immobilization of the body, i.e. having to keep the same restricted sedentary position for a long time;
- (d) environmental conditions in the aircraft, such as noise, vibration, changes in air pressure and low humidity of air.

(a) The effects of changes in local time. Among the problems being studied are the performance of flight crews in relation to their duty periods, and the problems of biological cycles, physiologic 24-hour rhythms, and circadian periodicity.

The agencies engaged in these studies of the effects of changes in local times on crew performance and flight fatigue are the Federal Aviation Agency (United States of America), several major airlines, the Medical Committee of the International Air Transport Association and the International Federation of Air Line Pilots Associations. Systematic studies on passengers are in progress but no reports are as yet available.

In travelling from east to west, or vice versa, the time shift is one hour for every 15° of longitude. The general effects after a four to six hours change of local time, as for example on east-west transatlantic flights, are untimely fatigue, wakefulness, hunger, and changes in body temperature. The individual habit pattern based on the normal day-night cycle will continue, although it might be entirely out of tune with local time. Accordingly, the subject might feel very tired and get to sleep too early for local conditions on the first night; he might then wake up hungry in the middle of the night and find that breakfast is not available. On the second night he might rest poorly, but catch up on the third night and feel better adapted the third day. Thus, for a time change of six hours it might take one to three days before a person is reasonably adapted and fit for work. Full physiological adaptation might take longer to achieve. Such physiological factors as eagerness for work, and the stimulus created by a new environment are known to play an important role in adaptation.

A 24-hour rest before resuming the normal working routine has been shown to be of value in preventing some of these effects. The studies have also suggested that important meetings in the mornings should be avoided during the first two or three days after long distance flights east, and in the afternoons after long distance flights west, in order to minimize fatigue and sleepiness.

(b) Changes of climate. Within a few hours may be extreme after long distance flights involving changes in latitude, e.g. Moscow to Accra (58°N to 5°S); Anchorage to Honolulu (60°N to 20°N); or Vancouver to Canton Islands (50°N to Equator). Temperature differences might range from -30°C to $+40^{\circ}\text{C}$ within a few hours, and relative humidity from less than 20 per cent. (on board aircraft) to well over 90 per cent. In other cases changes of altitude (e.g. La Paz 11 900 ft, Mexico City 7800 ft, Addis Ababa 8000 ft) add to the difficulties of acclimatization.

A sudden change to a hot climate generally has some effect on sweating, body temperature, blood circulation, and mental capacity, but adaptation gradually takes place. Physical adaptation up to 80 per cent. seems to occur within four to seven days, and is usually complete within two weeks. Most of the physiological adaptation seems to disappear within about a month of leaving the hot climate, although re-adaptation is somewhat easier and quicker on repeated visits. Further research needs to be done on adaptation of psychological functions.

A sudden change to a cold climate similarly requires adaptation of the circulatory system to produce an increase in heat production of the body and a reduction of heat loss.

(c) The relative immobilization of the body during long distance flights, i.e. keeping a fixed sedentary position for a long time, has been shown to create impaired blood circulation of the lower limbs. A tendency to oedema of the legs is known to occur after prolonged flights and this can promote phlebitis and thrombosis in predisposed persons. The design of seats is therefore important, and this should make it possible to move the feet and legs.¹

¹ Under IATA rules the following standards apply:

Economy Class:	Seat pitch must not exceed 34"
First Class:	Seat pitch must not exceed 42"
(In domestic services, seat pitch may be 31-1/2" to 29"): for airbus commuters planned 28-1/2"	
Economy Class:	Seat width must not exceed 17"; aisle 16-1/2"
First Class:	Seat widths vary; aisle 18"

(Extracted from "Flight", International, 8 July 1965)

(d) Environmental conditions on board aircraft. Comfort and safety in air travel have considerably improved with the introduction of jet aircraft, mainly for the following reasons:

- (a) reduction in flight time because of higher speeds;
- (b) reduction of noise and vibration particularly in first class accommodation which is usually farthest removed from the jet engines;
- (c) fewer encounters with air turbulence because of operations at high altitudes;
- (d) the achievement of cabin-pressures not exceeding air pressure at an altitude of 8000 ft; and
- (e) improvement in ventilation and air conditioning.

However, relative discomfort may still be experienced on prolonged flights on account of the dryness of air at high altitudes.

3. OTHER PROBLEMS

A few individual airlines on the recommendation of the IATA Medical Committee have collected some data on the incidence of passengers' deaths in flight, but adequate answers to the questions raised about passenger health are not yet available, since no systematic studies on a world-wide basis have been undertaken.

The IATA Medical Committee for 50 IATA Member Airlines reports that in 1964 the incidence of sudden death of passengers during flight was one death for 1 666 000 passengers carried. It is interesting to note that one carrier reported four deaths in flight as compared with 16 deaths caused by heart attacks at the airport prior to boarding the aircraft. No data are available about health incidents, including death, during the first 24 to 48 hours after flight.

It should be borne in mind that apart from laboratory and field studies on acclimatization to hot and cold climates, and studies of pilots and other aircrew personnel, not many studies have been undertaken on passengers generally and particularly with respect to different standards of comfort during flight. No firm conclusions can therefore be drawn from the available reports. The problems associated with the introduction of the even faster supersonic airliners in the near future will undoubtedly stimulate more studies in this important field of health.

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