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# CLASSIFICATION OF TERMS AND COMPARABILITY OF TITLES THROUGH FIVE REVISIONS OF THE INTERNATIONAL LIST OF CAUSES OF DEATH



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DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C.

## CLASSIFICATION OF TERMS AND COMPARABILITY OF TITLES THROUGH FIVE REVISIONS OF THE INTERNATIONAL LIST OF CAUSES OF DEATH

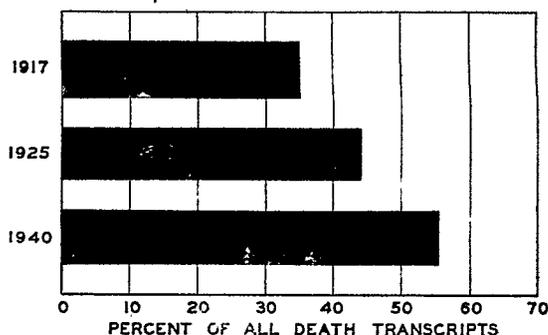
During the 40 years of its existence, the International List has undergone successive internal changes through revision although it has remained basically unchanged in form. As medical science has more clearly defined various conditions, the list, too, has been separating various phases of particular disease entities. Residual titles in particular, such as "other cancers," "tuberculosis of other organs," and, in general, titles specified as other diseases of a particular anatomical site, have been successively narrowed down and new titles have been created from their inclusions. The degree to which the list has become increasingly specific is demonstrated by the fact that, in the first revision, the combined titles and subdivisions numbered about 200, but by the time of the 1938 revision they numbered 425.

The need has been felt for tying together in tabular form the terminology of all revisions in order that comparisons might be made of the classification of all causes of death from 1900 to the present. Such a table<sup>1</sup> has been compiled, therefore, for the purpose of listing all classifications in such a way as to permit the approximate determination of the losses in comparability incurred by revision. It is expected that this listing will be particularly useful in the preparation of material for the next International Revision Conference.

Selection of the primary cause of death.—The International List has, in the past, been given greater prominence than the joint-cause manual. This was especially true when the volume of

multiple-cause certifications was not large enough to warrant concern. With the steady increase in jointly reported causes of death (see figure 1), the joint-cause manual has been growing in importance until today it presents a greater problem in revision than the list itself. Although these two clas-

Figure 1.—Percentage of Death Transcripts Reporting More Than One Cause: Death Registration States, 1917, 1925, and 1940



sification tools are spoken of separately, they are entirely interdependent in application. The joint-cause manual determines the selection of a primary cause of death which is then tabulated according to the International List. Changes in the latter are often modified to a significant extent by the former, but they are difficult to determine. The list can undergo any number of changes which are specific in nature and the effects of which might be roughly estimated in advance, were it not for the fact that the joint-cause manual weights each change and makes the results doubtful. The latter has been left unrevised through its several editions in order that the situation might not be fur-

<sup>1</sup>A limited number of copies of this table will be reproduced by the Bureau of the Census for study by those who will be engaged in the next decennial revision of the International List of Causes of Death.

ther complicated by increased incomparability in mortality statistics.

The future of the manual is uncertain; experiments in the selection of the primary cause of death by the physician have not yet proved fruitful. In New York State, for instance, physicians were asked to specify a primary cause for each death reported. A study<sup>2</sup> was made of the effectiveness of this method. In January 1940 these physicians specified their choices on only 40 percent of all certificates showing two or more causes. A year later it was found that "...the number of cases in which the preferred cause was underlined had decreased to such an extent as to make a comparison on this basis impracticable." In Canada and in England and Wales similar difficulties have been encountered. In the event that nothing can be accomplished through the physician's choice, it is not unlikely that the future may see an entirely new method of primary-cause selection.

Types of change in cause-of-death classification.—Classification changes may be divided into four groups:

1. Transfer of causes from one International List title to another.
2. Redefinition of causes.
3. Changes in primary-cause selection.
4. Redefinition of coding rules or creation of new ones.

Of these, the first two concern primarily the International List. The transfer of causes is the most frequent change made. It is usually simple, and its effects may be evaluated with some success unless they are complicated by the simultaneous appearance of one of the other types of changes. A study made for 1940 indicates that such changes, taken individually, are the least important of the four types mentioned, although there are numerous exceptions. Collectively, however, the

transfers constitute the most important group.

The redefinition of causes occurs infrequently in the process of revision but it generally has broad effectiveness. By this method basic changes are instituted in causes of death through alterations in context, usually as a result of advanced medical opinion. Such changes appear to be on the increase and are particularly evident in the 1938 revision of the International List. They include, for example, the reclassification of all puerperal conditions in terms of uterogestation; the discarding of pseudo-leukemias, as a title, in favor of lymphogranulomatosis; and the acceptance for the first time of gliomas of unspecified nature among the cancers.

Changes in primary-cause selection have already been discussed. These are not direct changes made in the joint-cause manual but, rather, indirect changes which arise through alterations in the International List.

The use of coding rules, which are not strictly a part of the list, must necessarily figure in any discussion of American practices in cause-of-death classification. The rules are few in number but they have a strong influence on mortality statistics. A rule generally provides a link between two related causes and specifies that the combination be classified under one or the other of them, or possibly under some third cause. An excellent example of the change brought about by a new rule is one which appeared for the first time in the 1938 International List Manual. It provided that unspecified diseases of the myocardium, when reported with arteriosclerosis or hypertension, be classified as chronic myocarditis. In 1940, 10,000 deaths, which would have been classified under unspecified myocarditis before the use of the rule, were allocated to chronic myocarditis.

<sup>2</sup>New York State Department of Health, "Accuracy of Mortality Statistics," 61st Annual Report, vol. 2, No. 28, p. cxiv. 1940.

Effects of revision on mortality statistics.—The table which was constructed is applicable, primarily, to the study of the International List and its revision. Without supplemental data on the concomitant effects of primary-cause selection processes, changes in coding rules, and redefinition of causes, it can be very misleading if applied to the study of the effects of classification changes on cause-of-death statistics. In addition to these factors there is the element of frequency with which causes are reported. Little is known on this subject. Some titles may lose a large number of terms through revision, yet remain comparatively unchanged statistically; conversely, another title may lose just one term and be changed to a large extent.

Attempts have been made recently to establish a connection between International List changes and resultant discontinuities in the trend of death rates since 1900. The results were not very encouraging because they were influenced by too many outside factors. It was not that discontinuities did not appear, but rather that they appeared irregularly and unexpectedly. Some of the reasons for the irregularities are known. Advances in medical science usually precede actual revision of the list. A new medical attitude will cause a change of trend in death rates in a nonrevision year, and, at a later date, the list will follow suit. Because of this, it sometimes happens that deviations do not occur at or near the year of revision. Another factor, less direct, is multiple-cause reporting. If cancer is reported with increasing frequency, other conditions reported on the same certificates will undergo a corresponding decline when cancer replaces each as a primary cause.

This is a lesser evil, for the result is a deviation in the trend which is fairly consistent and capable of evaluation. Variations, which are usually impossible to evaluate, result when communicable diseases replace other conditions as the primary cause during epidemic periods. Thus, the influenza epidemic of 1918 had its effect upon many other unrelated causes simply because the first-named condition replaced the latter as a primary cause.

No systematic method was ever applied in the past for the determination of the number of deaths gained or lost by International List titles as a result of revision. Using 1940 data, however, such an evaluation was made.<sup>3</sup> By this method, list changes in the transition from the 1929 to the 1938 revision were analyzed and tabulated.

Construction of the classification table.—The classification table which was prepared is presented in two aspects—as an index to the classification of each term ever listed in any one of the International List Manuals from 1900 to 1940, and as a guide to the comparability of each title from revision to revision. The comparability of titles is, of course, subject to limitations due to other related factors already discussed.

The titles are presented in consecutive order as used in the 1938 revision. The section under each title is divided into three groupings; for example, under typhoid fever (see table, page 151), the first group includes all terms which now are classified as typhoid fever. The second group includes all terms which have at least once in the past been assigned to typhoid fever but which at present are classified under another title. The third group includes all terms

<sup>3</sup>U.S. Bureau of the Census. "Comparison of Revisions of the International List: Deaths—Special Reports, vol. 19, No. 14.

Cause-of-Death Assignments by 1929 and 1938 in the United States, 1940." Vital Statistics

# CLASSIFICATION OF TERMS AND COMPARABILITY OF TITLES THROUGH FIVE REVISIONS OF THE INTERNATIONAL LIST OF CAUSES OF DEATH

## I.—INFECTIOUS AND PARASITIC DISEASES (1-44)

### 1. Typhoid fever.

1929	1920	1909	1900	
<u>1</u> part	<u>1a</u> part	<u>1</u> part	<u>1</u> part	
International List Terms				
1958	1929	1920	1909	1900
<b>(A)</b>				
Abdominal typhus	1	1	1a	1
Enteric fever				1
Gastroenteric fever				
Intermittent typhoid fever				
Typhoid fever				
meningitis				
Enterica	1	1	1a	1
Hemorrhagic typhoid fever				
Malignant typhoid fever				
Posttyphoid abscess				
Typhoenteritis				
Typhogastric fever				
Typhoid endocarditis				
ulcer				
Typhoperitonitis				
Typhus abdominalis				
Typhoid infection	1	1	1a	
<b>(B)</b>				
Paratyphoid fever	2*	2*	1b*	1
Paratyphus				
Typhomalarial fever	283*	1	1a	1
Typhoid malaria	283*	1	1a	1
Typhomalaria				
Typhus (unqualified)	59b*	1	1a	1
Cerebral typhus	59b*	1	1a	1
<b>(C)</b>				
Abdominal fever		1	1a	1
typhoid				
Dothienteria				
Mountain fever				
Typhoid stupor				
Continued fever		200a*	1a	1
Abortive typhoid		1	1a	1
Ambulant typhoid				
Cerebral typhoid				
Ileotyphus				
Rheumatic typhoid fever				
Typhobillious fever				1
Ataxo-dynamic fever		1	1a	1
Adynamic fever				
Ataxic fever				
Mucous fever				
Running fever				

### 2. Paratyphoid fever.

1929	1920	1909	1900	
<u>2</u>	<u>1b</u>	<u>1</u> part	Not listed	
International List Terms				
1958	1929	1920	1909	1900
<b>(A)</b>				
Paratyphoid fever	2	2	1b	1*
Paratyphus				

### 3. Plague.

1929	1920	1909	1900	
<u>1a, b, c, d</u>	<u>17a</u> pt., <u>b, c, d</u>	<u>15</u> pt.	<u>15</u>	
International List Terms				
1958	1929	1920	1909	1900
<b>(A)</b>				
Bubonic plague	5	14a	17a	15
Plague of lymphatic gland	5	14a	17a	15
Pneumonic plague	5	14b	17b	15

### 3. Plague—Continued

International List Terms	1958	1929	1920	1909	1900
<b>(A)—Continued</b>					
Pulmonary plague					
Septicemic plague	5	14c	17c	15	
Pest	5	14d	17d	15	15
Plague					
<b>(B)</b>					
Climatic bubo	44a*	44c*	17a	15	
<b>(C)</b>					
Malignant polyadenitis		14a	17a	15	

### 4. Cholera.

1929	1920	1909	1900	
<u>12</u>	<u>14</u>	<u>12</u>	<u>12</u>	
International List Terms				
1958	1929	1920	1909	1900
<b>(A)</b>				
Asiatic cholera	4	12	14	12
Cholera (where Asiatic cholera is prevalent)	4	12	14	12
Epidemic cholera (where Asiatic cholera is prevalent)				
<b>(C)</b>				
Indian cholera				12

### 5. Undulant fever (brucellosis).

1929	1920	1909	1900	
<u>5</u>	<u>4</u>	<u>5</u> part	Not listed	
International List Terms				
1958	1929	1920	1909	1900
<b>(A)</b>				
Febris melitensis	5	5	4	3*
Malta fever				
Mediterranean fever				
Undulant fever	5	5	4	
Abortus fever	5			
Brucellosis				
Infection by Brucella Abortus				
Melitensis (Malta fever)				

### 6. Cerebrospinal (meningococcus) meningitis.

1929	1920	1909	1900	
<u>12, 79b</u> pt.	<u>24, 71b</u> pt.	<u>61c</u>	<u>61</u> pt.	
International List Terms				
1958	1929	1920	1909	1900
<b>(A)</b>				
Cerebrospinal fever	6	18	24	61c
Epidemic cerebrospinal meningitis				61*
Spotted fever				
Cerebrospinal meningitis	6	79b*	71b*	61b*
Meningococcus cerebrospinal meningitis	6	18	24	61c
Acute cerebrospinal meningitis	6	79b*	71b*	61b*
malignant cerebrospinal meningitis	6	18	24	
Infectious cerebrospinal meningitis				
Malignant cerebrospinal meningitis				
Meningococcus meningitis				
Endemic cerebrospinal meningitis	6	79b*	71b*	
Fulminant cerebrospinal meningitis				
Chronic meningococcus cerebrospinal meningitis	6			
Diplococcus cerebrospinal meningitis				

which were once classified under typhoid fever but which are no longer listed in the 1938 revision.

The table was made up by combining the indexes of all revisions of the manual and eliminating all duplicate terms. There is, however, occasional repetition where synonymous terms appear since the process of eliminating synonymy would have been a long and difficult task, the cost of which would have been prohibitive. Of the approximately 14,000 terms listed many will be found that do not bear any classification for some revision years. This does not mean that they were not in use during those years. There were many cases in which terms were not indexed in the manuals because they were reported infrequently, were not yet in general use, or were synonymous with other, more desirable terms. Because of the lack of classifications for such terms, a possible fourth grouping under each title had to be omitted—a group showing those terms which had always been assigned to the same title. It could not be assumed that an unlisted title assignment meant an unchanged one since there were definite instances in which the contrary was true.

Since the listing follows the 1938 revision, the titles of earlier revisions do not fall into consecutive order. Every one of the earlier titles, however, appears in the table and is always listed with the 1938 title which it resembles most closely. Its location is easily discovered by reference to the table of contents. In the case of some titles comparability has been lost to a considerable extent through revision even though they have a strong surface resemblance. The degree of loss in comparability may readily be determined since any non-comparable title is set off by an asterisk. A comparison, for example, of the inclusions of typhoid fever in the 1938 revision with its predecessor in

1929 will involve a comparison of title 1 (1938) with title 1 (1929). First, an examination must be made of all terms classified as "1" in the 1938 column to see whether any of them have ever been classified under some other title. If they have, this other title will be followed by an asterisk. In this particular example it so happens that every 1938 inclusion under typhoid fever was classified the same way in the 1929 manual. The procedure is then reversed and all terms classified as "1" in the 1929 column are compared with the 1938 allocations. Here five terms are found whose title assignments carry asterisks. In other words, five terms previously classified under typhoid fever have been reassigned to other titles.

When a term is not classified in a particular revision year, a broken line (—) appears in the table in place of a title number. When several terms are classified alike in all revisions, the title assignments appear for the first of these, and the rest are left blank, in this manner:

International List terms	Revision year				
	1938	1929	1920	1909	1900
Abdominal typhus	1	1	1a	1	1
Enteric fever					
Gastroenteric fever					
Intermittent fever					

Numerical subdivisions in the 1900 and the 1909 revisions of the International List Manual were changed in all later revisions to alphabetical subdivisions. In order to achieve uniformity in listing, letters have been substituted for numerical subdivisions in the table; "A" replaces "1," "B" replaces "2," et cetera. These title subdivisions were in actual use in coding causes of death from the 1909 manual. Those of 1900, however, appear not to have been used. They are not shown in the index to the manual for that year although they are included in the tabular list.