

ICD-10-SGBV

A Special Adaptation for the Outpatient Sector of the German Health Care System

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Abstract

Purpose: Create a special adaptation of ICD-10 to meet the needs of the outpatient sector of the German health care system. **Methods:** Requirements were identified together with the board of physicians. To ensure consistency with the original classification (even after annual updates) and to allow the automatic production from its master files, the SGML based system was enhanced. The final product was tested in a feasibility study. **Results:** Very rare conditions were moved to an appendix. A minimum coding level for general practitioners was defined. It is at the four character level only, if their typical equipment allows differential diagnosis or if detail is needed for reimbursement. However, the full four character classification was accepted for medical specialities. Two additional axes for laterality and certainty of diagnosis were introduced. Chapter XX was reduced to 22 codes only. A study with more than 2000 physicians proved feasibility of this approach. **Conclusions:** The introduction of ICD-10-SGBV is planned for 2000 for the outpatient sector. The hospitals will have to use the full classification plus the additional axes for laterality and certainty.

Background

In the end of 1995 the Federal Ministry for Health tried to introduce ICD-10 coding for German hospitals and for the outpatient sector of the health care system. However, the fund doctors, being not accustomed to diagnostic coding, objected to this introduction and due to their political pressure the introduction of ICD-10 was postponed. Their main criticisms were codes for diseases which are uncommon in Germany (e.g. plague or leprosy), for certain external causes (e.g. alligator bite), and for codes on social problems in chapter XXI, which might threaten data privacy. In 1996 an expert group was established to create a special adaptation, which should solve these problems. This expert group consisted of representatives of the board of physicians, the German Hospital Association, the statutory health insurance companies, and of DIMDI. The main task of DIMDI was to mediate between the different interests of these political groups and to avoid serious damage to the classification.

Requirements

The expert group started with a thorough analysis of the requirements for such an adaptation. The classification should be used for coding of diagnoses on reimbursement documents for the insurance companies. Diagnostic codes are necessary to create transparency in cash flow, to introduce quality assurance and consistency checks between diagnoses and procedures, to gain more epidemiological data for health reports, and perhaps for the implementation of a new reimbursement system in ambulatory care.

Ambulatory care in Germany is divided into general practitioners and specialists, both working in their own surgeries. Unless in other countries, most specialists are not affiliated to hospitals. Thus, there is need for one classification which is suitable for general practitioners and for specialists, for ambulatory and for stationary care. The adaptation should be compatible with the full classification at least on the three character level.

The first problem to solve was to remove codes for diseases which are uncommon in Germany. Fortunately, these diseases could be identified at the three character level of ICD-10. The solution was quite

easy: the subcategories were moved to an appendix of the classification and the categories were left in the Tabular List (Figure 1, all examples in English).

A00	Cholera	A00.-	Cholera
A00.0	Cholera due to <i>Vibrio cholerae</i> 01, biovar cholerae Classical cholera		
A00.1	Cholera due to <i>Vibrio cholerae</i> 01, biovar eltor Cholera eltor		
A00.9	Cholera, unspecified		
A01	Typhoid and paratyphoid fevers	A01	Typhoid and paratyphoid fevers
A01.0	Typhoid fever Infection due to <i>Salmonella typhi</i>	A01.0	Typhoid fever Infection due to <i>Salmonella typhi</i>
A01.1	Paratyphoid fever A	A01.1	Paratyphoid fever A
A01.2	Paratyphoid fever B	A01.2	Paratyphoid fever B
A01.3	Paratyphoid fever C	A01.3	Paratyphoid fever C
A01.4	Paratyphoid fever, unspecified Infection due to <i>Salmonella paratyphi</i> NOS	A01.4	Paratyphoid fever, unspecified Infection due to <i>Salmonella paratyphi</i> NOS

Figure 1: ICD-10-WHO and ICD-10-SGBV with respect to uncommon diseases

Chapter XX was completely removed from the classification and replaced by 22 codes for external causes. These codes are based on ICD-10 codes from chapter XX (see appendix of this paper for a list).

To solve data protection problems many codes from chapter XXI on social problems were also removed from the classification. Other codes may only be used together with codes from the chapters I-XIX. Such codes are marked by an exclamation mark.

The health insurance companies needed information on laterality. Again, the solution was quite easy. Unlike in ICD-10-CM, where new codes were created for “left” and “right”, the expert group decided to introduce a new axis for laterality in the classification. The letters “L” for left, “R” for right, and “B” for bilateral can be appended to ICD-10 codes where appropriate.

For epidemiological purposes it seemed to be necessary to distinguish between established and suspected diagnoses. And for reimbursement purposes it seemed to be necessary to introduce coding for diagnoses, which had been ruled out, instead of coding the symptoms in such cases. Obviously, the information that a brain tumour had to be ruled out is more valuable for reimbursement purposes than the information that a patient suffered from headache. Thus, the expert group decided to introduce another axis for certainty of diagnosis. The letters “V” for suspected diagnosis (“Verdacht”), “A” for

diagnosis ruled out (“Ausschluss”), and “Z” for status post (“Zustand nach”) were introduced. They can also be appended to ICD-10 codes where appropriate.

However, the main problem was the introduction of different levels of detail for general practitioners and specialists. The specificity which is implied by the use of categories and subcategories in ICD-10 proved to be not suitable for this purpose, as it is based on statistical or epidemiological needs. However, criteria for the adaptation are

- whether a disease is frequently seen,
- whether differential diagnosis can be established with the typical equipment of the general practitioner, and
- whether detailed information is needed for reimbursement purposes.

To solve this the concept of a minimal coding level was introduced. The codes of this minimal coding level are printed on grey background in the adaptation of ICD-10. The minimal coding level may only be used by general practitioners, by specialists for diagnoses out of their specialities, and by all doctors in emergency care. For hospitals this minimal coding level is not applicable.

The following figure shows an example from the adaptation with the minimal coding level:

A02	Other salmonella infections <i>Includes:</i> infection or foodborne intoxication due to any Salmonella species other than S. typhi and S. paratyphi	A02.-	Other salmonella infections <i>Includes:</i> infection or foodborne intoxication due to any Salmonella species other than S. typhi and S. paratyphi
A02.0	Salmonella enteritis Salmonellosis	A02.0	Salmonella enteritis Salmonellosis
A02.1	Salmonella septicaemia	A02.1	Salmonella septicaemia
A02.2†	Localized salmonella infections Salmonella: • arthritis (M01.3*) • meningitis (G01*) • osteomyelitis (M90.2*) • pneumonia (J17.0*) • renal tubulo-interstitial disease (N16.0*)	A02.2†	Localized salmonella infections Salmonella: • arthritis (M01.3*) • meningitis (G01*) • osteomyelitis (M90.2*) • pneumonia (J17.0*) • renal tubulo-interstitial disease (N16.0*)
A02.8	Other specified salmonella infections	A02.8	Other specified salmonella infections
A02.9	Salmonella infection, unspecified	A02.9	Salmonella infection, unspecified

Figure 2: ICD-10-WHO and ICD-10-SGBV with respect to a minimal coding level

For example, if a patient suffers from salmonella arthritis, it is sufficient for a general practitioner to code A02.-, however, A02.2 may be used. In case of salmonella enteritis, A02.- may not be used, as A02.0 is part of the minimal coding level.

The following table lists a few diagnoses to demonstrate the use of laterality and certainty codes and to show the use of optional codes from chapter XXI.

diagnosis	codes according to ICD-10-SGBV
suspected myocardial infarction	I21.-V
suspected arthrosis of left hip	M16.-LV
headache, brain tumour ruled out	R51, D43.-A
care of tracheostoma after laryngectomy due to larynx cancer	C32.-Z, Z43.0!
removal of plate after open fracture of shaft of humers	S42.31Z, Z47.0!
status post stroke	I46Z
atrophy of both kidneys	N26B

Feasibility study

To investigate whether this adaptation meets the needs of the doctors in the outpatient sector, a feasibility study in two states (Niedersachen and Sachsen-Anhalt) was carried out in 1997 (April 1 to December 31). 2,224 volunteers used the adaptation for everyday coding in their surgeries. ICD codes were transmitted to the insurance companies on the reimbursement documents instead of narratives. The result was promising (1):

- 64 % of the participants considered the adaptation to be well suited for diagnostic coding.
- 50 % considered it to be easy to use.
- 63 % of all diagnoses and reasons for encounter could be coded without any problems, another 29 % were more difficult to code. 8 % could not be coded. (*Comment:* Although many of these 8 % were procedures, this is also a problem of the coding tools, which need improvement.)

However,

- only 22 % of the physicians found diagnostic coding to be an improvement for their inhouse documentation.
- about 80 % thought that diagnostic coding was primarily another act of bureaucracy.
- the motivation for diagnostic coding was low as the reasons for coding were not frankly discussed.

The health insurance companies made the following experiences (2):

- If the quality of diagnostic coding is sufficient, administrative effort for the insurance companies can be reduced.
- The adaptation of ICD-10 does not need further changes. The additional axes for laterality and certainty should become compulsory. An additional axis for “acute”, “chronic” or “recurrent” is recommended. (*Comment:* As this information is contained in most codes, this seems to be not necessary.)
- Coding of diagnoses leading to incapacity for work is more precise if done by the doctor than by the insurance companies.

Conclusion

Whenever political forces are at work, compromise is inevitable. ICD-10-SGBV can only be seen as such a compromise between

- the insurance companies – being interested in gaining as much standardised information as possible
- and the physicians – being interested in delivering as little information as possible and being not interested in coding or cash flow transparency at all.

Main criticisms against ICD-10-SGBV are

- concept of a main diagnosis has been given up
- diagnoses are no longer classified but indexed
- large collection of codes for each patient (“many codes – much money”)

Although from classification theory this adaptation is the worst solution, we feel that in our situation it was the best compromise which could be achieved. There is strong hope that this adaptation will serve to introduce coding in ambulatory care, but that it will pave the way for full ICD-10 coding as soon as possible.

References

- (1) KOCH Heinz, GRAUBNER Bernd, BRENNER Gerhard: Erprobung der Diagnosenverschlüsselung mit der ICD-10 in der Praxis des niedergelassenen Arztes. Köln 1998.
- (2) KLOSE Joachim: Erfahrungen der Krankenkassen im Rahmen der Erprobung der ICD-10. Dokumentation des Workshops am 22. September 1997 in Braunschweig. Bonn 1997.

Appendix

Codes for modification of chapter XX – External Causes

Code	Title
V99	Transport accident
W49.9	Exposure to inanimate mechanical forces
W64.9	Exposure to animate mechanical forces
W87.9	Exposure to electric current
W91.9	Exposure to radiation
W92.9	Exposure to excessive heat of man-made origin
W93.9	Exposure to excessive cold of man-made origin
W94.9	Exposure to high and low air pressure and changes in air pressure
X19.9	Contact with heat and hot substances
X29.9	Contact with venomous animal or plant
X49.9	Accidental poisoning
X59.9	Other and unspecified accident
X84.9	Intentional self-harm
Y09.9	Assault
Y34.9	Unspecified event, undetermined intent
Y35.7	Injuries due to legal intervention
Y36.9	Injuries due to war operations
Y57.9	Complications due to drugs or medicaments
Y59.9	Complications due to vaccines or biological substances
Y69	Misadventures during surgical and medical care
Y82.8	Misadventures due to medical devices
Y84.9	Misadventures due to medical procedures