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ORIGINAL ARTICLE

Medical examination of fitness for police custody in two large German towns

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Abstract Worldwide, there is a high risk of medical complications or death in police custody. This risk is often increased by unclear legislation, a lack of clearly defined responsibility and medical examination standards. Any solution to these problems requires as a very basis the systematic analysis of the medical examinations that determine whether a person is fit to be detained in custody. We analysed a total of 3,674 medical records on fitness for custody, taken from two large German towns (Halle/S and Bremen). The examined individuals were predominantly males or of a younger age. The indication in the majority of cases was acute alcoholic intoxication or drug withdrawal syndromes. Traumata and internal or mental diseases were also quite frequent. For approximately 50% of all cases, fitness for custody was declared on certain conditions. Only 39.8% were found to be unconditionally fit for detention in custody. In just under 10% of the cases, the person was found unfit for custody. These cases concerned mainly persons with psychological symptoms and advanced alcohol or drug withdrawal syndromes. We were able to show that the recent introduction of new police custody regulations in Halle/S had a significant influence on the medical decision on fitness for custody. Our detailed assessment has provided us with the basis to develop solutions for the improvement of medical care in police custody. The focus lies here on the organisation and legal regulation of the medical aspects of custody but also on policing and medical work.

Keywords Police custody · Fitness for custody · Indications · Medical decision · Improvement of medical care

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Background and problem

Worldwide, there is a high risk of considerable health hazards or death in police custody [1–3]. There are often doubts on a person's fitness to stay in police custody even at the time of arrest that make it necessary to consult a doctor. However, the actual examinations and their consequences show that the assessment of fitness for custody poses a complex challenge.

It is often criticised that arrested persons do not receive adequate medical care [2]. This problem is partly due to unclear legislation and a lack of clearly defined medical responsibilities [3–5]. In Germany alone, there are dramatic differences in the regimentation of medical aspects for police custody [6]. The differences between individual German federal states can be enormous, for instance in respect to control modalities or the causes of medical consultation.

In some countries, the medical responsibility for determining a person's fitness for custody is clearly defined [1]. In Sweden, for instance, such assessments have to be given by forensic physician, in the Netherlands by medical health

officers. Other countries however fail to assign these responsibilities to a clearly defined authority. Germany too has no concrete rules on which physicians should be asked to carry out the job [7]. Given these uncertainties, it is hardly surprising that in Germany doctors often refuse to conduct this kind of examination [8, 9].

The range of physicians assessing the fitness for custody in different countries is quite heterogeneous and international standards are lacking [1]. There is also a widespread lack of national guidelines [4, 5]. Opinions on the required extent of such examinations range from brief assessments [10] or symptom oriented statements [11] over standardised procedures [5, 12] to examinations of the whole body [8].

Mostly insufficient examination conditions are also posing a problem [5, 11, 13]. Assessments are sometimes supposed to be given in a badly lighted and narrow cell. In a police station, only very limited diagnostic means are available and detainees are often uncooperative. Third anamnestic information is frequently missing [3, 5, 14].

In view of this dilemma, any solution to these problems requires as a very basis the systematic analysis of such examinations. Up to now, the number of studies from various countries, including Germany, is quite small and comprises only some few hundred cases [3, 12, 15–18].

This study shall comprehensibly view the current situation in two large German towns. We also analyse whether differences in legal regulations have a significant effect on the medical aspects of police custody. The study shall also provide practical recommendations for police officers and doctors as well as proposals for changes in the legal conditions.

Study design and methods of analysis

In Halle/S (population of 300,000 including the rural neighbourhood), fitness for custody is assessed by a team of different medical specialists. Until 2005, such medical examinations were conducted within a decentralised structure. Written documentation was not necessarily required but doctors used a self-created form. By collecting such individual records, we were able to include in our study 604 cases from the period from 1997 to 2003. New police custody regulation was however introduced in 2006 which regulates the medical aspects of police custody quite strictly [19] by requiring the completion of a three-page certificate whose original copy has to be kept in the police files. After having viewed the original records of the newly set up central custody unit, we were able to include 1,017 statements from the 2006–2010 period.

In Bremen (approximately 550,000 residents), examinations are carried out by a medical specialist team under supervision by a forensic physician. By collecting the examination records, we were able to include 2,053 cases from the 2004–2008 period. There was no change in police custody regulations within that period.

This study therefore rests on a total of 3.674 medical records from Bremen and Halle/S Due to the change of legal regulations and access opportunities and the smaller number of cases in Halle/S, it was not possible to recruit equal numbers of cases from each town. Cases where the records were illegible or which lacked basic data have not been included in this study.

For assessment, we recorded age (in 10-year groups), gender, reason and result of examination. Indications have been subsumed into the following categories: acute alcoholization, substance withdrawal syndromes, internal diseases, traumata, mental illnesses, other specific causes and unspecific indications. Cases with multiple causes were classified by the most dominant indication.

The medical decision of whether a person is fit to be detained in custody has been categorised as follows: unconditional fitness, conditional fitness (conditions may include the consultation of a specialist or the involvement of the mental health service) and no fitness to be detained.

Since the 1,017 cases from Halle/S (from 2006 to 06/2010) were centrally recorded and accessible it was possible to analyse them in more detail under closer consideration of the frequency of medical consultation, the provisions in case of conditional fitness, the reasons for non-fitness and the correlation between indication and medical decision.

Statistical evaluation was carried out with SPSS 17.0. When comparing both assessment periods, the categorical data were analysed in cross tabulations using the chi-square test according to Pearson. Any values $p<0.05$ were regarded as statistically relevant.

Results

Three thousand six hundred seventy-four examinations of fitness for police custody from Bremen and Halle/S

An overwhelming majority of the 3,669 persons (for five persons (0.1%), gender was not recorded) were male, i.e. in 3,324 cases (90.5%), as compared to 345 women (9.4%).

In 120 cases, age was not recorded. Regarding the other 3,554 cases, it was striking that nearly three quarters were between 14 and 40 years old whereas other age groups accounted for considerably smaller percentages (Table 1).

The indications consisted predominantly of intoxications and syndromes caused by the withdrawal of psychotropic substances (Table 2). In nearly one third of all cases, medical examination had been requested because of inebriation, followed in frequency by substance withdrawal syndromes. Alcoholic intoxication was here diagnosed on

Table 1 Age distribution of detainees assessed by a physician (n=3,554)

Age group	Number of cases (%)
14–20	480 (13.5)
21–30	1,225 (34.5)
31–40	866 (24.4)
41–50	587 (16.5)
51–60	291 (8.2)
Over 60	105 (2.9)

the basis of clinical symptoms and breath alcohol concentration which, however, had not always been available. In 10.3% of the cases, the reason was injuries and, in 5.2%, psychological indications. Other specific indications (11.3%) concerned mainly persons suffering from alcohol withdrawal syndromes, drug intoxikations or epilepsy. For 11.8% of the cases, no reason why medical examination had been requested was apparent ("unspecific indications").

Only 1,462 cases (39.8%) were found to be unconditionally fit for detention in custody. In 1,855 cases (50.5%), the positive decision was given subject to a variety of conditions; 357 persons (9.7%) were declared unfit after medical examination.

Detailed analysis of the 1,017 cases from Halle/S (period from 2006 to 2010)

In the period from 2006 to 2010, 2,580 persons were taken into police custody in Halle/S. In 39.4% of the cases (1,017 persons), there were doubts on their fitness for detention and a doctor was therefore called.

In 614 of the 1,017 cases (60.4%), the declaration of fitness for detention in police custody was given subject to a variety of conditions. The doctors often recommended a combination of two or three measures (Table 3).

As a result of medical examination, 68 persons (6.7%) were found to be unfit for custody (Table 4). 25% of these cases concerned persons who posed an acute risk to themselves (e.g. after acts of self-harm or suicide attempts) or suffered from an acute psychosis (e.g. acute schizophrenic episode), all of whom were committed to a psychiatric hospital. Hospital treatment was also frequently required in cases of advanced drug or alcohol withdrawal syndromes.

The distribution of the categories of fitness for detention showed highly significant differences (p<0.0001) in terms of individual indications (Fig. 1). In cases of acute alcoholization, the physician was relatively often able to declare the person unconditionally fit for custody. We did not observe a relevant relation between the degree of breath alcohol concentration and fitness for custody. Those individuals who were used to alcohol often showed only slight motoric and mental deficiencies despite high levels of breath alcohol concentration. Substance withdrawal syndromes, internal diseases, traumata or other specific indications permitted only conditional fitness. Persons were frequently unfit for detention when they suffered from mental disorders. In respect to unspecific indications, persons were mostly judged to be unconditionally fit.

Comparison between Halle/S and Bremen

In our comparison of the two towns, we divided the cases from Halle/S into the period prior (1997–2003; n=604) and after (2006–06/2010; n=1.017) the introduction of new police custody regulations and compared them to the cases from Bremen (n=2,053). The distribution of age and gender showed highly significant differences between these three samples (p<0.0001). The proportion of women amounted in Bremen to 11.1%. In Halle/S, it was at 9.2% in the period from 1997 to 2003 only slightly lower but sank to 6.2% in the 2006–06/2010 period. Younger age groups (14–40 years) were at 77.8% and 81.0% significantly more frequently involved in Halle/S than in Bremen where they only made up a proportion of 66.7%.

The distribution of indications (Fig. 2) also showed highly significant differences (p<0.0001). In Halle/S, the indication of acute alcoholization, which, in the first period, had already been distinctly higher than in Bremen, rose again significantly from 1997–2003 to 2006–2010. At the same time, the proportion of substance withdrawal syndrome decreased in Halle/S considerably. Traumata and other specific or unspecific indications were significantly more frequent in Bremen.

Differences were also significantly high in respect to the medical decision on fitness for custody (p<0.0001). While Halle/S, before the introduction of new custody regulations, impressed with a very high proportion (76.0%) of cases of unconditional fitness their number fell after this introduction approximately to the level observed in Bremen (Fig. 3). Here, fitness was mainly conditional whereas only

Table 2 Distribution of the indications for assessment of fitness for custody (n=3,674)

Indication	Number of cases (%)
Acute alcoholic intoxication	1,188 (32.3)
Substance withdrawal	757 (20.6)
Traumata (injuries)	379 (10.3)
Internal diseases	311 (8.5)
Mental disorders	190 (5.2)
Other specific indications	414 (11.3)
Unspecific indications	435 (11.8)

Table 3 Distribution of the measures for conditional fitness for custody (partly contains multiple entries, in 614 cases)

Frequent monitoring	490 (79.8%)
Must be seen by a physician again if condition deteriorates	320 (52.1%)
Must be given medication	78 (12.7%)
Consultation of a specialist	44 (7.1%)
Special provisions for food and drink	28 (4.5%)
Time limit in detention	9 (1.5%)
Should be detained in a shared cell	8 (1.3%)
Other measures	5 (0.8%)

approximately one third of all persons were declared unconditionally fit for custody.

Discussion

This study gives the first comprehensive systematic analysis of examinations of fitness for police custody in two large German towns. Only very few publications show the frequency with which such examinations are carried out. English studies state a frequency of 25% [16] and 47.5% [3]. In Halle/S too, a physician was consulted in almost 40% of all instances of police custody (2,580). In Germany, there are however no official statistics on the frequency of such examinations. Weber [12] was only able to obtain the complete data for six German federal states. The variation range was enormous and reached from 5.5% in Lower Saxony to 48.3% in Schleswig–Holstein. These differences can, on the one hand, be explained by the difference in the regulations adopted by the respective federal state that list, for instance, between 2 and 12 situations for when a person should be presented to a doctor [6]. However, undefined responsibility and an attitude of refusal mean, on the other hand, that medical examination can often not be obtained although it may well have been required [8, 20].

The age and gender distribution, which showed a clear predominance of males and younger age groups, corresponds to the experiences gained in other countries [1, 3, 15, 21, 22] and regions in Germany [12, 23, 24]. The German study on deaths in police custody [4] revealed that the fact that a person is of younger age should not mislead a doctor to carelessly declare the person fit for custody. The medium age of the 60 deceased was only little above 40, just as it has been in Florida [25] and Denmark [26]. In Great Britain [27], Canada [28] and the Netherlands [29], the persons who died were even slightly younger.

In the 3,674 cases from Germany, acute alcoholic intoxication was by a large margin the most frequent indication. In Heidelberg (Germany), this indication was at 62.8% for 407 cases even more dominant [12]. Even seemingly "only" inebriated persons require a careful check of their concrete condition since high-level alcoholic intoxication does carry a considerable lethal risk. In the German study [4], 25% of all deaths in police custody had been caused by acute alcohol poisoning, similar to other European countries [26, 27, 30].

After acute alcoholic intoxication, substance withdrawal syndromes were the next most frequent reason for medical consultation. Other European countries also report that the most frequent occurrences in police custody are intoxications and withdrawal syndromes; their proportion reaches from nearly half to three quarters of all examinations [3, 15, 16, 31, 32].

Corresponding to other studies from Europe, the number of traumata and internal or psychological indications in Halle/S and Bremen amounted to approximately to 10% or below [12, 15, 31]. The most frequent internal diseases are diabetes mellitus, chronic obstructive pulmonary diseases, hypertonia and chronic ischaemic heart disease [3, 12, 15]. The psychological indications are dominated by endoge-

Table 4 Reasons and measures for non-fitness as a result of medical examination (n=68)

Reasons and measures for non-fitness	Number of cases (%)
Hospital treatment because of mental disorders	17 (25.0)
Hospital treatment because of drug withdrawal syndrome	11(16.2)
Inebriation not requiring therapy	10 (14.7)
Hospital treatment because of alcoholic intoxication	7 (10.3)
Hospital treatment because of alcohol withdrawal syndrome	6 (8.8)
Hospital treatment because of decompensation of diabetes mellitus	4 (5.9)
Hospital treatment because of craniocerebral trauma	4 (5.9)
Hospital treatment because of other indications	7 (10.3)
Discharged to home care	2 (2.9)

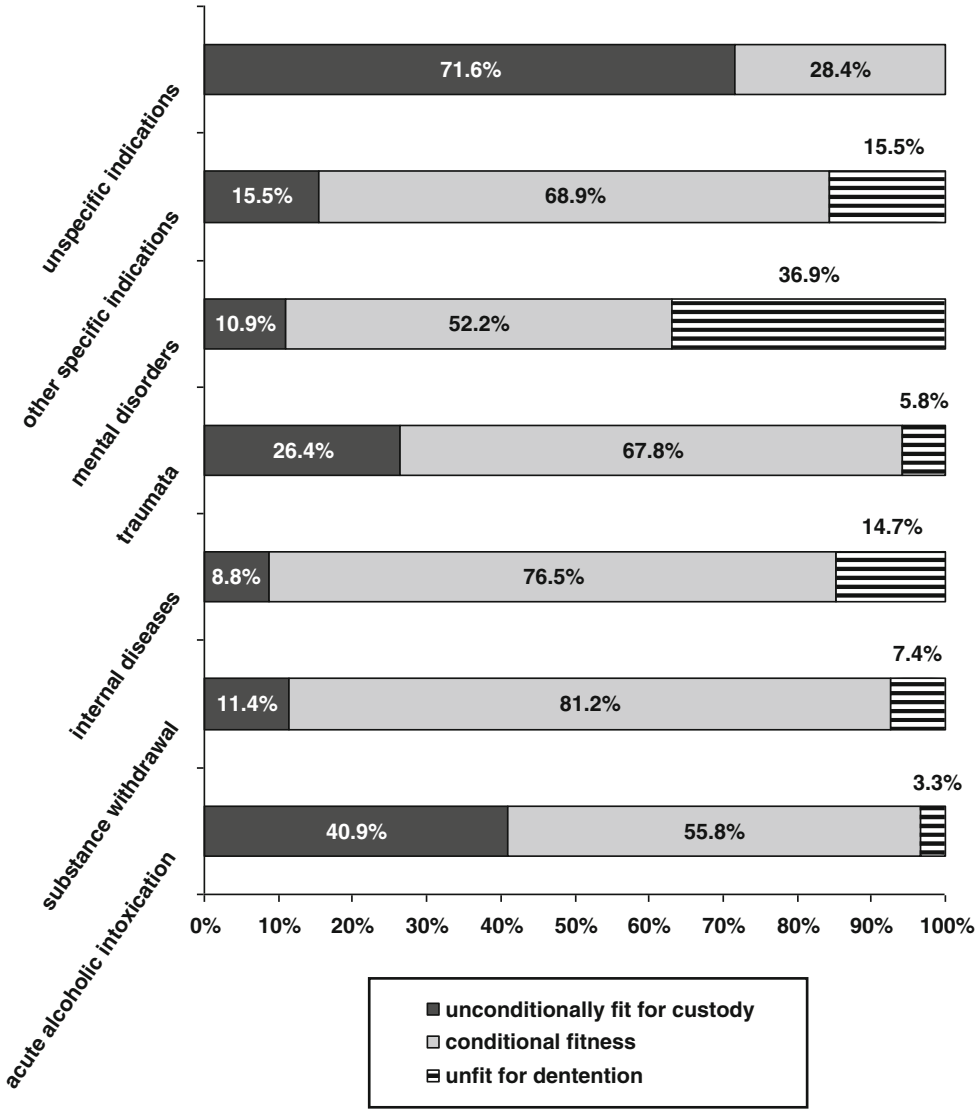

Fig. 1 Distribution of the three categories of fitness for police custody for individual indications (n=1,017)

nous psychoses and cases where the person poses an acute risk to himself/herself [12, 13] while injuries mainly consist of craniocerebral traumata [12, 17]. These indications also require careful consideration. In Germany [4], traumata amounted to 21.6% and internal diseases to 18.3% of all causes of death. In other European countries, the share of craniocerebral injuries and internal diseases in deaths in custody also lies between 10–20% [26, 29, 30, 33].

In North American studies, internal diseases are more widely represented [34]. Copeland [25] found for 229 deaths in Florida that more than 50% had been due to natural causes, mainly heart or lung diseases. However, due to different structures (e.g. differences in duration of detention) his material is not fully comparable to the situation in European countries. In the USA, the number of deaths of excited persons that occurred during restraining and transport measures is higher [34] than in Germany which is attributed to a larger frequency of excited deliria under the influence of cocaine and different restraining techniques [35].

This study found for nearly 12% of all cases no concrete medical reason for why an assessment of fitness for custody by a physician had been required. This phenomenon was also reported by other studies [12, 15]. Such cases often concern foreign people where the police may call a doctor also because of language difficulties.

In more than half of all cases, fitness for custody was declared only on conditions. The most frequent condition consisted in shorter monitoring intervals. It was likewise not rare to advice on the necessity of a second consultation if a deterioration of the person's condition was perceived during monitoring. This should be a matter of course, however.

The implementation of such conditions as "ensure regular intake of medicine" or "present to specialist" is not always immediately accepted by police officers. These

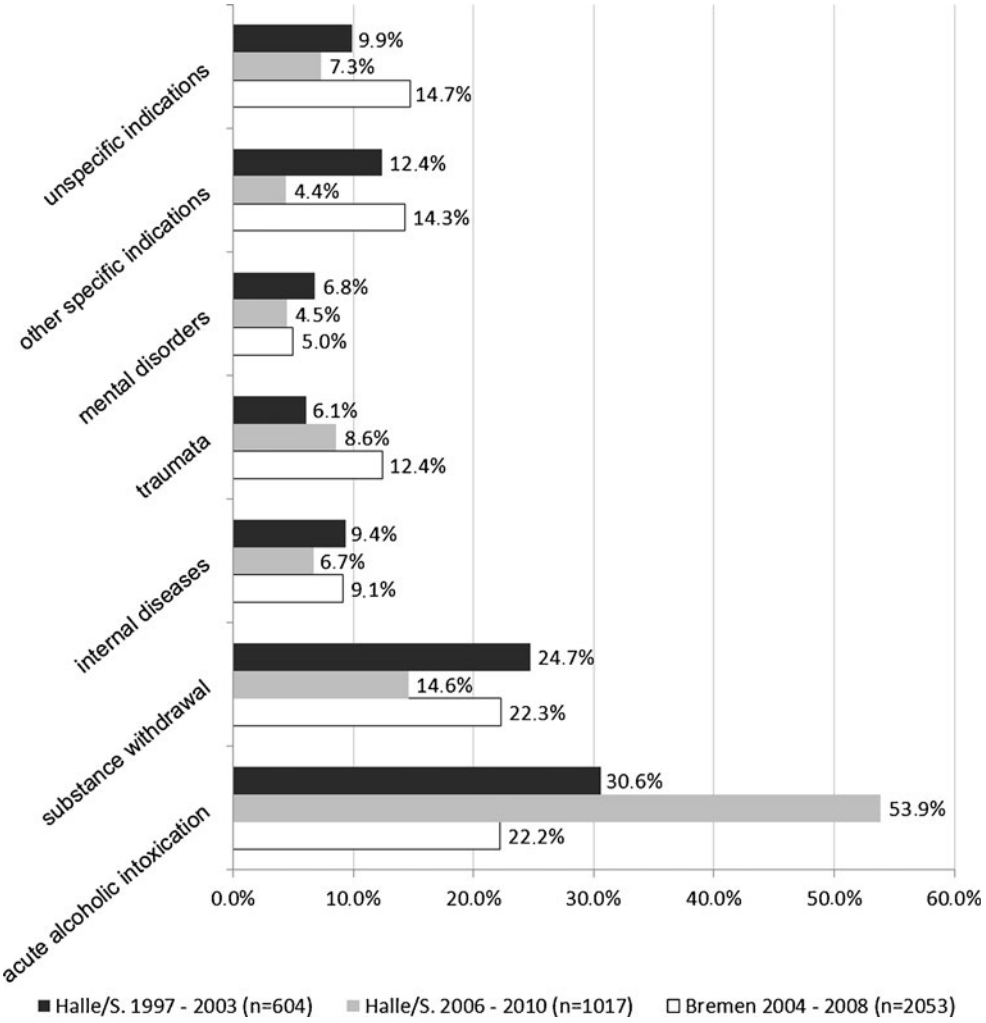

Fig. 2 Comparison of the indications in examinations of fitness for custody in Halle/S (prior and after the new police custody regulation) and Bremen

measures require an increased effort by the police, as medication, for instance, has to be collected from relatives [16, 21] or they have to drive to a hospital. It often helps when the doctor points out that these measures do actually reduce the legal risk of all persons concerned.

In Halle/S, substance withdrawal syndromes led more frequently to the prescription of conditions than acute alcoholic intoxication, especially to more frequent monitoring in order to spot progressing withdrawal symptoms and to controlled administration of replacement drugs.

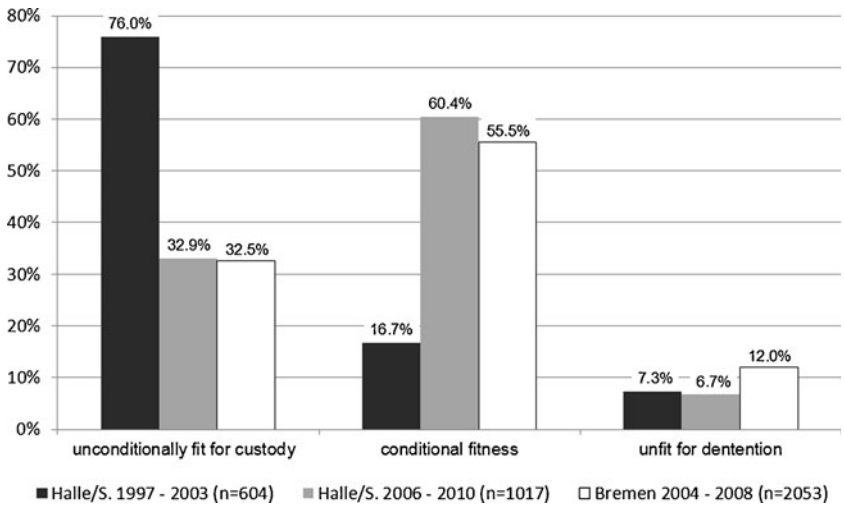

Fig. 3 Comparison of the three categories of medical decision in Halle/S (prior and after the new police custody regulation) and Bremen

Internal diseases predominantly required multiple conditions consisting of more frequent monitoring, consultation of specialists and regular administration of medication. Regarding acute injuries, fitness for custody did often depend on conditions suitable to exclude a relevant craniocerebral trauma or, in close monitoring, to identify a clouding of consciousness, for instance. Mostly a variety of measures was recommended when mental diseases were involved, such measures included, for instance, detention in a large holding cell when the person claimed to be or actually was claustrophobic. Mental diseases relatively often require in-house treatment in a psychiatric hospital [12]. Other specific indications mostly permitted conditional fitness for custody when the person was more closely monitored and received controlled medication.

The comparison of these three case groups showed that the physician's decision on a person's fitness for custody is influenced by the general legal framework. Prior to 2006, there were significant differences between Bremen and Halle/S in terms of the indications and the results of the medical examinations. Those deviations in indications in Halle/S that continued to exist beyond the year 2006 can be explained by regional differences (including but not limited to a smaller population and the inclusion of Halle's rural neighbourhood). The high proportion of unconditional fitness in Halle/S prior to 2006 must, in contrast, have been due to the fact that the legal provisions regulated the medical aspects far less than in Bremen. After the legal provisions in Halle/S were changed in 2006 and now regulated the medical concerns of police custody more extensively, the scope of the medical decision on fitness for custody was observed to widely adjust to the levels seen in Bremen.

Conclusions and potential solutions

The systematic analysis of the medical examination to assess fitness for police custody and the analysis of deaths in custody allow to derive first solutions for the improvement of medical care in this high risk area. The focus lies here on the organisation and legal regulation of the medical aspects of custody but also on policing and medical work.

If there are doubts on a person's fitness to undergo police custody the police authorities have to arrange for medical examination even in difficult general conditions. It has to be ensured that policemen are able to consult a doctor quickly even at night or on weekends. It is, of course, not always easy to meet these requirements, especially in rural areas [36]. Here, we should look for specific regional solutions such as the conclusion of service agreements with certain physicians or hospitals [7].

Error analyses of deaths in police custody [4, 28, 37] show that the officers have to provide the physician with all case history details without any omissions and in the right order of sequence. Any observed intake of many tablets or binge drinking is here of essential importance. The officers should be obliged to always sign the medical certificate to provide confirmation that they have understood the result of the examination and any conditions prescribed [19]. The station's senior personnel have to make sure that monitoring intervals are observed and documented, even when they are short of staff [38]. Regarding the way in which such monitoring is to be carried out properly there is also a need for training the officers [5].

Suitable building and monitoring measures can also contribute to the prevention of harm or deaths [4]. Sleeping facilities should be in a way that prevents deadly falls. However, by introducing general video surveillance [27], disputes between detainees, for instance, could be quicker recognised, which would prevent more serious situations. Central custody suits provide a good possibility [12, 20, 39] where police staff is not involved in any other duties and can therefore focus on the required monitoring activities.

Due to the wide range of symptoms and illnesses, no conclusion can be drawn that would identify a certain medical field as particularly suited for the assessment of fitness for custody. It seems far more important that only specially trained and independent physicians are used [2, 5, 7, 20].

The physician should be aware of the most important legal regulations on the medical aspects of police custody [7]. It must be aimed to provide that the assessment of fitness for custody takes place in a sufficiently heated and lighted room. If the minimal requirements cannot be met, the examination must be carried out in a hospital. If the physician, for obtaining an anamnesis and information on potential health complaints, cannot establish sufficient communication with a person who speaks a foreign language he must insist, even as a safeguard to himself, on an interpreter [5].

The fitness for custody should only declared on conditions in problematic cases, to limit the extent of medical responsibility [5, 7, 8]. The result of the medical examination should always be recorded in writing [5, 6].

The regulations on the medical aspects of police custody should provide clear and structured measures in order to reduce the risks to arrestees but also to remove any of the uncertainties in relation to physicians and police officers. Some countries have already made some progress. In France, a conference on the harmonisation of medical practice in police custody held in 2004 has also produced guidelines [5]. Denmark, England, Scotland, the Netherlands and Japan also publish, in contrast to Germany, statistics on deaths in police custody [1, 29]. In the Netherlands, alleged assaults by members of the police force and deaths in police custody are even investigated by a special organisational unit within the police [29].

In this study, nearly 10% of the persons examined were assessed to be unfit for police custody. This assessment was given mainly in dependency on their concrete clinical condition. Especially in relation to acute alcoholic intoxication, the decision on a person's fitness for custody should basically rest on clinical symptoms (e.g. potential disturbances of consciousness or orientation) rather than on levels of breath alcohol concentration. Every-day practice shows that admittance to hospital is often difficult especially when it concerns obviously intoxicated individuals [9, 20]. Even in the face of all current efforts to reduce health care costs, it is necessary to find regional solutions for such problematic cases, e.g. central medically supervised custody facilities or agreements with hospitals [12, 20, 40].

In Germany too, there is without any doubt an urgent need for action in relation to the legal regulation of the medical aspects of police custody. The custody rules of only a few federal states [6] contain that checks a wake ability test. Some federal states also lack concrete instructions on the frequency of checks [6]. When reviewing custody rules, sufficient examination conditions and the option to set conditions for custody should be codified [5, 20, 40].

Even if the utmost care is applied in the future some complications or deaths in custody will not be prevented. However, by the suggested preventative measures it is well possible to significantly reduce the number of such events [26, 29, 40]. This also requires a post mortem examination of all cases of death in police custody because the assessment of accusations of guilt and the creation of preventative strategies are only possible on the basis of an objective post mortem result.

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