

Article

Attitudes towards accreditation among hospital employees in Denmark: a cross-sectional survey

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Abstract

Objective: To evaluate attitudes towards accreditation and the Danish Quality Model (DDKM) among hospital employees in Denmark. Negative attitudes led the Danish Government to abolish accreditation in 2015.

Design: A cross-sectional survey was carried out via web-based questionnaire.

Setting: All hospital managers, quality improvement staff (quality managers and employees), and hospital surveyors in Denmark; and clinicians (doctors and nurses) within nine selected specialties.

Participants: Overall response rate was 29% with 5055 of 17 646 valid responses included in the data analysis. The response rate was 82% (5055/6188) among respondents who clicked on the link in the mail containing the questionnaire.

Methods: A short questionnaire was designed using a 7-point Likert scale ranging from 1 'strongly disagree' to 7 'strongly agree'. To compare mean values between respondent groups, regression analysis using dummy coding of respondent groups and calculation of standardized mean difference effect sizes were performed.

Results: Overall attitudes were supportive, with physicians more skeptical. There were different patterns of attitudes in the five Danish regions and between medical professions. A small group of physicians was extremely negative.

Conclusion: Clinical attitudes are important, and can affect Government decisions. On the basis of our study, future attention should be paid to attitudes towards accreditation (and attitudes towards other means of quality improvement). Attitudes may reflect political agendas and impede the take-up of improvement programs, cause their demise, or reduce their effectiveness.

Key words: certification/accreditation of hospitals < external quality assessment, surveys < general methodology, quality culture < quality management

Introduction

Hospital employees' attitudes towards accreditation represent an underdeveloped area of study, with previous research exhibiting inconsistent findings [1–4]. Accreditation seems to generate polarized views with some people holding strong opinions about its value and benefits, and others expressing concerns about costs, clinical relevance of accreditation standards, and surveyor inconsistencies. The reasons for these different opinions are poorly understood and may reflect a number of underlying circumstances and factors related to, for example, the type of job and profession, the accreditation model, as well as organizational, financial and political aspects [5–8].

In Denmark, hospital employees' negative attitudes towards accreditation were one of the decisive arguments for the abolition of the Danish Quality Model (DDKM) and hospital accreditation in 2015. The Ministry of Health declared that the time had come to replace accreditation with other means of quality improvement because accreditation, after 10 years, was perceived as entailing a burden of bureaucracy, and needing excessive registration and documentation. It was thought that accreditation had an unwarranted focus on detailed processes. All of this was seen as not meaningful to front line staff [9–11].

The DDKM was established in 2005 by the Danish Government and the five Danish Regions, and all hospitals have been accredited by The Institute for Quality and Accreditation in Healthcare (IKAS) since 2010 [12–13]. DDKM is a mandatory system of accreditation and quality improvement built on the four steps in the quality cycle (plan-do-study-act). These steps are the existence of an accessible, accurate and updated course of action (plan), that all members of the staff know of and work in coherence with relevant guidelines (do), that quality surveillance and external control is conducted (study), and that new quality improvement activities are initiated when needed (act) [14].

Accreditation in Danish hospitals has been described as 'against all odds' where the decision to implement DDKM emerged as a result of a number of converging circumstances (an 'assemblage of views' that made 'an unlikely decision possible') [15]. In the accreditation years in Denmark between 2005 and 2015, there was increasing press coverage portraying hospital staff as excessively burdened with administrative obligations, attributed to accreditation and DDKM [10]. In the prelude to the decision to abolish hospital accreditation, there was also a campaign against the so-called 'documentation frenzy' that gained signatures from one fifth of hospital physicians in Denmark's capital area [16].

In the year leading up to the abolition of accreditation, IKAS and The Danish Center for Healthcare Improvements (DHCI) at Aalborg University initiated a hospital staff survey [17]. The purpose of the survey was twofold. At the time, IKAS was preparing for the version 3 of DDKM accreditation, planned for implementation in 2016. The survey was designed to investigate hospital employees' attitudes towards the potential introduction of a next-generation accreditation design feature, that of unannounced surveys [18]. The second purpose was to initiate a barometer survey with questions regarding attitudes and opinions towards DDKM and accreditation. The plan was to conduct the survey regularly, every 1 or 2 years.

The purpose of this article is to report the findings from the survey with regard to the attitudes among employees in Danish public hospitals towards DDKM and hospital accreditation. The study identifies associations and possible determinants of health professionals' attitudes towards accreditation.

Methods

Survey design

We executed a cross-sectional survey of key stakeholders in hospitals to assess their attitudes towards DDKM and accreditation. All Danish public hospitals ($n = 30$) were included; private hospitals, which comprise less than 4% of the costs of the Danish hospital sector, were excluded. We enrolled all hospital managers (top-level hospital management), quality improvement staff (quality managers and employees) and hospital surveyors in Denmark; and clinicians (doctors and nurses) within selected specialties: orthopedic surgery, respiratory medicine, anesthesia, diagnostic imaging, pediatrics, perinatal and adolescent psychiatry, forensic psychiatry and acute psychiatry. These somatic specialties were selected because they are provided in all Danish somatic hospitals. Similarly, the selected psychiatric specialties provide services in all psychiatric hospitals.

The questionnaire

The DCHI and IKAS designed the survey. Initial testing of the questionnaire was conducted among DCHI and IKAS staff members focusing on proof reading, design, functionality, response time, and in order to strengthen face and content validity. A pilot test was conducted amongst a small group of hospital employees ($n = 20$) to test for possible misinterpretations of questions, understanding of the scoring system and acceptable response time. Only minor adjustments were made to the final version of the questionnaire.

Respondents were asked about their gender, age, occupation, hospital of employment, working experience and primary field of work. Questions were scored on a 7-point Likert scale ranging from 1 'strongly disagree' to 7 'strongly agree' combined with a 'don't know/not relevant' option. An open-ended question allowed respondents to comment freely on any topic.

Administration of the survey

Contact information of hospital managers, quality improvement managers, and hospital staff from the hospitals was obtained by IKAS in May 2014 from the Information Technology (IT) departments in each of the five Danish regions. A snowball sampling technique was used to obtain contact information on quality improvement staff through referrals from the quality improvement managers. Information on surveyors in Denmark was already available in IKAS' contact database.

In August 2014, an email was sent to ($n = 17\,646$) addresses including a link to a SurveyXact™ online version of the questionnaire. A cover letter contained a concise, neutral explanation of the aim of the survey. Participation was voluntary and anonymous, and no financial incentives were provided to enhance participation. A reminder was sent 2 weeks later, and the data collection ended in September 2014.

Data analysis/statistics

Descriptive statistics were performed as mean values and standard deviations (SD). To compare mean values between respondent groups, regression analysis using dummy coding of respondent groups were performed using robust standard errors. All statistical analyses were conducted in STATA/v13 and carried out at the 0.05 significance level. For assessment of effect sizes we used the thresholds suggested by Cohen [19].

Results

The characteristics of the study sample are shown in Table 1. Overall response rate was 29% with 5055 of 17 646 valid responses included in the data analysis. An unknown number of emails did not reach respondents due to problems with turnover, email addresses and spam filters. The response rate was 82% (5055/6188) among respondents who clicked on the link containing the questionnaire.

Attitudes towards accreditation

Table 2 indicates a very clear pattern in the findings. Administrators see accreditation as a more important tool to improve quality than do nurses and physicians. This result holds irrespective of whether we look at clinical quality, organizational quality or patient-experienced quality. The same relationship holds for nurses viz. physicians. Effect sizes are between small and medium with the exception of clinical quality which is between medium and large.

Looking across the three different types of quality it seems to be the case that respondents believe that accreditation is to a greater degree associated with organizational quality than with patient-experienced quality. Clinical quality stands in between.

Focusing on physicians, differences in attitudes cannot generally be explained in terms of different background characteristics of respondents such as geography, age, gender and seniority (data not shown). Some medical professions are uniformly more negative (e.g. psychiatry, mean among physicians 3.43 and among nurses 3.95), with others more positive (diagnostic imaging, mean among physicians 4.27 and among nurses 4.71). However, dividing physicians along the dimension of what they mainly associate accreditation with (quality improvement (33%), control/monitoring (63%), don't

know (4%)) reveals a pattern. Those who associate accreditation with quality improvement believe that accreditation can improve quality (mean 4.55). Those who associate accreditation with control are less convinced that accreditation would improve quality (mean 3.40). But the group which is most skeptical about the relationship between accreditation and quality improvement is the group which answered 'don't know' to the question about what accreditation is associated with (mean 2.01).

Attitudes towards DDKM

Turning to the accreditation agency and its effects, Table 3 shows that physicians are skeptical regarding a potential positive influence of DDKM on quality (mean 3.54) whereas nurses and managers seem to believe in DDKM. Managers are most positive (mean 5.04 vs. nurses, 4.62).

Respondents' average evaluations are between one half to three quarters of a standard deviation lower for physicians compared with nurses. The results are more mixed when it comes to the comparison between nurses and managers/staff where the differences in many areas are not significant. The effect sizes are typically between medium and large.

Areas such as safe surgery, sudden cardiac arrest treatment, patient safety and hygiene are where DDKM is held to have had the highest impact although there are different opinions among the groups.

In regard to physicians' views, some variation in attitudes towards DDKM is associated with background characteristics (data not shown). Typically, physicians located in either Central Denmark Region or Capital Region of Denmark were less positive about the influence of DDKM as compared to the other regions. The youngest physicians were more skeptical than their older colleagues, and males are slightly more skeptical than women. A small group of physicians (5%) was extremely negative (average of 1.0 on all quality dimensions). Attitudes for physicians also varied according to the dimension of what accreditation is associated with (quality improvement, control/monitoring, don't know), and a similar result held: the 'don't know' group was far more skeptical regarding the positive influence of DDKM as compared to the physicians who associate accreditation with control and even moreso when compared to those who associate it with quality improvement.

Table 1 Demographic characteristic of the study sample

	<i>n</i>	%
Total	5055	100
Gender		
Female	4103	81.1
Male	952	18.8
Occupational categories		
Doctor	1259	24.9
Nurse	3605	71.3
Quality staff	112	2.2
Hospital management	37	0.7
Surveyors	42	0.8
Age of respondents		
<30	267	5.3
≤40	1315	26.0
≤50	1484	29.4
≤60	1489	29.5
>60	500	9.9
Working experience in years		
<2	906	17.9
≤5	829	16.4
≤8	767	15.2
>8	2553	50.5
Region		
Region Zealand	737	14.6
Central Denmark Region	1669	33.0
Capital Region of Denmark	1046	20.7
Region of Southern Denmark	1187	23.5
North Denmark Region	416	8.2

The quality circle in DDKM

Table 4 highlights that all four steps in the quality circle in DDKM are seen as rather important with averages for physicians around 4.5 and around 6.0 for managers. As before, physicians were most skeptical, followed by nurses and managers. Physicians reported an average evaluation of one half of a standard deviation below that of nurses. The first and the last step in the quality circle were seen as the two most important elements in the DDKM. This result holds uniformly across the three groups of employees. The effect sizes are uniformly above medium, thus supporting other findings.

Barriers to quality improvement

In Table 5, lack of time and inexpedient IT tools were seen as the most problematic barriers to the full benefits of DDKM programs. Lack of support from either department or top management was generally not seen as a substantial issue. Lack of relevance of accreditation for daily duties was seen as a problem for physicians (mean 5.16) and for nurses (mean 4.35) but not for managers (mean 3.17). Lack of communication either at the hospital or ward level

Table 2 Hospital physicians' attitudes towards accreditation as a tool for quality improvement

To what degree is accreditation an important tool to increase	Physicians			Nurses			Managers/staff			Eta ²
	Obs	Mean	Std. dev	Obs	Mean	Std. dev	Obs	Mean	Std. dev	
The clinical quality	1232	3.33	1.83	3534	4.57	1.82	190	5.04	1.73	0.09
The organizational quality	1213	4.20	1.86	3311	4.58	1.80	189	5.79	1.54	0.03
The patient-experienced quality	1193	3.14	1.76	3391	3.95	1.88	188	4.57	1.82	0.04
Average of the above 3 questions	1176	3.55	1.59	3208	4.36	1.62	187	5.13	1.44	0.06

All pairwise comparisons are significant at the 1% level of significance. Eta² equals effect size for the overall *F*-test.

Table 3 Hospital employees' attitudes towards the Danish Quality Model (DDKM)

To what degree does DDKM make a positive difference for the quality with regards to	Physicians			Nurses			Managers/staff			Eta ²
	Obs	Mean	Std. dev	Obs	Mean	Std. dev	Obs	Mean	Std. dev	
Referrals from general practice	856	2.95	1.74	1326	4.18 ^a	1.79	155	3.93 ^a	1.90	0.10
Diagnostics	1050	3.11	1.79	2113	4.48 ^b	1.72	168	4.48 ^b	1.59	0.12
Reaction to test results	1059	3.62	1.84	2379	4.69	1.73	177	5.56	1.28	0.09
Medication	1035	3.79	1.84	2804	4.90	1.69	180	5.43	1.31	0.08
Treatment plans	1054	3.53	1.85	2625	4.77	1.68	174	5.03	1.44	0.10
Early detection of aggravation in disease	982	3.62	1.87	2630	4.82	1.74	173	5.28	1.48	0.09
Safe surgery	790	4.25	1.99	2226	5.40 ^c	1.61	160	5.40 ^c	1.45	0.08
Heart stop treatment	894	3.88	1.96	2750	5.20 ^d	1.72	174	5.05 ^d	1.63	0.09
Nutrition screening	862	3.75	1.81	2222	4.66	1.72	173	4.99	1.44	0.06
Nosocomial infections	850	3.70	1.79	2047	4.90 ^e	1.65	173	4.96 ^e	1.58	0.09
Discharge summary	971	3.77	1.85	2282	4.68 ^f	1.69	173	4.88 ^f	1.57	0.06
Patient safety	1084	3.95	1.84	3155	5.17 ^g	1.65	181	5.22 ^g	1.47	0.09
Hygiene	1067	4.14	1.85	3185	5.09 ^h	1.72	183	5.11 ^h	1.46	0.05
Average of the above 13 questions	417	3.54	1.75	728	4.62	1.63	130	5.04	1.28	0.10

Means with same superscripts are not statistically significantly different (using a 5% level of significance). Eta² equals effect size for the overall *F*-test.

Table 4 Hospital employee's attitudes towards the four elements in the Danish Quality Model (DDKM)

To what degree does the following elements of DDKM make a positive difference for the quality at your hospital/ward	Physicians			Nurses			Managers/staff			Eta ²
	Obs	Mean	Std. dev	Obs	Mean	Std. dev	Obs	Mean	Std. dev	
The existence of accessible, accurate and updated guiding documents	1201	4.50	1.84	3503	5.54	1.50	191	5.97	1.24	0.08
That all members of the staff know of and work in coherence with relevant guiding documents	1204	4.23	1.86	3505	5.37	1.54	191	5.77	1.24	0.09
That quality surveillance and external control is a standard	1183	4.29	1.86	3423	5.24	1.61	191	5.96	1.29	0.07
That requirements for quality improvement initiatives is a standard	1182	4.54	1.84	3456	5.53	1.49	190	6.06	1.23	0.08

All pairwise comparisons are significant at the 1% level of significance. Eta² equals effect size for the overall *F*-test.

was generally not a big issue. In general, differences between the three groups are not as marked with respect to barriers as compared to other findings and the pattern of differences is less clear. All effect sizes except one are small.

Discussion

This is the largest study of hospital employees' attitudes towards accreditation, and the first with a nationwide perspective. It shows a pattern similar to that which has been reported elsewhere [1–4]. Overall attitudes toward accreditation are positive, but physicians are more skeptical. There are variations in attitudes within each

group but background characteristics such as age, gender and seniority explain very little of these differences.

Our results show that studying attitudes may be important for understanding the effectiveness of accreditation. Research on the effectiveness of accreditation points to organizational performance and development as the main benefit, and generally finds improvements at the clinical level difficult to document [1–6, 20]. Our results seem to support these findings. The respondents agree that accreditation is an important tool to improve organizational quality but only modestly agree that this extends to clinical- and patient-experienced quality. Furthermore, the PDSA cycle is perceived to make a positive difference in supporting quality efforts at the ward/

Table 5 Hospital employee's experiences with barriers for working with the Danish Quality Model (DDKM)

To what degree do you believe that the following barriers inhibit your hospital/ward from obtaining the full benefit from DDKM	Physicians			Nurses			Managers/staff			Eta ²
	Obs	Mean	Std. dev	Obs	Mean	Std. dev	Obs	Mean	Std. dev	
Lack of time	1165	5.53 ^a	1.63	3449	5.56 ^a	1.63	181	4.71	1.74	0.01
Inexpedient IT tools	1169	5.79	1.55	3360	5.48 ^b	1.68	179	5.50 ^b	1.70	0.01
Lack of relevance for my daily duties	1171	5.16	1.72	3262	4.35	1.88	171	3.17	1.78	0.05
Lack of communication at the hospital/ward	1132	4.03	1.83	3263	4.15	1.79	175	3.41	1.86	0.01
Lack of support from the department management	1124	2.91 ^c	1.76	3263	3.36 ^d	1.93	175	3.15 ^{c,d}	1.87	0.01
Lack of support from the top management	1070	3.23 ^c	1.93	3044	3.72	2.00	175	2.94 ^e	1.92	0.02

Means with same superscripts are not statistically significantly different (using a 5% level of significance). Eta² equals effect size for the overall *F*-test.

hospital level. PDSA, of course, is by definition about organizational learning and development.

Results of studies on the effectiveness of other management tools for continuous quality improvement (CQI) also suggest, that a lot depends on 'compatibility'. Compatibility is the degree to which tools can be aligned with the characteristics and working modes at the local level. The higher the compatibility and flexibility, the greater the likelihood of success [21–22]. Again, our results seem to support these findings. We also found that some medical professions are more negative (e.g. psychiatry), with others more positive (e.g. diagnostic imaging and anesthesiology). Accreditation may be a more acceptable method of quality improvement in some medical areas than others, perhaps reflecting the degree to which the daily work can be standardized. For example, anesthesiologists may find accreditation more compatible with working practices (and they may be more experienced with other means of standardization such as ISO certification and good clinical practice (GCP) guidelines for clinical trials) than psychiatrists who may find accreditation less compatible with their clinical practice.

Our results also indicate that management is of vital importance for successful implementation. There are different patterns of attitudes in the five Danish regions, which raises this issue of consistency in regional management. Despite DDKM being a common quality model for all regions there are differences in management focus and application of DDKM due to differences in regional health policies and management culture. This area needs further research: this should include both qualitative data (e.g. interviews and analyses of grey literature) as well as quantitative analyses of the differences in attitudes within the management group. An interesting dilemma is apparent here: Respondents did not see management as a barrier to successful implementation, although management may be the single most important factor for implementation and effectiveness. Thus, the strongest association we found was between employees' belief in a positive effect on quality and their perception of accreditation. It appears that if employees are committed to quality improvement, accreditation is thought to be effective; the phenomenon may operate in the opposite direction, too, although we can only say this is an association, not causal. This can be interpreted in accordance with Donabedian's thesis, to the effect that if employees are genuinely committed to quality, almost any mechanism will work. According to Donabedian, if employees are not, even the most elegantly constructed mechanisms will likely fail [23]. Taken together with the geographical variances in attitudes, this seems to indicate that the influence or effects of accreditation do not necessarily stem from the method of accreditation per se but rather from the way regional and local management chose to work with it.

Turing to a consideration of the Danish Health Ministry's decision to abolish hospital accreditation in 2015, this was apparently

based on an impression that employees' attitudes towards DDKM and accreditation were uniformly negative. As we have shown, the attitudes towards accreditation and DDKM were in fact supportive. Typically, hospital physicians are more skeptical than others, but nevertheless they largely affirm accreditation's positive effect on organizational quality. Nurses, managers, quality improvement staff and surveyors hold positive attitudes. Only a small group of physicians was extremely negative.

Our findings have important implications for the new Danish quality model to be implemented in 2017 [24]. Attitudes represent an important area to monitor and influence since they affect the success of the quality model. Attitudes seem to reflect aspects of organizational culture and can be both persistent and contagious [25–26]. In the Danish Capital Region, prior to the implementation of DDKM, experiences with another accreditation instrument may have contributed to form negative expectations and attitudes that could have lasted more than 10 years, until now. The region was planning to have both DDKM and Joint Commission International (JCI) accreditation [27] over a period of approximately 1 year, and seems to have been a contributing factor in the more than a thousand physicians signing a common complaint. It was unclear in the protest as to whether it was accreditation in itself or this double accreditation proposal that was the real issue (ref).

Other Danish research has shown that 'documentation overload' in Danish hospitals was in fact not a result of demands by DDKM [10]. Instead, DDKM changed over the years (not so much the accreditation model in itself, but the way it was used by the hospitals gradually became more oriented toward control and monitoring). Thus, the original aims of the accreditation program became overshadowed by local politics, perceived bureaucratization and opinions about excessive compliance measures.

Rather than seeing accreditation as a key mechanism for quality improvement, as many other countries have done (more than 70 at last count; [28]) it appears that local politicians and managers (and perhaps nurses) imposed bureaucratic measures on what was originally designed as quite a streamlined system. While standardization of procedures is indeed an important component of accreditation, standardization and in particular management by monitoring compliance of actual processes with specifications was taken too far, leading to a 'control and checklist culture'. Part of the reason may have been that hospital managers tried to safeguard themselves against criticism, and assure a positive external evaluation. Clinical departments seemed insufficiently involved in defining the application of the standards, or interpreting them in a clinically meaningful manner [10].

As to limitations, our research is cross-sectional, and is an attitude survey, with the attendant limitations of such studies, including potential for self-selection and bias. Specifically, although we found evidence

of polarized views, there is a risk of self-selection bias in this study because people with strong opinions might be more likely to participate in the survey and express their attitudes. In this type of research, we do not know whether non-participants would have responded differently. One strength of the study is the large sample size, and the response rate (82% of those who clicked on the electronic invitation). An unusual benefit from this study was conferred by its fortuitous timing. The research was designed prior to the political decision to abandon accreditation in Denmark, and thus ended up probing attitudes that were alleged to have been the reason why that decision was made.

Conclusion

On the basis of our study, future attention should be placed on attitudes towards accreditation (and attitudes towards other means of quality improvement), and might explicitly take into account political factors at the local, regional and national levels. Outside of Denmark, attitudes may also reflect political agendas, and political lobbying might act to impede the take-up of improvement programs, cause their demise or reduce their effectiveness. Further research might focus on the role of diverse groups of stakeholders in explaining differences in attitudes towards national programs of quality improvement and their effectiveness.

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Authors' contributions

All authors contributed to the study design, data analysis, presentation and interpretation of the results or writing of the paper.

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