ISSN-E: 2617-9563

“Methods for Ensuring Quality and Protecting Patients: A Comparative Longitudinal Analysis”

Mamdoh R G Al Onazi , Shuruq Raja Qunayfith Alanazi , Awatif Saleh Khalid Alanazi , Afrah Nail Atia Alrwily , Salem Hejji Awadh Alanazi, Khloud Ramadan Adrees Alenezi , Bader Faleh Awadh Alanazi , Abdullah Ali Abdullah Alotaibi , Anwar Mukammi Kulaib Alruwaili , Reem Naem Asimar Alrawili , Khalaf Mahal A Alhazmi And Saleh Atallah Khalaf Alanazi .

ISSN-E: 2617-9563

ISSN-E: 2617-9563

ABSTRACT:

The Objective of this study: to determine whether the interventions had the desired impact on healthcare organizations' safety culture and quality assurance practices. Setting: Workplace health insurance for medical emergencies.

Methods: The study tracked how several Quality Assurance metrics relate to Safety Culture throughout time. Longitudinal observational research was described. Participating centres ranged in size from 52 (small) with fewer than eight people to 707 (large) with eight or more employees and 91 (centres with quality managers). The data was collected in the years 2015 and 2016.

Results: 595 healthcare personnel participated in 2015, whereas 491 participated in 2016. Both Quality Assurance and Safety Culture shown significant improvement (T-test = 3.5, $p = 0.001$ and T-test = 5.6, $p < 0.0001$, respectively). This resulted in a 5.5% improvement in the quality culture compared to a 2.1% improvement in the safety culture.

Conclusions: There was congruence between the evaluations of the quality assurance objectives and the safety mentality. This is why it seemed like the Safety Culture scores didn't change over time.

KEYWORDS: quality assurance; patient safety; healthcare organization.

المستخلص:

الهدف من هذه الدراسة: تحديد ما إذا كانت التدخلات لها التأثير المطلوب على ثقافة السلامة وممارسات ضمان الجودة في مؤسسات الرعاية الصحية. الإعداد: التأمين الصحي في مكان العمل لحالات الطوارئ الطبية.

الطرق: تتبعت الدراسة مدى ارتباط العديد من مقاييس ضمان الجودة بثقافة السلامة على مدار الوقت. وقد تم وصف البحوث الرصدية الطولية. وتراوح حجم المراكز المشاركة من ٥٢ (صغيرًا) يضم أقل من ثمانية أشخاص إلى ٧٠٧ (كبيرًا) يضم ثمانية موظفين أو أكثر و٩١ (مركزًا يضم مديري جودة). تم جمع البيانات في الأعوام ٢٠١٥ و ٢٠١٦.

النتائج: شارك ٥٩٥ من العاملين في مجال الرعاية الصحية في عام ٢٠١٥، بينما شارك ٤٩١ في عام ٢٠١٦. أظهر كل من ضمان الجودة وثقافة السلامة تحسنًا كبيرًا (اختبار $T = 3.5$، $p = 0.001$ واختبار $T = 5.6$، $p < 0.0001$، على التوالي). وأدى ذلك إلى تحسن بنسبة ٥,٥% في ثقافة الجودة مقارنة بتحسن بنسبة ٢,١% في ثقافة السلامة.

الاستنتاجات: كان هناك تطابق بين تقييمات أهداف ضمان الجودة وعقلية السلامة. ولهذا السبب يبدو أن نتائج ثقافة السلامة لم تتغير بمرور الوقت.

الكلمات المفتاحية: ضمان الجودة؛ سلامة المريض؛ منظمة الرعاية الصحية.

ISSN-E: 2617-9563

INTRODUCTION:

In high-reliability organizations (HROs), such as healthcare institutions, a commitment to achieve quality objectives is a crucial component of quality policy. Objectives for efficacy, efficiency, and patient satisfaction are all part of the standard of care (Berwick, D. M., et al.2008). Businesses in the healthcare industry are also aware of the critical importance of fostering safety practices and conducting resilience analyses of clinical practice. There are a number of perspectives on quality assurance and patient safety, and they are all clearly interrelated (Mort, E, et al.2017). Improving the quality of the setting for patients requires involvement of people who work directly with them in safety measures (Wakefield, J. G., et al.2010). Healthcare organizations must modify the way their employees think, feel, and act about quality, particularly with their safety culture, if they want to achieve quality goals, including patient satisfaction (Pronovost, P. J. et al.2003; Kagan, I., et al.2019).

The level of dedication, expertise, and familiarity with the company's health and safety programmes are determined by the beliefs, attitudes, behaviours, and habits of individuals and groups that make up the patient safety culture (Health and Safety Commission. 1993). A healthcare facility can contribute to quality (Pronovost, P. J., et al.2003; Iglesias-Alonso, F., et al.2012). by maintaining a focus on patient safety. When employees disregard safety protocols, patients suffer (Etchegaray, J. M., & Thomas, E. J. 2015). Leadership style evaluation, staff and front-line professional cooperation, evidence-based medicine, effective communication channels, the ability to learn from mistakes, viewing mistakes as system failures rather than personal failings, and prioritizing the patient are all components of a safety culture (Sammer, C. E., et al.2010). When testing this, researchers frequently employ cross-sectional studies (Colla, J. B., et al.2005).

Over the last many years, researchers have explored the impact of expanding the patient safety culture measure and its expansion on outcomes. However, the relationship between safety culture, measured quality (DiCuccio, M. H. 2015). and patients' perceptions of quality (Sorra, J.et al.2012). has not been well studied. The majority of these research relied on cross-sectional designs (Colla, J. B., et al.2005). The purpose of this study was to provide health professionals and policymakers with information they may use to mitigate the risks associated with their work (Iglesias-Alonso, F., et al.2012). But until additional concrete steps are made, collecting data may not be sufficient to bring about long-term improvements in patient care. When we measure quality and safety from the perspective of healthcare professionals, we can pinpoint the areas of care that require improvement, leading to higher quality care overall. To compare quality achievements and safety culture measures, this study utilized a health group called the Mutual Insurance of Work- Related Accidents and Occupational Diseases.

METHODS:

The purpose of this observational, continuous study was to examine the relationships between safety culture evaluation and MC Mutual QA plan results evaluation. This study was conducted from May 2015 to November 2016. An annual QA and Safety Culture score was achievable. In the event of a work-related accident or sickness, 1.3 million workers can rely on MC Mutual, a non-profit health organization based in Spain. There are four thousand individuals employed

there, with 800 being health care workers who assist approximately 100,000 patients annually. Two of the eighteen strategic objectives of the quality assurance programme that got underway in 2014 concerned safety. The objectives were categorized into three primary areas: establishing evidence-based treatment protocols and risk maps; introducing a reporting system and quality improvement plans; and outlining evidence-based safe practices, including accurate patient identification, proper hand hygiene, safe medication use, and the prevention of surgical errors and falls. Looking at QA 2017-2019 will give you an idea of what the QA is aiming for and planning for.

Subjects:

Both the 2015 and 2016 surveys solicited responses from 143 individuals; the former included 91 quality assurance coordinators and 52 professionals from "small centres" (defined as centres with less than eight workers), while the latter included 145 individuals (92 coordinators and 53 professionals from small centres). Professionals' perceptions of the QA's findings were the focus of the research. These results demonstrated a sample error of approximately 3%, as 60% of healthcare personnel were predicted to agree with the QA.

An MC Mutual quality coordinator is on staff at each participating healthcare facility to facilitate communication between quality assurance and other related initiatives. Those in charge of QA at their respective centres are qualified medical professionals, nurses, or physiotherapists who have undergone specialized training. Experts from smaller centres were selected for their potential to contribute to the organization-wide rollout of quality assurance. Smaller centres, which are typically located in provincial capitals and closer to intake, were chosen because they were believed to be easier to execute than larger centres. Since the quality coordinators had a hand in event planning and would have been more likely to get comments on their performance, discrepancies between the QA and Safety Culture assessments were anticipated. However, hearing about the quality and safety plan's implementation from experts at the smaller centres was more dependable. Quality assurance managers and other professionals were among those invited to complete the safety culture questionnaire in 2015, with 815 responding and 847 doing the same in 2016. It was discovered that twenty-five of the email addresses were invalid. There was an assurance of secrecy, and the database did not keep any personally identifiable information.

Materials:

The 24-question QA test (Manzanera, R., et al.2016) was administered by experts. Ten questions made up the Safety Culture survey; they were then divided into two categories, each of which explained 60% of the overall variance (Manzanera, R., et al.2021). The instrumental component (5 items) and the attitudinal component (5 items) were the two groups. With an intra-class correlation value of 0.87 and Cronbach's Alpha of 0.83 and 0.81, respectively, we can see that the questionnaire is reliable. We can also see that each factor is consistent.

The following aspects of both tools were examined in the review: strategy (to determine if they were dedicated to the quality and safety strategy, feedback from indicators, and risk maps); evidence-based practice; equipment (to ensure tests are available when needed); follow-up (to

ensure patients' values and preferences are respected); and support systems for clinical decisions (to ensure patients can access their clinical information and digital record algorithms to help make decisions).
The QA actions were useful, according to a group of two clinical managers and two quality technicians. They came to a consensus on whether the entire organization or just a few centres would be responsible for implementing them, and whether the measures to ensure their rollout across MC Mutual's centres would be of minor or big intensity. The range was from 1 to 5, with 5 being the highest and 1 being the lowest. Its range was from one to twenty-five.

Statistics:
Comparing the number of responses to each QA item with the maximum possible score allowed us to determine the percentage of compliance. The examined areas were comprised of a collection of components whose average level of compliance was assessed. These measures were also implemented under the Safety Culture initiative. Comparing the rates of QA and Safety Culture compliance over time was done using a T-test for independent samples.
Additionally, a clinical manager and a quality worker conducted a quality assessment. They contrasted the intended QA actions' breadth and depth with the degree to which compliance scores changed. We compared the degree of change in the compliance findings across all areas using the multi-scope and intensity assessment. For every comparison, there was strong congruence, light congruence, or no congruence at all. The Spearman's Rho rank-order correlation was used to determine the relationship between the intensity and scope scores and the amount of change in the compliance scores.

Results:
The 2015 and 2016 results show that 96 and 91 professionals, respectively, replied to the survey

ISSN-E: 2617-9563

(67% and 63% of the total). In2015, out of a total of 102 professionals working in small centres, 70 were quality managers. In 2016, twenty of them were quality managers and seventy-one were professionals working in small centres. While 499 professionals (or 61% of the total) responded to the safety culture survey in 2015, just 400 (or 47% of the total) did the same in 2016. There were sixty-two quality supervisors among them in 2015 and 2016. There was a statistical difference in the QA scores between the two waves, with the 2016 second review having higher values (T-test = 3.5, $p < 0.001$). There was a significant difference between the first and second waves in terms of overall safety culture questionnaire scores (T-test = 5.6, $p < 0.0001$). Table 1 shows that while both QA and Safety Culture were improving at similar rates, QA was improving at a quicker rate. Aside from that, the change percentages for QA range from 0.3% to 13.4% (average: 5.5), and for Safety Culture, they range from 0.4% to more than 8% (average: 2.1). (Table 2) shows that the action's scope and intensity measurements were in agreement with the alterations' intensities seven out of eight times. A Spearman's Rho value of 0.89 ($p = 0.003$) was found between the change in compliance scores and the scope and intensity scores after they were sorted. When comparing all professionals in Safety Culture to those in smaller centres, quality coordinators performed better than professionals overall (Table 3).This was also true when comparing QA achievement evaluations.

Table 1. Response trends and results comparison of the Safety Culture and Quality Assurance measurements assessment.

Areas	QA 2015 (N = 96)	QA 2016 (N = 91)	QA Improvement $ (%)	Safety Culture 2015 (N = 499)	Safety Culture 2016 (N = 400)	Safety Culture Improvement * (%)
Strategy	58.2	71.9	13.7 ($p < 0.0001$)	79.7	87.7	8.0 ($p < 0.0001$)
Support systems for	64.9	65.2	0.3 ($p = 0.921$)	92.4	93.5	1.0 ($p = 0.095$)
Equipment	44.0	53.6	4.6 ($p = 0.226$)	86.2	87.4	1.2 ($p = 0.155$)
Follow-up	71.9	75.2	3.3 ($p = 0.32$)	87.4	87.7	0.4 ($p = 0.636$)
Person-centered care	70.6	75.1	4.6 ($p = 0.061$)	82.9	85.8	3.0 ($p = 0.001$)
Evidence-based practice	60.0	71.1	11.1 ($p < 0.0001$)	89.1	89.9	0.7 ($p = 0.241$)
Delays	70.1	74.6	4.5 ($p = 0.088$)	86.9	88.2	1.3 ($p = 0.065$)
Cost-effective	67.8	70.0	2.2 ($p = 0.535$)	86.3	87.9	1.6 ($p = 0.033$)

$ Quality Assurance Mutuality Plan of MC Mutual (QA) Improvement is the difference between the QA 2016 and QA 2015 scores. * Safety Culture Improvement is the difference between the Safety Culture 2016 and Safety Culture 2015 scores. *p*-values are the average differences from/in the evaluations in the two QA and safety culture measures.

Table 2. Qualitative analysis comparison of the improvements on safety culture and quality

ISSN-E: 2617-9563

assurance measurements and scope and intensity measures of the QA actions implemented.

Areas	QA Improvement[$] (%)	Safety culture Improvement* (%)	Scope ×Intensity (Ranged 1 to 25)	Qualitative	Implementated Actions
Strategy	13.7↑↑↑	8.0↑↑	20	Assessment Greater congruence	QA dissemination and feedback
Support systems for clinical decisions	0.3=	1.0=	5	Greater congruence	Digital record
Equipment	4.6↑	1.2=	6	light congruence	Resuscitation trolleys, gurneys, and other equipment
Follow-up	3.3↑	0.4=	9	light congruence	Guidelines
Person-centered care	4.6↑	3.0↑	15	Greater congruence	Surveys to capture patients' views
Evidence-based practice	11.1↑↑↑	0.7=	12	Lack of	Specific training
Delays	4.5↑	1.3=	9	Congruence light of congruence	Delay criteria stablished
Cost-effective treatments	2.2=	1.6=	6	Greater congruence	Diagnosis and treatment criteria defined

Add up the results from both QA 2016 and QA 2015 to get [$]QA Improvement, and add up the results from both Safety Culture 2016 and Safety Culture 2015 to get *Safety Culture Improvement. The following is an expression of the degree to which the compliance scores have changed: those between 0 and 2.9% are not noticeable, those between 3 and 5.9% are noticeable, changes between 6 and 8.9% are crucial, and changes greater than 9% are conspicuous. There is a modest range of 1–12 for scope and intensity, a neutral range of 13–19, and a large range of 20–25.

Table 3. Response trends and results comparisons of the results evaluation of the safety culture and quality assurance measurements of the quality coordinators and the rest of the professionals.

	QA 2015	QA 2016	QA $Improvement (%)	Safety culture 2015	Safety culture 2016	Safety culture Improvement * (%)						
Areas	Coor [1] (N=70)	Prof [2] (N=26)	Coor [1] (N=71)	Prof [2] (N=20)	Coor [1]	Prof [2]	Coor [1] (N=62)	Prof [3] (N=437)	Coor [1] (N=62)	Prof [3] (N=338)	Coor [1]	Prof [3]
strategy	55.3	63.5	72.4	70.7	17.1(*p* <0.0001)	7.2 (*p* =0.407)	79.6	79.7	90.0	87.2	10.4 (*p* <0.0001)	7.5 (*p* <0.0001)
Support systems for clinical decisions	60.4	67.8	65.2	65.5	4.8 (*p* =0.511)	-2.3 (*p* =0.456)	94.4	92.2	96.6	92.8	2.2 (*p* =0.075)	0.6 (*p* =0.267)
Equipment	45.2	59.2	52.8	56.0	7.6 (*p* =0.069)	-3.2 (*p=0.693)*	89.2	85.8	93.0	86.4	3.8 (*p=0.042)*	0.6 (*p=0.504)*
Follow-up	73.6	67.4	76.8	69.0	3.2 (*p* =0.312)	1.6 (*p=0.824)*	87.8	87.4	93.0	86.8	5.2 (*p=0.005)*	-0.6 (*p=0.507)*
Person-centered	69.6	71.8	76.4	70.0	6.8 (*p* =0.003)	-1.8 (*p=0.538)*	83.4	82.8	89.0	85.2	5.6 (*p=0.010)*	2.4 (*p=0.013)*
Care Evidence-based	58.2	64.2	70.4	73.0	12.2 (*p* <0.0001)	8.8 (*p* =0.189)	89.0	89.2	92.6	89.4	3.6 (*p* =0.029)	0.2 (*p* =0.742)
Practice Delays	71.4	67.6	76.1	68.5	4.7 (*p* =0.051)	0.9 (*p* =0.860)	88.0	86.8	89.6	88.0	1.6 (*p* =0.296)	1.2 (*p* =0.132)
Cost-effective treatments	68.2	66.6	72.0	62.0	3.8 (*p* =0.312)	-4.6 (*p* =0.581)	88.6	86.0	92.0	87.2	3.4 (*p* =0.030)	1.2 (*p* =0.161)

ISSN-E: 2617-9563

DISCUSSION:

The data trend shows that putting in place a strategy for quality and safety has a good effect on the outcomes (DiCuccio, M. H. 2015).The evaluations used in this study came from health professionals and show how approaches, processes, and results have changed over time. It also proves that changesin safety culture happen more slowly than changes that happen when new quality assurance measures are put intoplace. Other research has shown that putting quality and safety goals into action together leads to bigger benefits (McFadden, K. L., et al.2015). These data indirectly back up this claim and show that improving quality has a ripple effect on other areas that are important for making care safer for patients.

In this case, the steps taken to improve things (making a quality strategy, a risk map, an incident notification system, a plan to bring in new professionals, going over guidelines and protocols again, or getting training in quality assurance) have led to better changes in the scoresin QA. Leadership is important for two things: (1) encouraging professionals to do good work and have a positive view of quality assurance; and (2) making changes to procedures and making sure there is a good work environment that makes patients safer and improves performance (Ward, M. E., et al.2018). In this way, it makes sense that job happiness and safety culture would be linked. In fact, a recent study from Spain measured the strength of the link between these two factors (Merino-Plaza, M. J., et al.2017). Leadership, and more specifically, supportive supervision, was found to be a strong predictor of proactive patient attitude in that study.The studies of quality managers of care and the other professionals are all part of this study. As expected, these comparisons are not the same. Quality coordinators of care have more direct knowledge, so their ratings are a little higher than those of the other professionals. Additionally,it was anticipated that the professionals at the smaller centers would receive the lowest ratings. This was due to two factors: (1) information wasn't spread as widely; and (2) the actions began at the larger centers, leading to moreactivities. Several studies done in a different setting foundthat front-line workers usually complained more about what the directive staff wanted them to do (Kagan, I., Porat, N., & Barnoy, S. 2019). Also, somestudies have shown that safety culture measures aren't always fair when it comes to the effects of good actions that make things safer (Wang, M., & Tao, H. 2017). This time, we see a similar trend. It's interesting that there weren't bigger differences when we looked at safety culture measures between quality coordinators and professionals who worked insmaller centers.

In the past, quality models have looked at how many stepswere taken, and this study shows how important thatcriterion is. This finding might be useful for telling healthcare organizations to change how they evaluate quality and safety policies. In the short term, people may value quality products more than safety culture. However,safety culture is more stable over time.

There is no question that quality assurance and patient safety are closely linked, but there haven't been many studies that look at how they really relate to each other. The main purpose of this study was to look at how the twofactors are related to each other in order to make our measurements even more useful.

LIMITATIONS:

The subjective measures used in this study come from theQA and Safety Culture Questionnaire. The reaction rates are fine, but not all professionals answered, and the reasons why some didn't weren't looked into. Average results for QA and safety culture were not the same, so it was easier to make progress in QA than in safety culture. Professionals are the only ones who can say what they think about quality and safety; patients, who get care, were not asked for their opinions (García-Alfranca, F, et al.2018).

CONCLUSIONS:

To sum up, having professionals regularly evaluate the outcomes of quality plans and safety cultures lets us keep an eye on how well the suggested changes are being used and how well they are working. Tests of safety culture tell us about attitudes in a broader sense, while tests of how well quality plans are put into action focus on more specific parts of direct patient care. As long as both measures agree, it seems like the plans meet the quality and safety standards needed for operation.

REFERENCES:

1) Berwick, D. M., Nolan, T. W., & Whittington, J. (2008). The triple aim: care, health, and cost. *Health affairs*, *27*(3), 759-769.
2) Mort, E., Bruckel, J., Donelan, K., Paine, L., Rosen, M., Thompson, D., ... & Peer-to-Peer Study Team. (2017). Improving health care quality and patient safety through peer-to-peer assessment: demonstration project in two academic medical centers. *American Journal of Medical Quality*, *32*(5), 472-479.
3) Wakefield, J. G., McLaws, M. L., Whitby, M., & Patton, L. (2010). Patient safety culture: factors that influence clinician involvement in patient safety behaviours. *BMJ Quality & Safety*.
4) Pronovost, P. J., Weast, B., Holzmueller, C. G., Rosenstein, B. J., Kidwell, R. P., Haller, K. B., ... & Rubin, H. R. (2003). Evaluation of the culture of safety: survey of clinicians and managers in an academic medical center. *BMJ Quality & Safety*, *12*(6), 405-410.
5) Lawati, M. H. A., Dennis, S., Short, S. D., & Abdulhadi, N. N. (2018). Patient safety and safety culture in primary health care: a systematic review. *BMC family practice*, *19*(1), 1-12.
6) Kagan, I., Porat, N., & Barnoy, S. (2019). The quality and safety culture in general hospitals: patients', physicians' and nurses' evaluation of its effect on patient satisfaction. *International Journal for Quality in Health Care*, *31*(4), 261-268.
7) Health and Safety Commission. (1993). ACSNI study group on human factors.
8) Iglesias-Alonso, F., Tejero-González, J. M., Torijano-Casalengua, M. L., & Mira, J. J. (2012). Basic elements of a culture of clinical safety. *Revista de Calidad Asistencial: Organo de la Sociedad Espanola de Calidad Asistencial*, *27*(5), 295-297.
9) Etchegaray, J. M., & Thomas, E. J. (2015). Engaging Employees. *Journal of patient safety*, *11*(4), 221-227.
10) Sammer, C. E., Lykens, K., Singh, K. P., Mains, D. A., & Lackan, N. A. (2010). What is patient safety culture? A review of the literature. *Journal of nursing scholarship*, *42*(2), 156-165.
11) Colla, J. B., Bracken, A. C., Kinney, L. M., & Weeks, W. B. (2005). Measuring patient safety climate: a review of surveys. *BMJ Quality & Safety*, *14*(5), 364-366.
12) DiCuccio, M. H. (2015). The relationship between patient safety culture and patient outcomes. *Journal of patient safety*, *11*(3), 135-142.
13) Sorra, J., Khanna, K., Dyer, N., Mardon, R., & Famolaro, T. (2012). Exploring relationships between patient safety culture and patients' assessments of hospital care. *Journal of patient safety*, *8*(3), 131-139.
14) Manzanera, R., Plana, M., Moya, D., Ortner, J., & Mira, J. J. (2016). Implantación de buenas prácticas en calidad y seguridad. Estudio descriptivo en una mutua laboral. *Revista de Calidad Asistencial*, *31*(3), 168-172.
15) Manzanera, R., Mira, J. J., Plana, M., Moya, D., Guilabert, M., & Ortner, J. (2021). Patient safety culture in mutual insurance companies in Spain. *Journal of Patient Safety*, *17*(3), 175-181.
16) McFadden, K. L., Stock, G. N., & Gowen III, C. R. (2015). Leadership, safety climate, and continuous quality improvement: impact on process quality and patient safety. *Health care management review*, *40*(1), 24-34.
17) Ward, M. E., De Brún, A., Beirne, D., Conway, C., Cunningham, U., English, A., ... & McAuliffe, E. (2018). Using co-design to develop a collective leadership intervention for healthcare teams to improve safety culture. *International journal of environmental research and public health*, *15*(6), 1182.
18) Merino-Plaza, M. J., Carrera-Hueso, F. J., Roca-Castelló, M. R., Morro-Martín, M. D., Martinez-Asensi, A., & Fikri-Benbrahim, N. (2017). Relationship between job satisfaction and patient safety culture. *Gaceta Sanitaria*, *32*(4), 352-361. [CrossRef]

19) Wang, M., & Tao, H. (2017). How does patient safety culture in the surgical departments compare to the rest of the county hospitals in Xiaogan City of China?. *International journal of environmental research and public health*, *14*(10), 1123. [CrossRef] [PubMed]
20) García-Alfranca, F., Puig, A., Galup, C., Aguado, H., Cerdá, I., Guilabert, M., ... & Mira, J. J. (2018). Patient satisfaction with pre-hospital emergency services. A qualitative study comparing professionals' and patients' views. International journal of environmental research and public health, 15(2), 233.