



OECD Health Working Papers No. 134

Developing international  
benchmarks of patient  
safety culture in hospital  
care: Findings of the OECD  
patient safety culture pilot  
data collection and  
considerations for future  
work

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## Health Working Papers

### OECD Health Working Papers No 134

#### Developing International Benchmarks of Patient Safety Culture in Hospital Care

Findings of the OECD patient safety culture pilot data collection and considerations for future work

Katherine de Bienassis\* and Niek S. Klazinga\*

JEL classification: I10, I11, I18, J28, and J81

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# Abstract and Key Points

- Improving patient safety culture (PSC) is a significant priority for OECD countries as they work to improve healthcare quality and safety—a goal that has increased in importance as countries have faced new safety concerns connected to the COVID-19 pandemic.
- Findings from benchmarking work in PSC show that there is significant room for improvement. Across included survey findings from OECD countries, only **46% of surveyed health workers** believe that **important patient care information is transferred** across hospital units and during shift changes.
- Just **two-in-five** surveyed health workers in OECD countries believe the **staffing levels** at their workplace are appropriate for ensuring patient safety (40%) or that mistakes and event reports would not **held against them** (41%).
- Only **one-in-two health care workers** believe that their hospital management provides a work climate that promotes patient safety and shows that **patient safety is a top** priority (50%) or that staff there is **freely speak** to colleagues and authority about patient safety issues in their work setting (52%).
- On average, across included surveys from OECD countries, staff report relatively **higher levels of teamwork** within their unit or ward (68%) and that their organization exhibits **continuous improvement** (65%)—i.e. that hospital staff have learned from past negative events and that changes have been evaluated for effectiveness.
- This benchmarking work reveals heterogeneity in how health workers perceive patient safety in their work environments. For example, the differences between staff positive perceptions of safety in regard to **management support for patient safety** and **communications openness** differed by **over 50 percentage points** between the highest and lowest performing country measurements.
- International benchmarking is a feasible and useful addition to existing measurement initiatives on safety culture and helps to accelerate the necessary change. Collaborative efforts are not only useful for refining and improving comparability of PSC indicators, but they can also help **move the needle on performance through sharing best-practices internationally**. Future findings in PSC may be influenced by the profound impact of COVID-19 has had on patient and health worker safety.
- There is an opportunity for countries to **capitalize on the linkages of PSC with other key metrics**, such as safety climate, health worker safety, health worker resilience, and patient-reported experiences of safety.

# Résumé

- L'amélioration de la culture de la sécurité des patients (CSP) est une priorité importante pour les pays de l'OCDE qui s'efforcent d'améliorer la qualité et la sécurité des soins de santé - un objectif qui a gagné en importance à mesure que les pays s'efforcent de résoudre les problèmes de sécurité liés à la pandémie de COVID-19. Les découvertes futures en matière de CSP pourraient être influencées par l'impact profond que la COVID-19 a eu sur la sécurité des patients et des professionnels de santé.
- Les conclusions des travaux d'analyse comparative en matière de CSP montrent qu'il existe une importante marge d'amélioration. Parmi les résultats des enquêtes menées dans les pays de l'OCDE, seuls **46 % des professionnels de santé interrogés** pensent que les informations importantes sur les soins aux patients sont transférées entre les unités hospitalières et lors des changements d'équipe.
- Dans les pays de l'OCDE, seuls **deux professionnels de santé interrogés sur cinq** pensent que les **effectifs** sur leur lieu de travail sont appropriés pour garantir la sécurité des patients (40%) ou que les erreurs et rapports d'événements ne seraient **pas retenus contre eux** (41%).
- Seul **un professionnel de santé sur deux** pense que la direction de leur hôpital offre un climat de travail qui favorise la sécurité des patients. De la même manière, seul un professionnel de santé sur deux déclare que **la sécurité des patients est une priorité** absolue (50%) ou que le personnel **parle librement** à ses collègues et à l'autorité des problèmes de sécurité des patients dans son cadre de travail (52%).
- En moyenne, parmi les résultats des enquêtes menées dans les pays de l'OCDE, le personnel de santé signale des niveaux relativement **élevés** de **travail en équipe** au sein de son unité ou de son service (68%) et que son organisation fait preuve **d'amélioration continue** (65%) - c'est-à-dire que le personnel hospitalier a tiré des leçons des événements négatifs passés et que l'efficacité des changements a été évaluée.
- Ce travail d'analyse comparative révèle une hétérogénéité dans la façon dont les professionnels de santé perçoivent la sécurité des patients dans leur environnement de travail. Par exemple, les différences entre les perceptions positives de la sécurité par le personnel, en ce qui concerne le **soutien de la direction à la sécurité des patients et les facilités de communication**, diffèrent de **plus de 50 points de pourcentage** entre les mesures des pays les plus performants et les moins performants.
- L'analyse comparative internationale est un complément utile aux mesures existantes sur la culture de la sécurité des patients et peut contribuer à accélérer le changement. Les efforts de collaboration ne sont pas seulement utiles pour affiner et améliorer la comparabilité des indicateurs de la CSP, mais ils peuvent également contribuer à **faire progresser les performances en partageant les meilleures pratiques au niveau international**.
- Les pays ont la possibilité de **tirer parti des liens entre la CSP et d'autres indicateurs clés**, tels que le climat de sécurité, la sécurité des professionnels de santé, la résilience des professionnels de santé et les expériences de sécurité rapportées par les patients.

# Infographic

## How do hospital workers in OECD countries feel about patient safety culture?

*Improving patient safety culture (PSC) is a significant priority for OECD countries as they work to improve healthcare quality and safety—a goal that has increased in importance as countries have faced new safety concerns connected to the COVID-19 pandemic.*

**Source** Developing International Benchmarks of Patient Safety Culture in Hospital Care  
OECD, 2022

**40%**

Of hospital staff think staffing levels at their workplace are appropriate for ensuring patient safety

*More than half think staffing and working hours are not optimal for ensuring safe care*



**46%**

Of surveyed health workers believe that important patient care information is transferred across hospital units and during shift changes

*More than half think important information is lost when patients are moved or staff changes*



**50%**

Half of workers believe that their hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority

*Leadership support is an essential part of building a strong safety culture and patient safety could become a higher priority for leadership*



**52%**

Of surveyed hospital workers feel that staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority

*Almost half feel that reporting safety events results in punitive responses to those that report them, rather than for learning and improvement*



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# Acronyms

AHRQ	US Agency for Healthcare Research and Quality
HAS	Haute Autorité de santé (France)
HCQO	(Working Party on) Health Care Quality and Outcomes
HSPSC	Hospital Survey on Patient Safety Culture (also referred to as HSOPS, HSPOSC, SOPS, and Survey on Patient Safety Culture)
PSC	Patient Safety Culture
PSI	Patient Safety Indicator
SAQ	Safety Attitudes Questionnaire
WHO	World Health Organization
WP	Working Party (OECD)

# 1 Patient safety culture as a priority topic for OECD countries

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This chapter describes the importance of patient safety culture as part of the patient safety and health care quality agendas.

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## Patient safety culture is foundational to improving patient safety

1. A culture of safety is foundational to efforts to improve patient safety and reduce patient harm during the course of care. Patient harm is estimated to be the 14th leading contributor to the global disease burden, with low- and middle-income countries bearing over half of the burden (Jha et al., 2013<sup>[1]</sup>). In OECD countries, patient harm and adverse events account for 15% of total hospital expenditures, presenting a considerable drain on healthcare systems (Slawomirski, Auraaen and Klazinga, 2017<sup>[2]</sup>). Including adverse events in primary and long-term care, the direct cost of treating patients who have been harmed during their care approaches 13% of health spending. This totals over USD 600 Billion a year, equivalent to over 1% of OECD countries' combined economic output (Slawomirski and Klazinga, 2020<sup>[3]</sup>).
2. Since the publication of several landmark reports, such as To Err is Human (Donaldson, Corrigan and Kohn, 2000<sup>[4]</sup>), patient safety has become widely recognized as an ethical, economic, and public health issue warranting research and improvement initiatives. More recently, patient safety culture (PSC) has been increasingly recognized as a fundamental component in creating and maintaining safe health care systems—a strategy for improving patient safety (de Bienassis et al., 2020<sup>[5]</sup>; Weaver et al., 2013<sup>[6]</sup>).
3. The COVID-19 crisis has illustrated the importance of numerous PSC domains in order to maintain safe, effective healthcare environments in times of emergency. Health systems with more positive PSCs may be more resilient and adaptive to changing circumstances, such as those experienced during the COVID-19 crisis, and may dually experience better patient and staffing outcomes. For example, preliminary research in southern Portugal studying safety culture in LTC facilities, found significant correlations

between health workers perceived risks of contracting COVID-19 and COVID-19 infection (Fernandes et al., 2021<sup>[7]</sup>). Research in the UK found that, compared to a 2017 baseline, health workers maintained high levels of perceptions of safety culture during the COVID-19 pandemic, albeit a significant reduction in the overall rate of incident reporting following the onset of COVID-19 (Denning et al., 2020<sup>[8]</sup>). Similar findings in Taiwan note higher rates of safety culture during the COVID-19 crisis (Chen et al., 2021<sup>[9]</sup>).

4. The research base connecting PSC and health outcomes is growing, and there are a number of empirical studies demonstrating the correlation between PSC and improved health outcomes. A review of over 60 studies examining the relationship between organisational and workplace cultures, and patient outcomes, found that over 70% of studies reported exclusively positive associations, or a mixture of positive associations and no associations. (Braithwaite et al., 2017<sup>[10]</sup>). Another review from the Health Foundation assessed linkages between patient outcomes and safety culture, finding positive associations between good safety culture and reduced readmissions, length of stay, and medication errors. (Health Foundation, 2011<sup>[11]</sup>).

5. Moreover, the role of culture in increasing patient and health worker safety has become increasingly prominent. For example, the World Health Organization (WHO) Patient Safety Action Plan for 2021-2030 calls on governments to “adopt global approaches for establishment of safety culture across the health system.” In achieving this, the action plans calls on hospitals to conduct regular surveys of the organization’s safety culture, and to use the data to “identify gaps and introduce innovative approaches to building safety culture, in line with international experience and best practice.” (WHO, 2021<sup>[12]</sup>). These recommendations are complemented by policy recommendations in work published by the European Observatory on Health Systems and Policies, which calls for countries to adopt patient safety strategies from the systems perspective, noting that “safety culture should already start at [the national] level” (Busse et al., 2019<sup>[13]</sup>).

6. Without measurement and analysis of the status of patient safety culture in health care settings, it becomes virtually impossible to detect and reinforce beneficial trends that enhance patient safety. As countries act on these recommendations to develop and refine national assessments of patient safety culture, there are opportunities for benchmarking, collaboration, and learning.

### **In addition to patient safety, culture influences the well-being and productivity of workers**

7. The link between workplace culture and the well-being, efficiency and productivity of workers universal across industries. Key domains of safety culture have been found to be critical for improving aspects of safety in health care settings, such as the improvement of adherence to reporting standards (Itoh et al., 2002<sup>[14]</sup>). In health care, a culture of safety is a key part of the healthy work environments that enable staff to consistently deliver high-quality and safe health care services (de Bienassis et al., 2020<sup>[5]</sup>).

8. A growing evidence base suggests links between safety culture and workplace safety in the hospital setting. Numerous research studies have found that poor safety climate is associated with increased work-related injuries (Gimeno et al., 2005<sup>[15]</sup>; Agnew, Flin and Mearns, 2013<sup>[16]</sup>; McCaughey et al., 2013<sup>[17]</sup>). A strong safety culture has been found to be significantly correlated with specific kinds of injuries, including reduced occurrences of health worker back injuries, needle-stick, and sharps injuries (Smith et al., 2010<sup>[18]</sup>; Mark et al., 2007<sup>[19]</sup>). Efforts to establish a healthy work environment for health workers and improving the quality and safety of care are mutually reinforcing.

## OECD work on patient safety and patient safety culture

9. This report builds on more than 15 years of patient safety work by the OECD. Since 2005, the OECD has collected a number of patient safety indicators (PSIs) for international comparison from the hospital sector and the primary care sector. These indicators are based on administrative databases modelled after AHRQ in the US and prescription databases, including: foreign body left in during procedure, post-operative pulmonary embolism, post-operative deep vein thrombosis, post-operative sepsis, and prescribing in primary care among others. These indicators are used by member countries for a range of policy objectives including: public accountability and transparency, benchmarking and quality improvement, standard setting and compliance, and governance and management performance assessment (HCQI, 2018<sup>[20]</sup>).

### Box 1.1. Key Terms

**Patient safety culture** as defined by the European Society for Quality in Healthcare, is a pattern of individual and organisational behaviour, based upon shared beliefs and values that continuously seeks to minimise patient harm, which may result from the process of care delivery (Kristensen and Bartels, 2010<sup>[21]</sup>).

**Patient safety climate** is a context-dependent surface manifestation of PSC. It can be understood as shared perceptions and attitudes of individuals about patient safety within health care organisations (Kristensen and Bartels, 2010<sup>[21]</sup>).

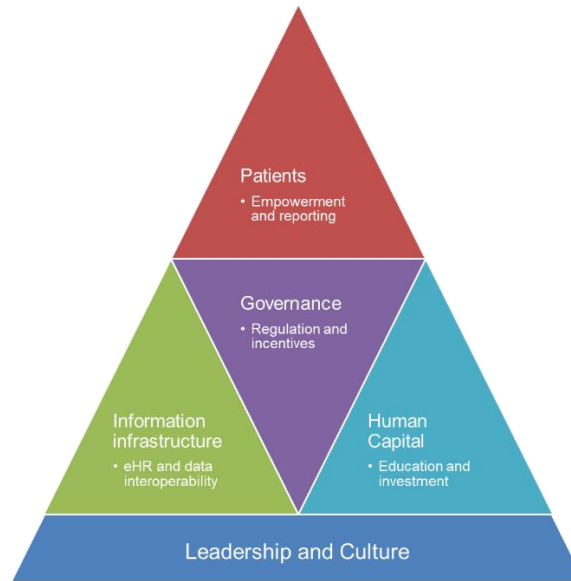
A **patient** is a person receiving medical care, which includes treatment, intervention, procedure and diagnostic tests, as well as the continued monitoring of health, and signs as well as symptoms of disease over time. The term patient also encompasses the person's family, carer(s) or other surrogates who would be involved in, and affected by the effects of the patient's care (Auraaen, Slawomirski and Klazinga, 2018<sup>[22]</sup>).

**Patient safety** is the reduction of risk of unnecessary harm associated with health care to an acceptable minimum. An acceptable minimum refers to the collective notions of current knowledge, resources available and the context in which care was delivered and weighed against the risk of non-treatment or alternative treatment

**Patient harm** is any unintended and unnecessary harm resulting from, or contributed to, by health care. This includes the absence of indicated medical treatment. Patient harm is often caused by adverse events during care, which includes incidents of medication errors, incorrect or delayed diagnosis as well as health care-associated infections (Auraaen, Slawomirski and Klazinga, 2018<sup>[22]</sup>).

10. In addition to reporting on traditional PSIs, the OECD has undertaken a series of projects on the economics of patient safety, assessing the economic impact of patient safety events in hospital care, primary care, long term care (Slawomirski, Auraaen and Klazinga, 2017<sup>[2]</sup>; Auraaen, Slawomirski and Klazinga, 2018<sup>[22]</sup>; de Bienassis, Llana-Nozal and Klazinga, 2020<sup>[23]</sup>). This has been complemented by policy analysis, including system level recommendations to drive reductions in patient harm (Slawomirski and Klazinga, 2020<sup>[3]</sup>). This work has identified a safety culture as being foundational for improving patient safety across entire healthcare systems, noting the need for particular focus on risk management and collective improvement, as well as the importance of leadership at all levels of the health system (see Figure 1.1).

Figure 1.1. Key elements of patient safety

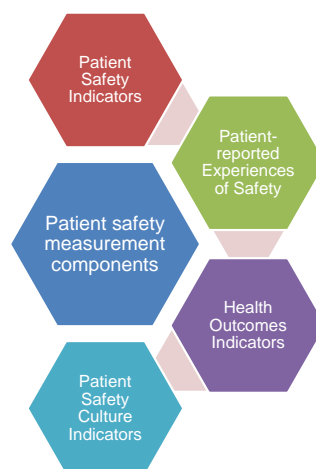


Note: This figure was originally intended for the primary/ambulatory care setting, but is dually applicable in hospital settings.  
 Source: (Auraaen, Slawomirski and Klazinga, 2018<sup>[22]</sup>)

11. Following 2018 discussions by the OECD Health Committee, it was determined that existing international patient safety indicators collected by OECD were important, but not sufficient. Support, in particular, was given to building capacity for measurement of safety culture and integrating the patient voice in reporting safety experiences.

12. Measures of patient safety culture from the perspective of health workers can be used, along with traditional patient safety indicators, health outcome indicators, and patient-reported experiences of safety to give a holistic perspective of the state of safety in health systems (see Figure 1.2). Moreover, PSC is a valuable addition to current information collected for international comparisons on patient safety and health care quality due to its importance to OECD member countries at the policy level, as well as the organizational, regional and clinical levels.

Figure 1.2. Patient safety measurement components



Source: Authors

13. Information on the current international landscape of Patient Safety Culture (PSC) measurement was evaluated and an OECD working paper on the subject, [Culture as a Cure: Assessments of Patient Safety Culture in OECD Countries](#), which was published in June 2020 (de Bienassis et al., 2020<sup>[5]</sup>). The key finding from this assessment was that countries already use the same or similar tools in the hospital setting, there are opportunities to share information without establishing new data collection efforts in these countries.

### Box 1.2. OECD countries are increasing use of measures of Patient Safety Culture

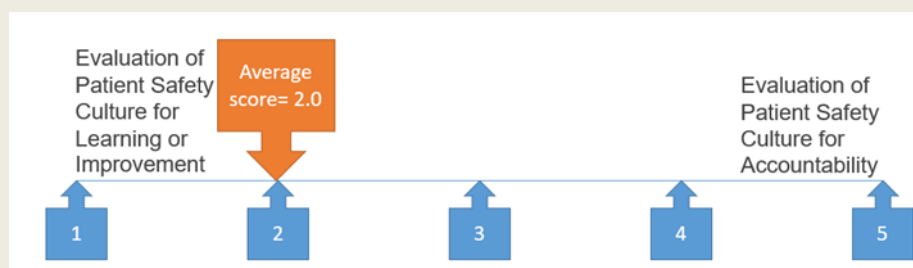
#### Key findings from Culture as a Cure: Assessments of Patient Safety Culture in OECD Countries

Improving patient safety culture is a significant priority for OECD countries, and many country health systems see improving PSC as a key building block for improving patient safety and quality of care. Patient safety culture measures are now widely used across OECD countries.

Findings from scoping work to assess the state-of-the-art of PSC measure use found that 20, of 24, surveyed countries use at least one tool broadly within their health system (de Bienassis et al., 2020<sup>[5]</sup>). Results from this assessment found that the majority of PSC measurements to date have occurred in the hospital setting, surveying hospital staff. The most common usage of PSC measures are for the purposes of learning and improvement, primarily within hospitals, at the organisational or clinical level (de Bienassis et al., 2020<sup>[5]</sup>). There are numerous applications of PSC measurement for learning and improvement purposes, and research is beginning to capture the impact of various interventions to improve PSC in the clinical environment.

PSC have been used for benchmarking purposes, allowing hospitals and other care settings to compare themselves to other institutions, in order to give management context for understanding the results of PSC measurements. Accreditation is a commonly used mechanism for encouraging use PSC measures, primarily at the organisational level. Overall, countries indicated that the overall approach to PSC measurement in their countries fell more on the side of evaluation for the purposes of learning and improvement than for accountability purposes (see Figure 1.3).

**Figure 1.3. Overall, how would you characterize the approach taken in your country with regard to the following dimensions?**



Note: n=21 respondent countries

Source: OECD Survey on Patient Safety Culture Measurement, 2019, (de Bienassis et al., 2020<sup>[5]</sup>)

A significant number of countries have included reference to PSC as a key component of their national patient safety strategy (or similar document). As of 2019, over 75% of surveyed countries (18 of 23) indicated that there were plans in their country to initiate or expand existing work on PSC (de Bienassis et al., 2020<sup>[5]</sup>).



14. In 2020, the OECD Secretariat began the coordination of an Expert Group on PSC (see OECD Patient Safety Culture Expert Group Participants), consisting of experts nominated by HCQO Working Party delegates. The group met four times, between February 2020 and June 2021.

15. The objectives of this work were to:

- Recommend suitable items for international comparisons on the topic of patient safety culture to enhance mutual learning.
- Advise on the development of on indicator definitions, specifications and standards for comparable reporting and a minimum data set for collection.
- Advise on the development of standards and best practice guidelines for international data collection.
- Share information on high-level resource requirements for PSC collection, and potential approaches to improve efficiencies.
- Share national and international experience in this domain.

16. The culmination of this work is the OECD Pilot Patient Safety Culture Data Collection Guidelines (see 3Annex A) and the results of the pilot data collection, which was conducted from October 2020 to May 2021.

17. The objective of the remainder of this report is to discuss on the findings of this data collection and to add to the literature on the topic by reporting the most comprehensive global benchmarking on PSC culture conducted to date. The findings of this work are discussed in detail in Section 2. Additional information on the included national studies and results can be found in 3Annex B and 3Annex D, respectively.

# 2 Findings from international benchmarking of patient safety culture

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This chapter presents the methods and findings of the OECD's data collection on national-level PSC assessment.

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## PSC data collection and methods and country participation

18. Measurement of PSC is a health system priority for OECD countries—and there are significant opportunities for benchmarking harmonization of national assessment efforts and international learning. In particular, by compiling and assessing the results of existing surveys, OECD countries can work to harmonize their approaches and methodologies, and to improve the comparability of their data over time.

19. Following the guidance of the OECD PSC expert group (discussed in Section 1), the OECD Secretariat initiated a data collection of PSC surveys, including meta-data related to the survey context within countries. Between 2020 and 2021, the OECD gathered 42 submissions from 16 countries. Submissions included 16 assessment cycles of data of reported safety culture from Belgium, four from France, four from the United States, three from Israel, three from Spain, two from Saudi Arabia, and one each from Canada, Greece, Ireland, Japan, Mexico, the Netherlands, Norway, Portugal, Slovenia, and the United Kingdom (Scotland). All or part of the submissions from Greece, Japan, Slovenia, Spain, the United Kingdom (Scotland), and the United States were sourced from published literature or reports, and data were extracted by the OECD data collection team (see Table 2.1 for sources). For all other submissions,

country delegates provided data by populating the standardized template. Data submissions ranged from 2005– 2021.

20. Where available, countries were asked to provide PSC performance data stratified by health worker type. The pre-determined categories of health worker positions were based on the literature, and included: physicians, nursing staff, other clinical staff, support staff, management, and other. Belgium, Israel and Spain were able to provide data stratified by health worker role. All countries were able to provide data in aggregate across all participating health workers.

21. Countries, such as Belgium, noted that there is aggregated data potentially available on the level of units/wards, which may be considered for future reporting. Belgium, Canada, France, Greece, Israel, Spain, and the United States had available information on standard deviations. All countries provided data pertaining to the dimensions of the HSPSC, except for Norway, which utilized the SAQ (see Table 2.1).

### Box 2.1. The Hospital Survey on Patient Safety Culture (v 1.0)

In 2004, AHRQ developed a set of surveys for the assessment of PSC in hospitals, primary care, nursing homes, community pharmacies and ambulatory surgery centres (AHRQ, 2019<sup>[24]</sup>). The HSPSC focuses on patient safety issues and on error and event reporting. It is aimed at the hospital setting and poses questions to employees about PSC at all levels. The survey measures 12 safety culture dimensions and 42 items and takes approximately 15 minutes to complete. Domains included in the HSPSC include:

- Teamwork Within Units
- Supervisor/Manager Expectations & Actions Promoting Patient Safety
- Organizational Learning—Continuous Improvement
- Management Support for Patient Safety
- Overall Perceptions of Patient Safety
- Feedback & Communication About Error
- Communication Openness
- Frequency of Events Reported
- Teamwork Across Units
- Staffing
- Handoffs & Transitions
- Nonpunitive Response to Errors

Additionally, the tool includes two outcome indicators, for which respondents are asked to provide a grade (five response options, A for Excellent- E for Failing) for overall patient safety in their unit as well as the number of events they have reported in the last 12 months.

Among the strengths of the HSPSC tool are that it allows for large-scale comparisons as well as the identification of changes over time. The survey has been applied extensively to medical facilities in the United States and beyond, and has also been translated and adapted to many other national health care contexts (Hammer and Manser, 2017<sup>[25]</sup>). The majority (n=15) of countries indicated that the HSPSC tool was used in their country, and 13 of these countries indicated that the HSPSC tool is the most commonly used tool. In country interviews, respondents often noted that the survey was used because it was publicly available and there was an existing research base for the tool's use, including analysis of the tool's validity and psychometric properties (de Bienassis et al., 2020<sup>[5]</sup>). A new version of the HSPSC was released in 2020, and is discussed in further detail in Section 3.

22. Regarding national submissions of PSC data, there is broad variation between countries in terms of the scope of assessments—particularly in regards to respondent and hospital participation. Studies ranged

from 212 (Spain, 2018) to 447,584 (United States, 2016) participants, and from one (Belgium, 2018) to 680 (United States, 2016) hospital setting(s) included in the data collection. Among submissions reporting participant-level response rates, the range varied from 10% (Israel, 2019) to 83% (Spain, 2009). Average response rates also varied within countries submitting multiple cycles of assessment in different years (see 3Annex B).

23. Data submissions from countries were collated and summarized according to the domains of the HSPSC. Where possible, analysis of temporal trends in PSC performance and stratification by health worker position were conducted. For countries submitting multiple data collection cycles, the most recent data (e.g. the most recent data submission) was selected for benchmarking purposes, and older data was incorporated for the purpose of time trend analysis. Using the latest year data submission for analysis has limitations, as it may not be the largest or most comprehensive national study. Also, in regard to trend analysis, the same hospitals may not be included from year to year, and there may be differences in the number of participating sites and participants.

**Table 2.1. Basic characteristics of included national PSC surveys**

Country	Submission Year(s)	Tool	Submission Type
Belgium	2005; 2006; 2007; 2008; 2009; 2010; 2011; 2012; 2013; 2014; 2015; 2016; 2017; 2018; 2019; 2020	HSPSC	Data submitted directly to OECD
Canada	2018	CPSCS (domains mapped to HSPSC and SAQ)	Data submitted directly to OECD
France	2015; 2017/2018; 2018/2019; 2019	HSPSC (adapted)	Data submitted directly to OECD
Greece	2014	HSPSC	Published Literature/Report (Kapaki and Souliotis, 2018 <sup>[26]</sup> )
Ireland	2013/2014	HSPSC	Published Literature/Report (HSE, 2015 <sup>[27]</sup> )
Israel	2012; 2015; 2019	HSPSC	Data submitted directly to OECD
Japan	2018/2019	HSPSC	Data submitted directly to OECD and Published Literature/Report (Taneda, 2019 <sup>[28]</sup> )
Netherlands	2005/2006/2007	HSPSC	Data submitted directly to OECD
Norway	2019	SAQ	Data submitted directly to OECD
Mexico	2020	HSPSC	Data submitted directly to OECD
Portugal	2018	HSPSC	Data submitted directly to OECD
Saudi Arabia*	2019; 2021	HSPSC	Data submitted directly to OECD
Slovenia	2010/2011	HSPSC	Published Literature/Report (Robida, 2013 <sup>[29]</sup> )
Spain	2018; 2009; 2006	HSPSC (adapted in 2018)	Data submitted directly to OECD and Published Literature/Report (Ministerio de Sanidad y Política Social, 2009 <sup>[30]</sup> )
Scotland (United Kingdom)	2013	HSPSC	Published Literature/Report (Agnew, Flin and Mearns, 2013 <sup>[16]</sup> )
United States	2014; 2016; 2018; 2021	HSPSC	Published Literature/Report (AHRQ, 2018 <sup>[31]</sup> ) (AHRQ, 2021 <sup>[32]</sup> ) (AHRQ, 2016 <sup>[33]</sup> )

Note: \*non-OECD country

Source: OECD Patient Safety Culture Pilot Data Collection 2020-2021

## Key findings from benchmarking on PSC domains: the international perspective

24. For the 15<sup>1</sup> countries that assessed PSC using the HSPSC (or a national tool that was then mapped onto HSPSC domains), the OECD data collection team was able to conduct preliminary benchmarking across the 12 domains of the HSPSC. Four domains of the HSPSC were reported by all

<sup>1</sup> 15 countries denoted includes one non-OECD country (Saudi Arabia).

countries (Supervisor/Manager Expectations and Actions Promoting Patient Safety, Management Support for Patient Safety, Communication Openness, and Nonpunitive Response to Error). Data for all domains are summarized in 3Annex D with specific findings included in the subsequent section and narrative discussion.

25. Table 2.2 shows the average performance of OECD countries on the domains of HSPSC, using the data submission from the most recent available year. On average, health workers in OECD countries had the strongest positive assessments of Teamwork within Units, Organizational Learning—Continuous Improvement and Supervisor/Manager Expectations & Actions Promoting Patient Safety. In each of these three domains, on average, more than 60% of health workers in OECD countries thought their work environment was conducive to patient safety in these areas.

**Table 2.2. Average Performance on HSPSC Domains across OECD Countries, using most recent year available.**

Average % Positive Response (i.e. Percentage of respondents who are positive)

Domain	Definition (the extent to which)	OECD Average
Staffing	There are enough staff to handle the workload and work hours are appropriate to provide the best care for patients.	40% (13 countries)
Nonpunitive Response to Errors	Staff feel that their mistakes and event reports are not held against them and that mistakes are not kept in their personnel file	41% (14 countries)
Teamwork Across Units	Hospital units cooperate and coordinate with one another to provide the best care for patients.	46% (13 countries)
Handoffs & Transitions	Important patient care information is transferred across hospital units and during shift changes.	46% (13 countries)
Management Support for Patient Safety	Hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority.	50% (14 countries)
Communication Openness	Staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority	52% (14 countries)
Overall Perceptions of Patient Safety	Procedures and systems are good at preventing errors and there is a lack of patient safety problems	53% (13 countries)
Frequency of Events Reported	Mistakes of the following types are reported: (1) mistakes caught and corrected before affecting the patient, (2) mistakes with no potential to harm the patient, and (3) mistakes that could harm the patient but do not.	54% (13 countries)
Feedback & Communication About Error	Staff are informed about errors that happen, are given feedback about changes implemented, and discuss ways to prevent errors.	56% (13 countries)
Supervisor/Manager Expectations & Actions Promoting Patient Safety	Supervisors/managers consider staff suggestions for improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems.	64% (14 countries)
Organizational Learning—Continuous Improvement	Mistakes have led to positive changes and changes are evaluated for effectiveness.	65% (13 countries)
Teamwork Within Units	Staff support each other, treat each other with respect, and work together as a team.	68% (13 countries)

Note: OECD average is composed of the most recent year's data from participating OECD countries.

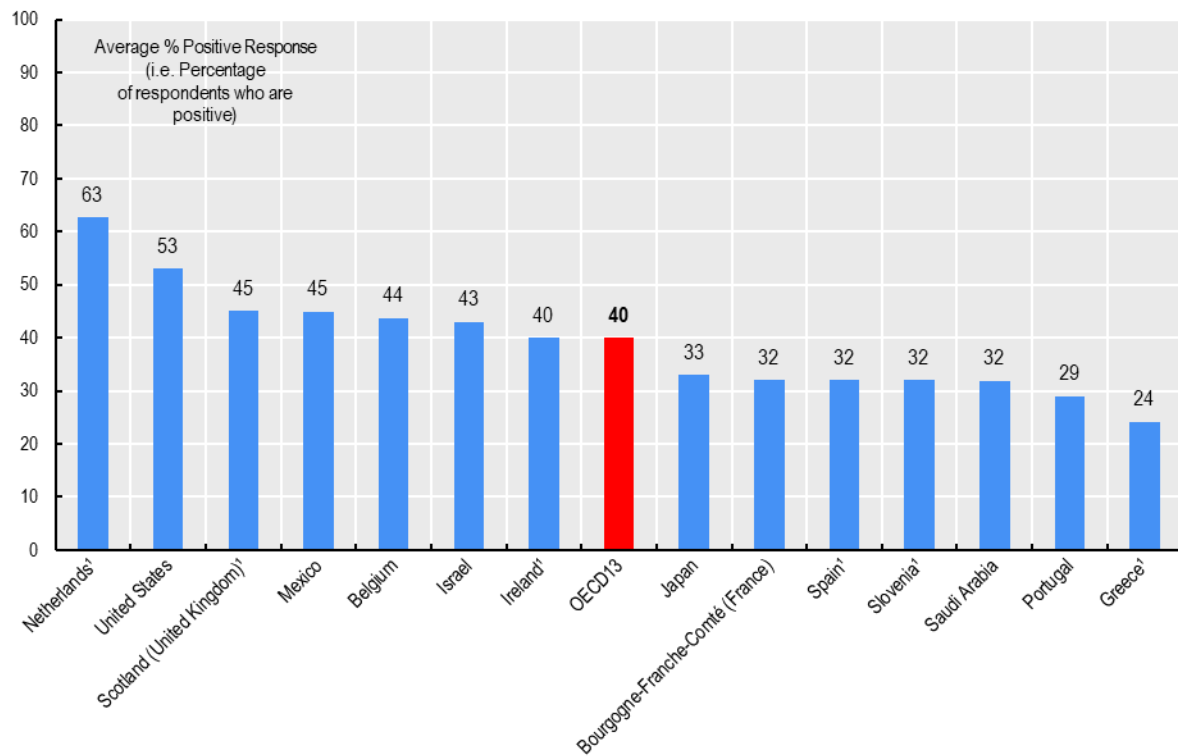
Source: OECD Patient Safety Culture Pilot Data Collection 2020-21

26. Despite relatively high performance in many areas, the data has also indicated opportunities for improvement. The domains of poorest performance included staffing (40% average positive response for OECD countries), Nonpunitive Response to Errors (41%), Teamwork Across Units (46%), and Handoffs & Transitions (47%). Selected domains are discussed in the remainder of this section—findings for all domains of the HSPSC tool can be found in 3Annex D).

27. Adequacy of staffing is an important patient safety issue—and has been linked to patient outcomes in a number of studies. For example, a study across nine European countries found that increasing a nurse's workload by one patient increased by 7% the likelihood of an inpatient dying within 30 days of admission (Aiken et al., 2014<sup>[34]</sup>). A Korean study found similar results, where each additional patient per nurse was associated with a 5% increase in the risk of patient death within 30 days of admission (Cho et al., 2015<sup>[35]</sup>). In some specific sectors, such as burns care, adding an additional patient per nurse was

found to increase mortality by as much as 30% (Bettencourt et al., 2020<sup>[36]</sup>).<sup>2</sup> In many countries, the majority of staff do not think that there are enough staff to handle the workload and that work hours are appropriate to provide the best care for patients. Countries where the fewest health workers had a positive perception of staffing levels include Japan (33%), France (32%), Portugal (29%), and Greece (24%) (see Figure 2.1). This is of particular concern as countries have faced, and expect to continue to face, workforce shortage as a consequence of COVID-19. Assessment of the staffing domain of safety culture can provide a signalling function in respect to workforce capacity.

**Figure 2.1. Perceptions of Staffing among Health Workers**



1. Data older than 2015

Source: OECD Patient Safety Culture Pilot Data Collection 2020-2021

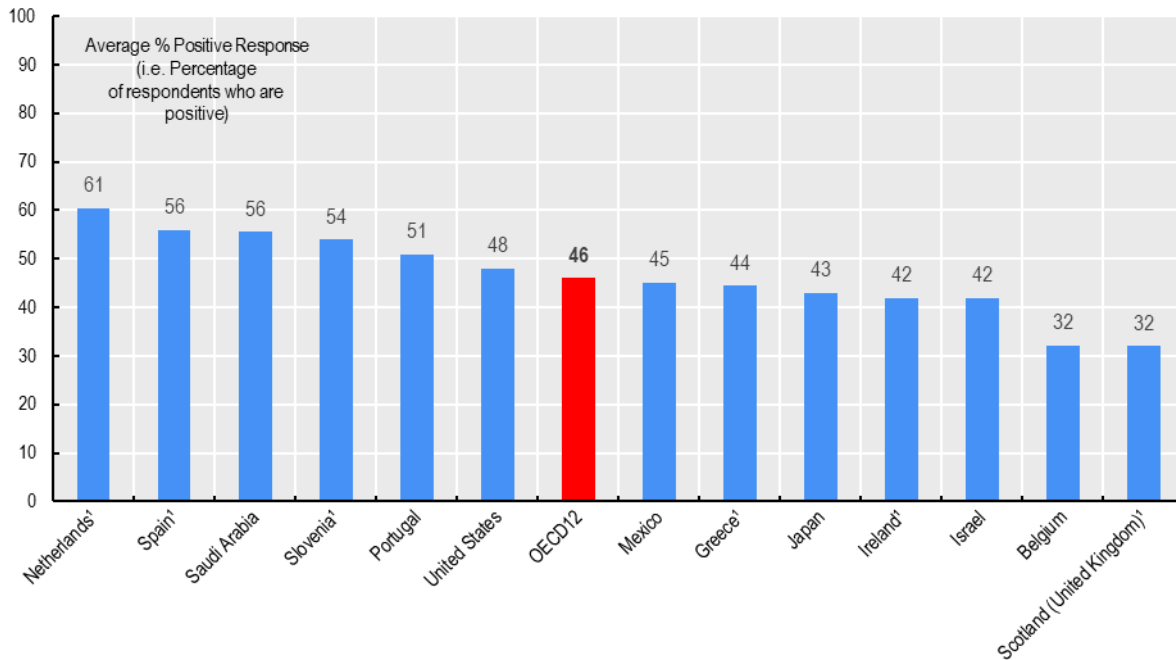
Note: The most recent year of available data on this domain is presented for each country (Data identified with a <sup>1</sup> is from 2015-2005. All other data 2021-2015). The data presented includes Saudi Arabia, an OECD non-member country, which is not included in the OECD average. Definition of Staffing: There are enough staff to handle the workload and work hours are appropriate to provide the best care for patients.

28. Effective handoffs and transitions are important for continuity of care. The safety of handoffs and transitions relates to staff's perceptions of whether important patient care information is transferred across hospital units and during shift changes. For safety culture reporting in this domain, all but one country reported average percent positive rates under 60% (see Figure 2.2). Average percent positive response rates ranged from 61% (the Netherlands, 2005-2007) to 32% (the United Kingdom, Scotland, 2013) for Handoffs and Transitions. On average across OECD countries, less than half of hospital staff surveyed thought that handoffs and transitions were sufficient. Information on the safety of handoffs and transitions,

<sup>2</sup> The right staffing mix is also important in achieving optimal workload and care quality. Some evidence suggests that excess number of ward staff increases the risk of inpatient mortality (Slawomirski and Klazinga, 2020<sup>[3]</sup>). In the end, the optimal nurse-to-patient ratio depends on the context of the given facility or organisation.

in addition to overall perceptions of patient safety, was first published in Health at Glance 2021 (OECD, 2021<sup>[37]</sup>).

**Figure 2.2 Perceptions of Handoffs & Transitions among Health Workers.**



1. Data older than 2015

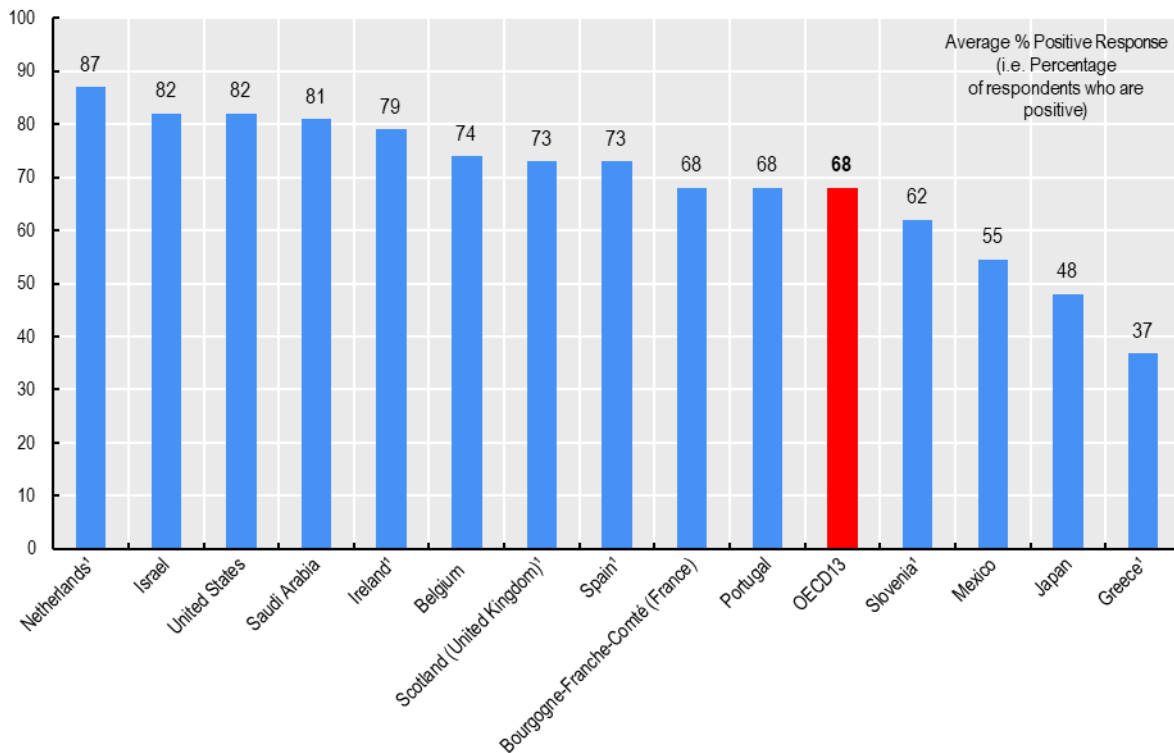
Source: OECD Patient Safety Culture Pilot Data Collection 2020-2021

Note: The most recent year of available data on this domain is presented for each country (Data identified with a <sup>1</sup> is from 2015-2020. All other data 2021-2015). The data presented includes Saudi Arabia, an OECD non-member country, which is not included in the OECD average.

Definition of Handoffs and Transitions: Important patient care information is transferred across hospital units and during shift changes.

29. In general, health workers in OECD countries felt that, within their direct work teams, staff support each other, treat each other with respect, and work well together. Data in this domain was high across countries: the mean positive response rate for the 13 OECD countries that had accessible data for this domain was 68%, and 10 countries reported performance at or greater than the mean (see Figure 2.3). Despite a trend towards higher performance in this domain, Teamwork within Units remains an area of improvement, particularly for those countries reporting performance below 50% (Japan, 2018; Greece 2014).

Figure 2.3 Perceptions of teamwork within units among health workers.



1. Data older than 2015.

Source: OECD Patient Safety Culture Pilot Data Collection 2020-2021

Note: The most recent year of available data on this domain is presented for each country (Data identified with a <sup>1</sup> is from 2015-2005. All other data 2021-2015). The data presented includes Saudi Arabia, an OECD non-member country, which is not included in the OECD average. Definition of Teamwork within Units: Staff support each other, treat each other with respect, and work together as a team.

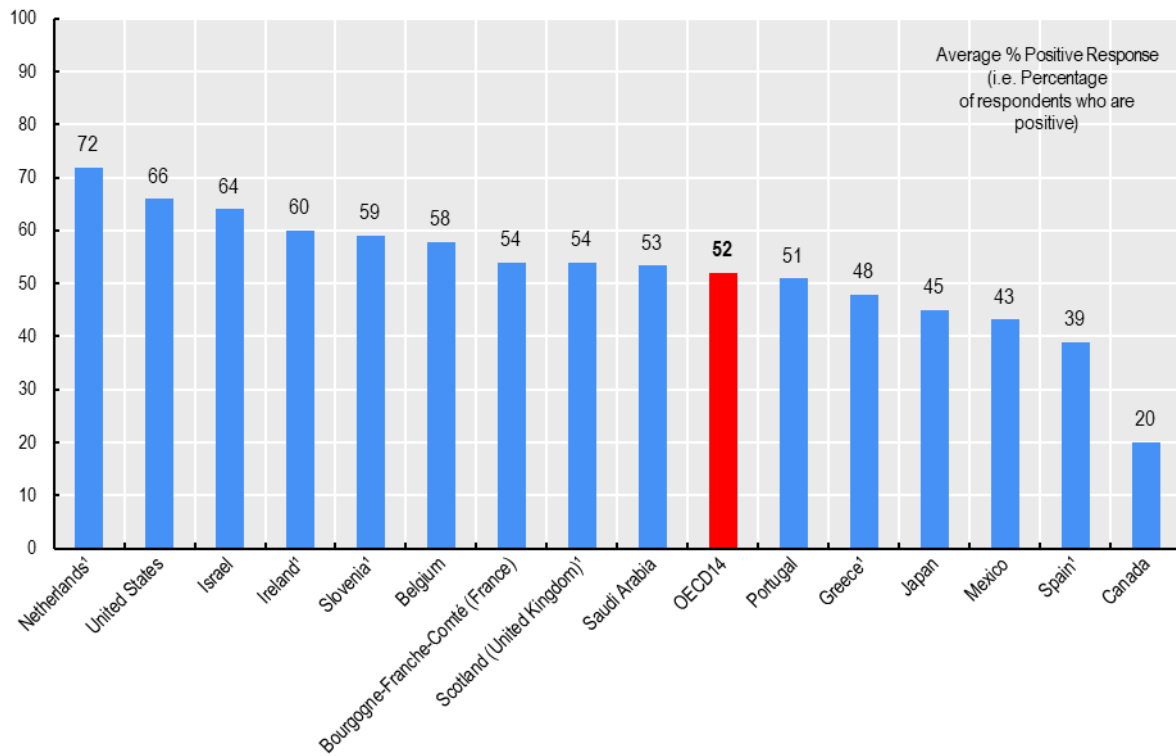
30. In many cases, there is variation between countries within the parameters of a single domain. The smallest difference between the highest and lowest performing country was in the domain of Overall Perceptions of Patient Safety (USA, 2021: 66%; Spain, 2009/2010: 44%; difference = 22%) and the largest differences were in Communication Openness (the Netherlands, 2005-2007: 72%; Canada, 2018: 20%) and Management Support for Patient Safety (Canada, 2018: 70%; Spain, 2009: 18%), a difference of 52% in both domains.

31. A higher % positive response rate relative to other countries in one domain did not necessarily indicate a higher performance across the board on HSPSC domains. For example, all participating countries assessed the domain of Management Support for Patient Safety, and the average percent of workers who provided positive responses ranged from 70% (Canada, 2018) to 18% (Spain, 2009). For the domain of Communication Openness, however, the average percent positive responses ranged from 72% (the Netherlands, 2005-2007) to 20% (Canada, 2018). In each domain, results from Canada's 2018 assessment cycle fall on either end of the spectrum (see Figure 2.4 and Figure 2.5)<sup>3</sup>. This illustrates how countries achieving relatively high % positive response rates in one or more HSPSC domains, may still have domains where performance is less optimal, that should be assessed and targeted for improvement.

<sup>3</sup> This may also be due to differences in indicator calculation. In the case of Canada, domains were mapped from the nationally used tool (the CPSCS mapped the HSPSC domains)



Figure 2.4. Perceptions of communication openness among health workers.

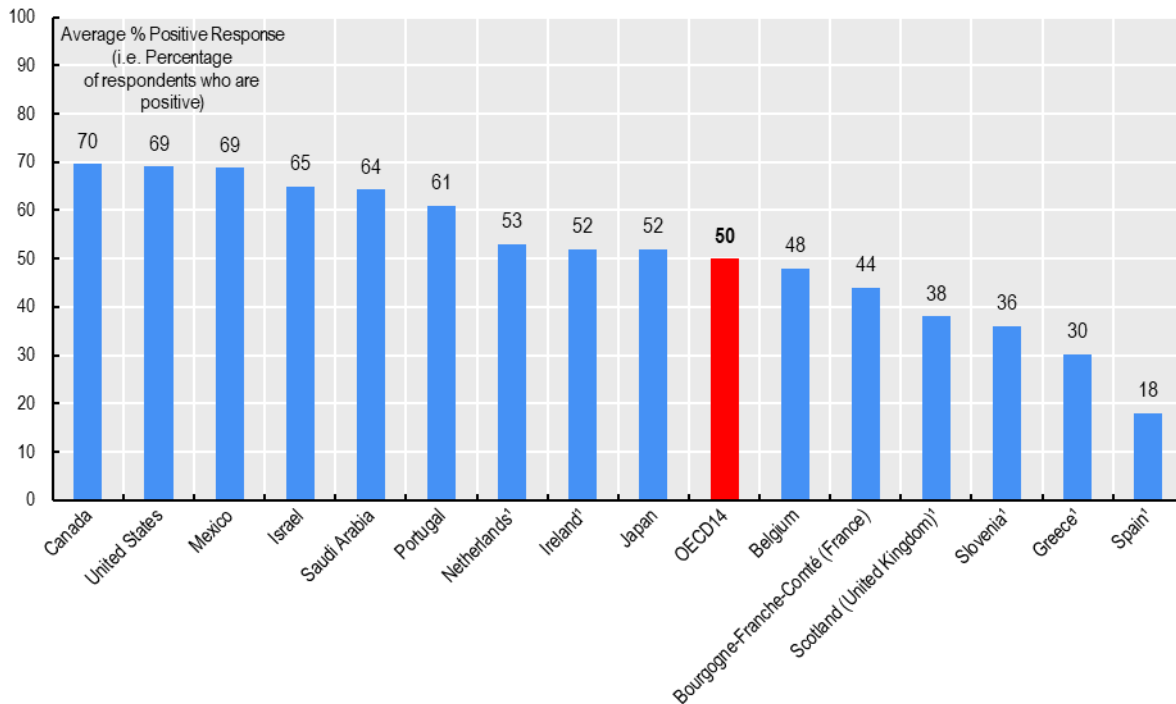


1. Data older than 2015.

Source: OECD Patient Safety Culture Pilot Data Collection 2020-2021

Note: The most recent year of available data is presented for each country. The data presented includes Saudi Arabia, an OECD non-member country. Definition of Communication Openness: Staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority.

Figure 2.5. Perceptions of management support for patient safety among health workers.



1. Data older than 2015.

Source: OECD Patient Safety Culture Pilot Data Collection 2020-2021

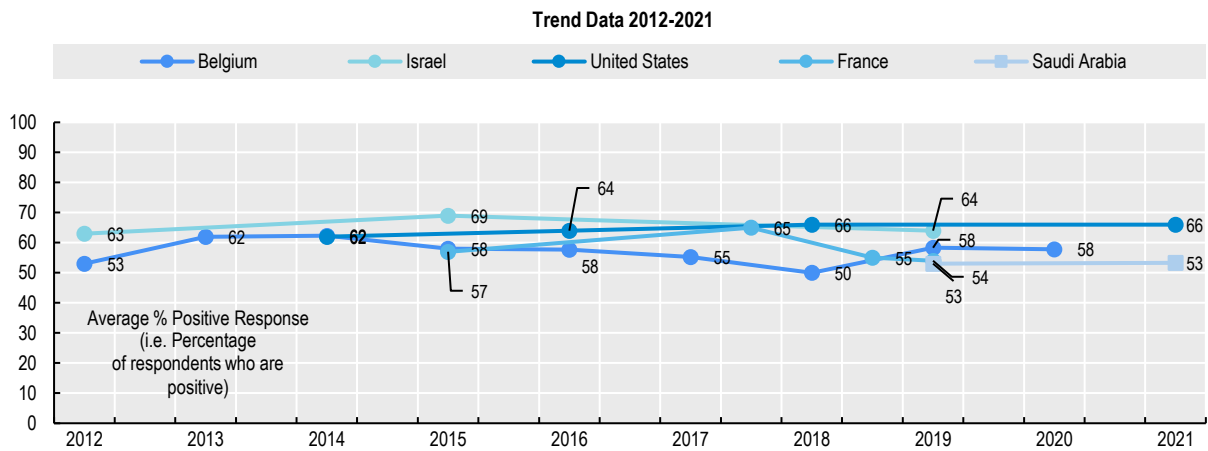
Note: The most recent year of available data is presented for each country. The data presented includes Saudi Arabia, an OECD non-member country. Definition of Management Support for Patient Safety: Hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority.

### Longitudinal analyses show that while culture can change, it changes slowly

32. Longitudinal trends in the average percent positive rate within countries appear to remain stable over time. This finding is based on countries that were able to provide data over multiple assessment cycles (Belgium, Israel, France, Saudi Arabia, and the United States). For example, when studying the domains of Communication Openness and Overall Perceptions of Patient Safety, the differences between the average percent of workers who responded positively over multiple assessment cycles tends to remain stable—a change of no more than 11 percentage points for any country (see Figure 2.6 and Figure 2.7)

33. Given that changes in culture are typically slow processes, this finding is not surprising and indicates that countries performing low within a given domain are likely to continue with that trajectory over time. Trend information on the other domains of the HSPSC can be found in 3Annex D.

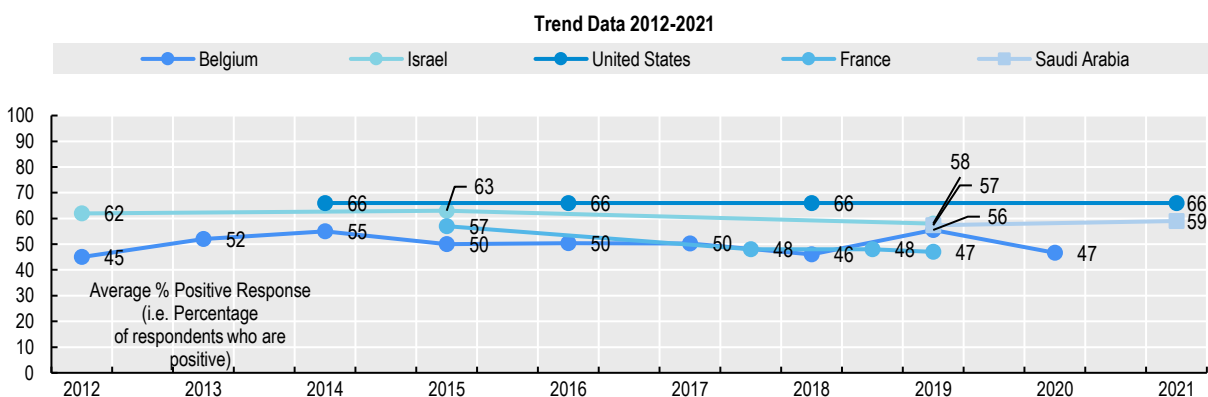
Figure 2.6. Perceptions of Communication Openness among Health Workers, 2012-2021.



Note: The size and composition sample of patients and hospitals may vary from year to year. Please see 3Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection 2020-2021

Figure 2.7. Overall Perceptions of Patient Safety among Health Workers, 2012-2021.

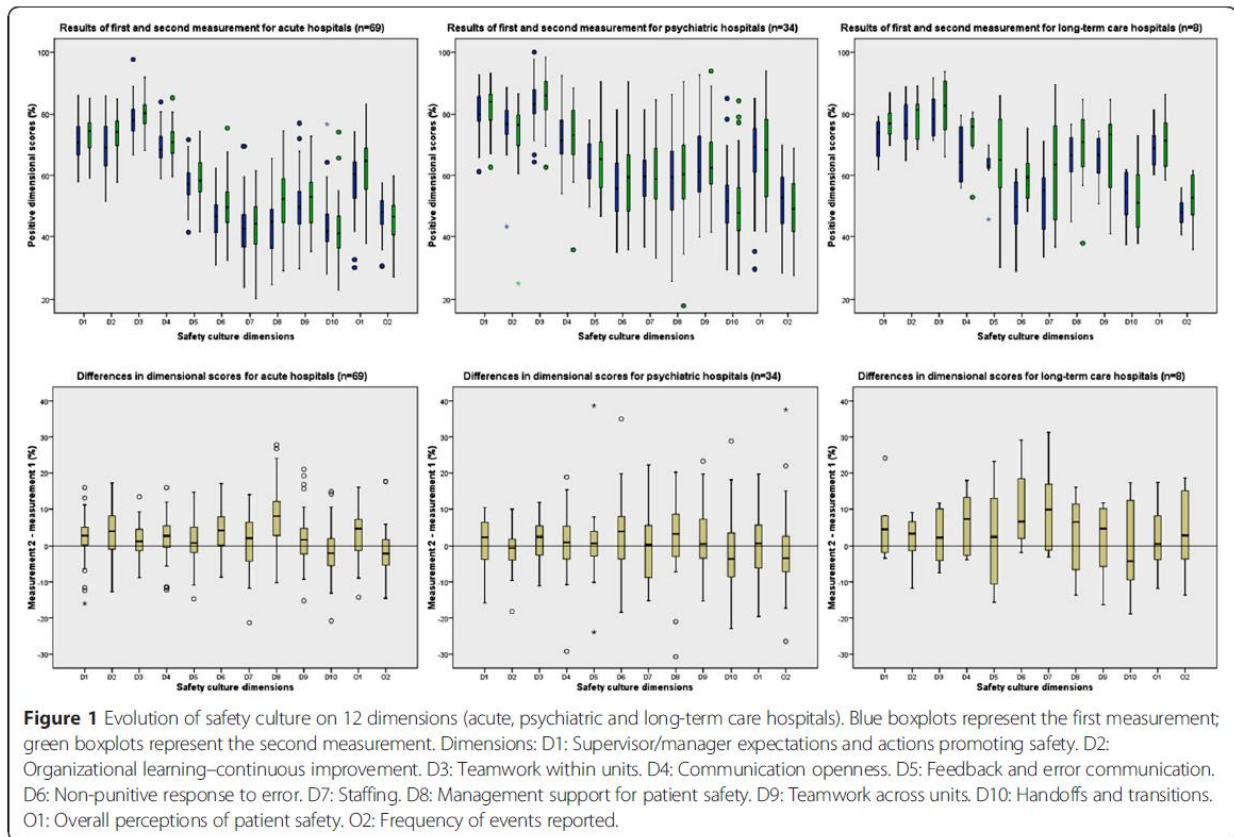


Note: The size and composition sample of patients and hospitals may vary from year to year. Please see 3Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection 2020-2021

34. For future analyses including more trend data from a greater number of countries, potential figures may include different formats following previous examples from the PSC literature to assess trends over time (see Figure 2.8 as an example from Belgium which uses changes per hospital as the unit for comparison) (Vlayen et al., 2015<sup>[38]</sup>; Vlayen et al., 2013<sup>[39]</sup>; Vlayen et al., 2013<sup>[40]</sup>; Vlayen et al., 2015<sup>[41]</sup>).

Figure 2.8. Evolution of safety culture, example from Belgium

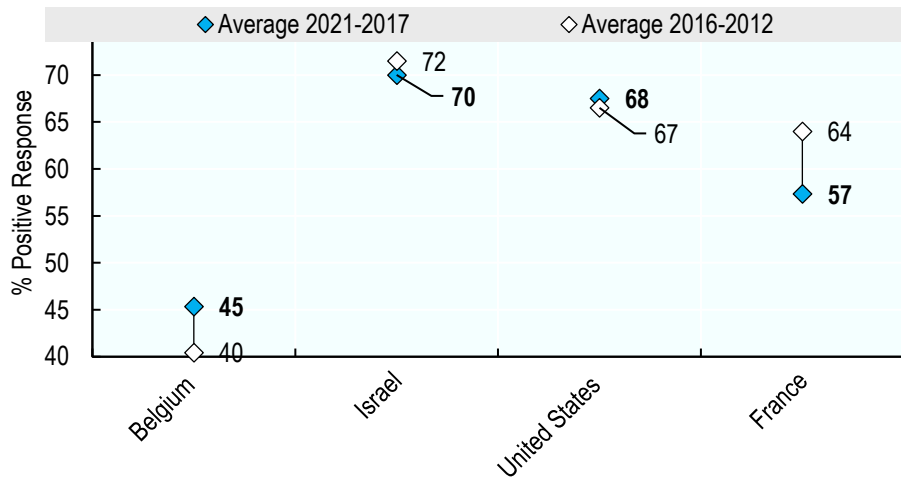


Source: (Vlayen et al., 2015<sup>[38]</sup>)

35. Alternatively, average scores across identified time periods can be compared to show national level changes over time. This format of data presentation is routinely used in OECD publications, such as Health at a Glance (OECD, 2019<sup>[42]</sup>). Figure 2.9 shows the change in country level average scores between 2021-2017 and 2016-2012 on the domain of “Frequency of Events Reported”<sup>4</sup>. For countries with available data for each of these time periods, the Netherlands and the United States saw improvements, while France and Israel saw declines over the same time period.

<sup>4</sup> Mistakes of the following types are reported: (1) mistakes caught and corrected before affecting the patient, (2) mistakes with no potential to harm the patient, and (3) mistakes that could harm the patient but do not.

**Figure 2.9. Change in average score on Frequency of Events Reported using average reported scores from 2021-2017, compared to average of 2016-2012**



Note: The size and composition sample of patients and hospitals may vary from year to year. Please see 3Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection 2020-2021

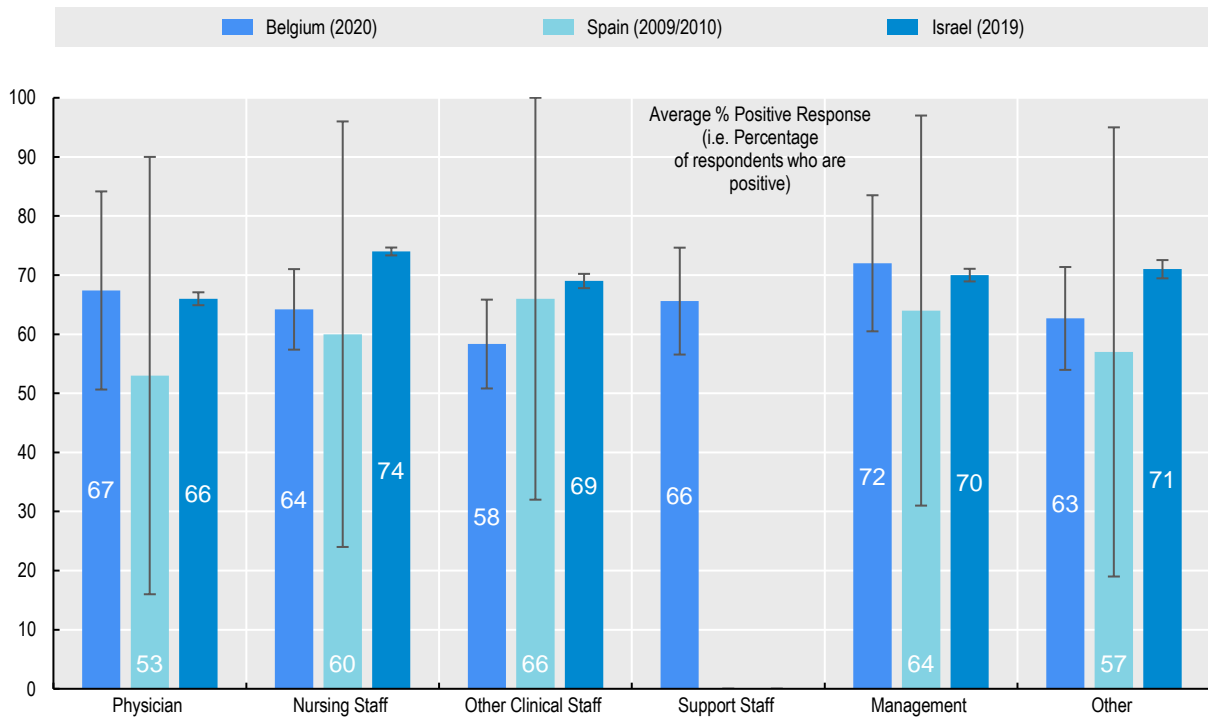
### Assessing PSC by health worker staff type

36. Data stratified by health worker position was available from three countries: Belgium (2005-2020), Israel (2019) and Spain (2009/2010), which allowed for more granular analysis of PSC domains. All three countries also provided standard deviations for the stratified average percent positive response rates, allowing for insight into variation. The Other category in Israel includes only pharmacists and laboratory workers, whereas in Belgium and Spain the specific personnel represent all other clinical staff that did not fall into the established staff categories.

37. Research suggests that health care managers tend to have more positive perceptions of PSC than frontline staff, and larger differences corresponded to higher frequencies of errors on the operational level (Firth-Cozens and Mowbray, 2001<sup>[43]</sup>) (Singer et al., 2008<sup>[44]</sup>). These findings are consistent with studies of safety culture in other sectors which have found similar lack of alignment between perceptions of safety between leadership and frontline staff (OECD, 2019<sup>[45]</sup>). However, data from the OECD PSC data collection shows relatively consistent perceptions of PSC across staff types. In the domain of Organizational Learning – Continuous Improvement, the average positive response rate among Management in all countries was comparable to the responses from other personnel categories (see

38. Figure 2.10). The greatest difference in terms of perceptions of organizational learning between staff types was between Management and Other Clinical Staff in Belgium, who had 72% and 63% positive perceptions respectively.

**Figure 2.10 Perceptions of Organizational Learning - Continuous Improvement among Health Workers in three Countries, stratified by role, most recent year.**

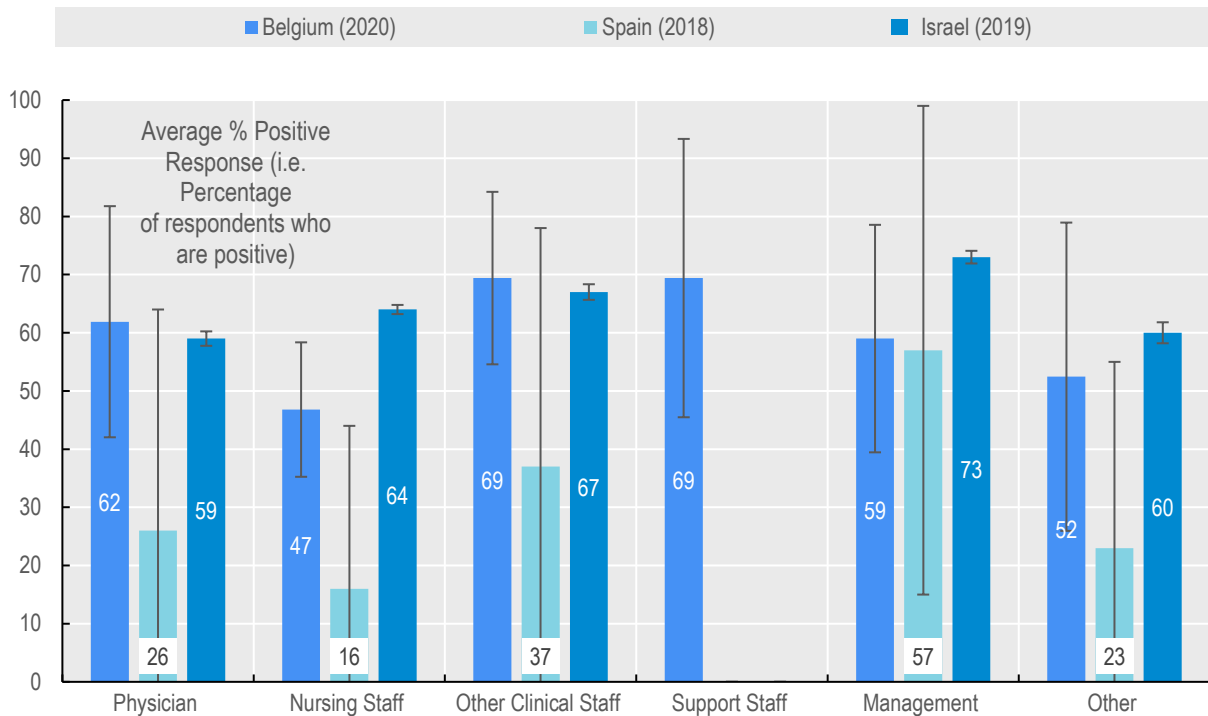


Source: OECD Patient Safety Culture Pilot Data Collection 2020

Note: Definition of Organizational Learning—Continuous Improvement: Mistakes have led to positive changes and changes are evaluated for effectiveness.

39. In the domain most relevant to the practices of management personnel, Management Support for Patient Safety, the findings were relatively similar across staff types in Belgium, and more significant variation was found in Spain and Israel (see Figure 2.11). In Belgium, Management personnel had a 10% lower average positive response rate than Other Clinical Staff and Support Staff. In Israel and Spain, management responded more positively than other personnel categories. The largest discrepancy was between perceptions of Management and Nursing Staff in Spain, where there was a 41% difference in perceptions of management support for patient safety.

**Figure 2.11. Perceptions of Management Support for Patient Safety among Health Workers in three countries, stratified by role, most recent year.**



Source: OECD Patient Safety Culture Pilot Data Collection 2020

Note: Definition of Management Support for Patient Safety: Hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority.

### Assessing PSC using the SAQ

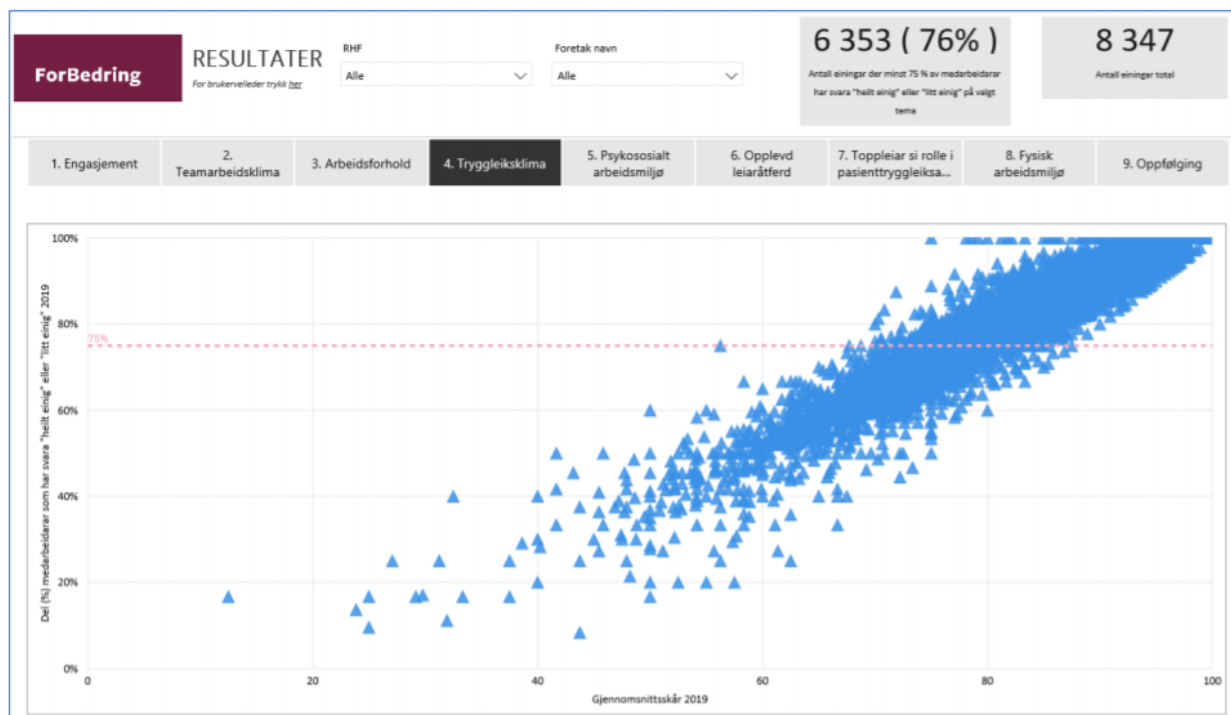
40. In previous work to better understand the uses of PSC measurement tools in OECD countries, the SAQ was identified as the second most commonly used tool to assess patient safety culture, with eight countries using the tool at some level within their health system (de Bienassis et al., 2020<sup>[5]</sup>). For the 2020-21 Patient Safety Culture pilot data collection Norway was the only country that used a modified version of the SAQ tool, with four items from the teamwork climate scale and four items from the safety climate scale.

41. In Norway, PSC and work environment surveys have been conducted annually since 2018 by the Regional health authorities, ordered by the Ministry of Health and Care services. Each hospital samples all staff in every unit and with a response rate of 70%, or higher, as the aim. Due to the exceptional situation spring 2020 the SPC/WE survey for this year has a lower response rate than earlier years. The 2019 survey, include 101,574 participants (79% response rate) across 8,347 units.

42. The Ministry of Health and Care services has ordered The Norwegian Directorate of Health to develop a national quality indicator for PSC based on data from the PSC/WE survey. A process involving The Regional health authorities and additional patient safety and working environment stakeholders is set in motion. The national quality indicator is due to be established by the end of 2021. The Ministry of health and care services requires that by 2023 at least 75% of clinical units in all hospital trusts should have a "good safety climate", according to a definition specified by the Norwegian Directorate of Health.

43. Regional health authorities have published aggregated national reports for 2018 and 2019 with survey results of all four Regional health authorities and 19 hospital trusts. These reports include results for safety climate and teamwork climate at the national level (HELSE, 2018<sup>[46]</sup>; HELSE, 2019<sup>[47]</sup>). The calculation method used in these reports is comparable to the AHRQ's guidelines. For comparison, national results for 2019 according to this method are presented in Figure 2.12. Further steps in the development of the national quality indicator for PSC includes comparing the AHRQ's and the SAQ calculation methods.

**Figure 2.12. Performance of Norwegian work units according to percentage of positive responses related to the domain of safety climate**



Note: A blue triangle corresponds to one unit. This figure shows the distribution of units according to % of employees that have answered «completely agree» or «slightly agree» on survey items within the safety climate domain.

Source: (HELSE, 2019<sup>[47]</sup>)

### Additional considerations when interpreting the data

44. The data presented in this report spanned over 15 years, with the earliest data collection being in 2005 and the most recent being in 2021. While there is reason to believe that PSC remains relatively steady over time, it is unclear what the cut-off for comparison should be. Given that countries vary in their assessment cycles, with some conducting assessments annually and other over longer intervals, being too restrictive in defining old data, limits the information pool. This needs to be balanced with the limitations introduced by including data from a wide timeframe.

45. As this is the first comprehensive report on international benchmarking of PSC indicators, the decision was made to air on the side of inclusiveness of retrospective data. It is envisaged that, as countries build and refine their national PSC assessment processes, that more timely, and comparative information will be able to be presented, using a shorter retrospective window.



46. A similar issue presents in terms of the size and scope of included studies. For the purposes of this report, all national submissions were included, despite heterogeneity in the comprehensiveness and national representativeness of the data. As countries refine their data collection processes, the OECD secretariat and PSC expert group hope to provide additional guidance on standards for the size, methods, and other characteristics of national studies included in international benchmarks.

# 3 Future considerations for measurement to grow and support strong PSC

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This chapter includes recommendations for policymakers in strengthening efforts to improve PSC at all levels of the health system and provides recommendations on areas where further international collaboration could benefit decision makers in improving health quality and safety.

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## National policy implications for patient safety culture

47. Achieving sustained improvement in patient safety and patient safety culture requires leadership at all levels. Moreover, an overarching culture of safety needs to be instilled across the health system. Commitment on the part of leadership and management is crucial to establishing and maintaining a safe, people-centred environment. Leaders play a key role in driving organisational priorities by setting examples, fostering communication and creating enabling atmospheres for raising concerns, as well as leveraging incentives with the aim of creating safe, people-centred care.

48. At the political level, there have already been examples of collaboration and international learning, such as the Ministerial Summits on Patient Safety, and the WHO Global Patient Safety Network, which have supported safety culture at the highest levels of government (WHO, n.d.<sup>[48]</sup>). In addition, international organizations have called on leaders to provide sufficient support – including financial support – to efforts to improve patient safety (G20 Health & Development Partnership, 2021<sup>[49]</sup>). International organizations have worked to assess and build expertise in these areas—but these investments need to be sustained.

49. There are several actions that policy makers can take to drive improvement related to PSC. Countries need sufficient data on PSC in order to inform improvement activities and to determine where resources should be focused. Current national data collection efforts are limited in most countries, collecting information on an ad hoc basis and covering variable regions and samples of hospitals. National efforts to assess or support safety culture also communicate the recognition of the importance of safety and health workers' work environments at the highest levels of government.

50. Countries should be encouraged to establish or continue systemic investments for improving patient safety culture and to contribute data, including disaggregated data, to international benchmarking efforts. Participation in international benchmarking can provide meaningful data on relative county performance, drive improvement in low performing domains, and encourage broader uptake of PSC indicators both within an across countries. International collaborations working on PSC benchmarking in the future should work to align narratives of country experiences and examples of policy actions to improve safety culture and reduce adverse events. Finally, PSC indicators and their underlying data should be used for comprehensive analysis and insights on the causal links between culture and safety outcomes, but also topics related to staffing, costs, and resourcing. These recommendations are summarized in Box 3.1.

### Box 3.1. Taking action at the system level on Patient Safety Culture

#### Recommendations for countries to improve patient safety through improving safety culture

- Countries should continue systemic investments for improving patient safety culture and contribute data to international benchmarking efforts.
- Findings from international benchmarking exercises should be paired with narratives of country experiences and examples of policy actions to improve safety culture and reduce adverse safety events.
- Indicators and their underlying data should be used for comprehensive analysis and insights on the causal links between culture and safety outcomes, costs and resourcing.
- Furthermore, indicators should be further refined to provide meaningful information to policy makers regarding heterogeneity of performance at the hospital and services level, providing additional insights for both international benchmarking and national policy making.

### Moving the needle on PSC—International learning on what works

51. Policymakers and healthcare leaders already have at their disposal many of the tools they need to improve safety culture and outcomes. These tools can be further leveraged by the sharing of best practices between countries. The following section describes a selection of national level efforts or programs that have been established with the aim of improving patient safety culture and patient safety outcomes.

- In **Mexico**, there are annual surveys to assess the culture of patient safety, as well as annual surveys on hand hygiene. Quality improvement initiatives in hospitals are analysed at the micro-, meso-, and macro-levels, and the Ministry of Health provides advice on quality and safety issues to all participating institutions.
- In **France** the Haute Autorité de santé (HAS) has developed a set of three guidelines in collaboration with the Federation of Regional and Territorial Organisations for the Improvement of Health Practices (FORAP), to implement and measure a safety culture, and set up actions for

continuous improvement (HAS, 2020<sup>[50]</sup>). HAS has also developed a guide on safety walk-around: a one-hour discussion on patient safety between a management team and medical unit. The aim of this approach is to identify problems encountered directly on the field that may benefit from a shared action plan. Participating units are encouraged to measure safety culture before carrying out the safety walk-around process. Finally, HAS offers two voluntary programmes to improve teamwork: 1) the accreditation process of doctors and medical teams; and 2) a programme for the continuous improvement of teamwork in hospitals (the PACTE project). Over the two-year programme period, teams are supported by a referent pair (health manager - doctor) and by a facilitator from outside the hospital. The PACTE project included a measure of the safety culture at the beginning of the programme.

- In **Canada**, Health Standards Organization (HSO) and Accreditation Canada have been identifying and publishing Leading Practices, that is, practices carried out by a health and/or social service organization that has demonstrated a positive change, is people centred, safe and efficient. The database currently includes 98 practices related to patient safety—and 14 practices that include components related to culture (HSO, 2021<sup>[51]</sup>).

52. Additional international collaboration and knowledge sharing on national programs to improve performance on patient safety culture domains, such as the examples cited above, could help in identifying and disseminating best practices among countries facing similar challenges.

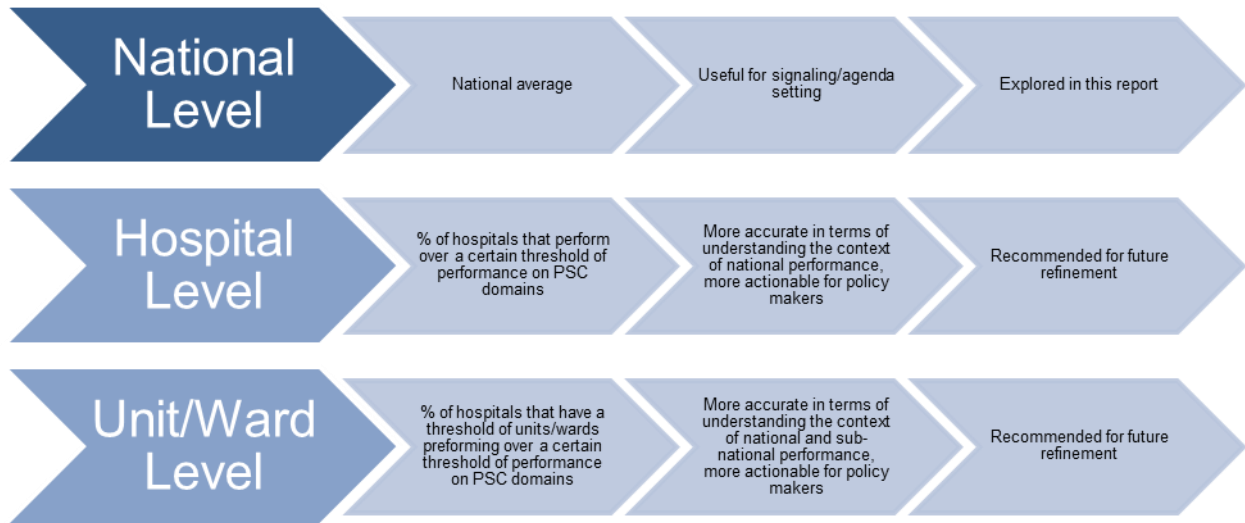
## Methodological considerations

### *Collecting additional data to provide context for PSC measurements*

53. Despite many commonalities between countries in the implementation of PSC measurements, there are improvements that can be made to enhance international comparability and to understand structural and survey related factors that may influence PSC survey results. Work on PSC would benefit from additional analysis in terms of structures and organizational factors of hospitals and survey implementation. It is recommended that future data collections include additional information related to sources and methods, such as hospital size, hospital type (e.g. academic hospitals), and number of respondents per staffing category. For national level averages, countries are encouraged to provide aggregated data sets at the national level (as opposed to national level data based on combining results of hospital averages). Finally, countries are encouraged to assess PSC nationally at least every four years.

54. Further work on international benchmarking on PSC would ideally take into account differences in average response rates across hospitals and the scope of variation at the hospital/unit level (e.g. % of hospitals/units that have high levels of positive responses) (see Figure 3.1). Countries, including Belgium and Norway, have explored mechanisms for reporting PSC findings in this manner. Reporting on hospital or unit variation will need to be explored moving forward to assess the feasibility for countries in reporting further disaggregated data.

**Figure 3.1. Levels of assessment of PSC for providing additional context and insights on performance**



Source: Authors

55. There is also an additional value of international learning and benchmarking when units of analyses are scarce—for example, in small countries with limited numbers of hospitals, where internal benchmarking may not provide many opportunities for comparison. Similarly, international benchmarking can be helpful in providing needed comparators for specialized services (i.e. home care organizations, specific mental health care services) or for countries who are developing PSC programs to have a sense of how their findings relate to the broader context.

***Hospital Survey on Patient Safety Culture 2.0***

56. In 2019, AHRQ released a new version of the HSPSC, HSPSC 2.0. The original version of the survey remains available; however, AHRQ now encourages the use of HSPSC 2.0. HSPSC 2.0 has fewer items than HSPSC 1.0, and the domain names have been updated to reflect the content of included items. Five HSOPS 1.0 survey items were kept in HSOPS 2.0 unchanged, but the following changes were made to the remaining items (Westat et al., 2019<sup>[52]</sup>). An update on the number of items per domain and changes to the domain names can be found in Figure 3.2.

Figure 3.2. Comparison of HSOPS 1.0 and HSOPS 2.0 Composite Measures

HSOPS 1.0	HSOPS 2.0	Number of HSOPS 1.0 Survey Items	Number of HSOPS 2.0 Survey Items
Communication Openness	Communication Openness	3	4
Feedback and Communication About Error	Communication About Error	3	3
Frequency of Events Reported	Reporting Patient Safety Events	3	2
Handoffs and Transitions	Handoffs and Information Exchange	4	3
Management Support for Patient Safety	Hospital Management Support for Patient Safety	3	3
Nonpunitive Response to Error	Response to Error	3	4
Organizational Learning – Continuous Improvement	Organizational Learning—Continuous Improvement	3	3
Staffing	Staffing and Work Pace	4	4
Supervisor/Manager Expectations and Actions Promoting Patient Safety	Supervisor, Manager, or Clinical Leader Support for Patient Safety	4	3
Teamwork Within Units	Teamwork	4	3
Overall Perceptions of Patient Safety*	-----	4	0
Teamwork Across Units*	-----	4	0
	<b>Total**</b>	<b>42</b>	<b>32</b>

\*The *Overall Perceptions of Patient Safety* and *Teamwork Across Units* composite measures and associated survey items from HSOPS 1.0 were dropped in HSOPS 2.0.

\*\*Only the survey items that are grouped into composite measures are counted in this table—single-item measures and background questions are not included in the counts.

Source: (Westat et al., 2019<sup>[52]</sup>)

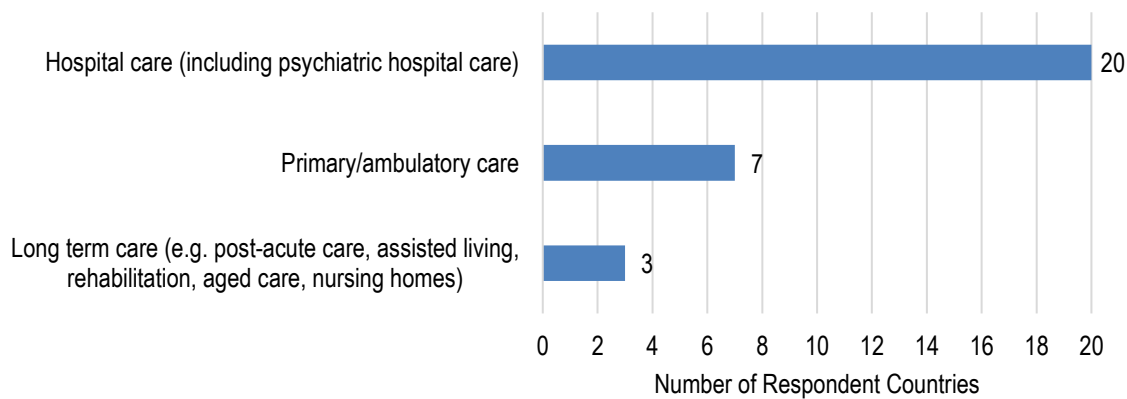
57. The US is moving towards adoption of HSPSC 2.0 and other countries are also beginning to translate the new tool, including Australia, Israel, the Netherlands, and Poland.

58. Based on pilot testing, test, AHRQ reports that scores on HSPSC 2.0 composite measures and survey items can be expected to be higher than comparable scores on HSPSC 1.0 due to changes in the survey, though the scope of differences varies depending on the domain and item (Westat et al., 2019<sup>[52]</sup>). For the continuation of this work, submissions using different versions of the HSPSC may present potential barriers in cohesively summarizing the state of PSC internationally. Methods for benchmarking using different versions of the tool will need to be further explored in the case of future data collections.

### Beyond the hospital: Patient safety culture in other care settings

59. Hospitals have historically been the focus of PSC assessments, including the focus of the data gathered in this report. Most of the existing survey tools for assessing PSC have been developed for the Hospital Setting, and countries have primarily focused use of measures in this setting.

60. The OECD's 2019 found that 20 out of 23 countries reported that PSC measures were used in hospitals in their country (including psychiatric hospitals). This finding is consistent with the literature, for example, a 2019 review of 62 studies using HSPSC, found that 84% of studies took place in the hospital setting (Waterson et al., 2019<sup>[53]</sup>). However, a number of countries have implemented PSC surveys in primary/ambulatory care and long term care settings. This number has likely only increased since the COVID-19 crisis put a spotlight on the importance of safety across health care settings, and long-term care, in particular.

**Figure 3.3. Location of administration for the most commonly used survey tool in the country**

Note: N=24 Respondent Countries

Source: OECD 2019 PSC Measurement Survey

### **Long term care**

61. There is an increasing need to understand PSC in long term care facilities given the growing number of individuals who receive this type of care and the prevalence of patient safety issues in these settings. According to prior work by the OECD, the proportion of peoples aged 65 and older in OECD countries is expected to grow, and approximately 11% of this population received long term care services in 2017 (de Bienassis, Llana-Nozal and Klazinga, 2020<sup>[23]</sup>). The same report estimated that preventable hospital admissions from long term care facilities resulted in costs of nearly USD 18 billion across 25 OECD countries in 2016.

62. The COVID-19 pandemic has further brought to light the unique threats to the safety of long term care facility residents and workers. Older individuals are at greater risk of experiencing severe COVID-19 and death, making the long term care population particularly vulnerable. The Nursing Home Survey on Patient Safety Culture developed by the AHRQ, offers a tailored tool for assessing PSC in long term care and maps to the domains of the HSPSC (AHRQ, 2018<sup>[54]</sup>). Given that the HSPSC is widely used tool for assessing PSC in OECD countries, nationwide implementation of the NHPSC may be a feasible extension in many countries.

### **Primary care**

63. Encounters at acute care hospitals make up only a fraction of all medical care that is provided. Primary care is the most frequently accessed healthcare setting, yet assessment of PSC in primary care facilities is limited. Some countries have conducted large-scale assessments of PSC using the AHRQ's Medical Office Survey on Patient Safety Culture (MOSPS) as well as the SAQ (Demurtas et al., 2020<sup>[55]</sup>; Klemenc-Ketiš et al., 2017<sup>[56]</sup>; Smits et al., 2018<sup>[57]</sup>). Spain for example, conducted an assessment of 245 primary care centres across 15 Autonomous Communities using the MOPS questionnaire, surveying a total of 4,344 professionals (MSSSI, 2014<sup>[58]</sup>). Nationally representative studies, such as those in Spain and the United, can serve as initial benchmarks for other countries considering the adoption of PSC metrics in primary care.

## Linkages with health worker safety and resilience, and patient reported experiences of safety

### ***Measuring employee resilience as part of workplace and safety culture***

64. Resilient health systems have been an emerging conversation during the COVID-19 pandemic, as has been the case in public health emergencies in the past, such as the Ebola epidemic. Resilience can be defined as “everyday performance variability that provides the adaptations that are needed to produce good outcomes, both when conditions are favourable and when they are not” (Smith and Plunkett, 2019<sup>[59]</sup>). In other industries, like construction and aviation, the concept of “resilience safety culture” has been explored.

65. As the international healthcare community braces for post-pandemic recovery, there is an opportunity to integrate the theme of resilience across all spheres, including in the assessment of workplace and safety culture.

### ***Aligning health worker safety and patient safety culture***

66. There are significant linkages between cultures that promote worker safety and those that promote patient safety. These are reinforcing, and often address the same domains—such as teamwork, staffing adequacy, and good communication and trust (as described in Table 3.1). Health care leaders should consider mechanisms for the improvement that address both conjointly and implement streamlined monitoring processes to assess the performance of both.

**Table 3.1. Common Dimensions across Safety Culture Tools**

	Examples of Topic Areas: Worker Safety Culture Tools	Examples of Topic Areas: Patient Safety Culture Tools
Leadership and management	Leadership and management support for staff safety; degree of supervision, leadership hierarchy, policies and procedures	Perceptions of management; leadership and management support for patient safety; nonpunitive response to errors, policies, and procedures; adequacy of training
Group behaviours and relationships	Workgroup relations, conflict vs. cooperation, social relations, co-worker trust, supportiveness	Teamwork within and across units; quality of handoffs and transitions
Communications	Openness of communication, formal and informal methods, conflict resolution approaches	Feedback and communication about error; reporting mechanisms
Quality of work life: structural attributes; working conditions	Staffing adequacy, job satisfaction, team satisfaction, security; work pressure, rewards, job security, forced overtime, benefits	Staffing adequacy, job satisfaction, team satisfaction; resource availability; stress recognition

Source: (The Joint Commission, 2012<sup>[60]</sup>)

### ***Health worker reports of safety culture and patient reported experiences of safety measures should be used together***

67. Patient involvement is a growing priority in assessments of patient safety culture. There is significant potential for patients to provide meaningful feedback on their experiences of safety in health care settings, including their experiences of safety culture and its domains.

68. In order to develop a more comprehensive approach to assessing patient safety across health systems and health care providers, a growing number of OECD countries use other data sources—such as information reported by patients themselves—to complement PSIs based on administrative data and PSC data from health workers. Patient generated data can be used to prevent, evaluate and manage patient safety incidents.



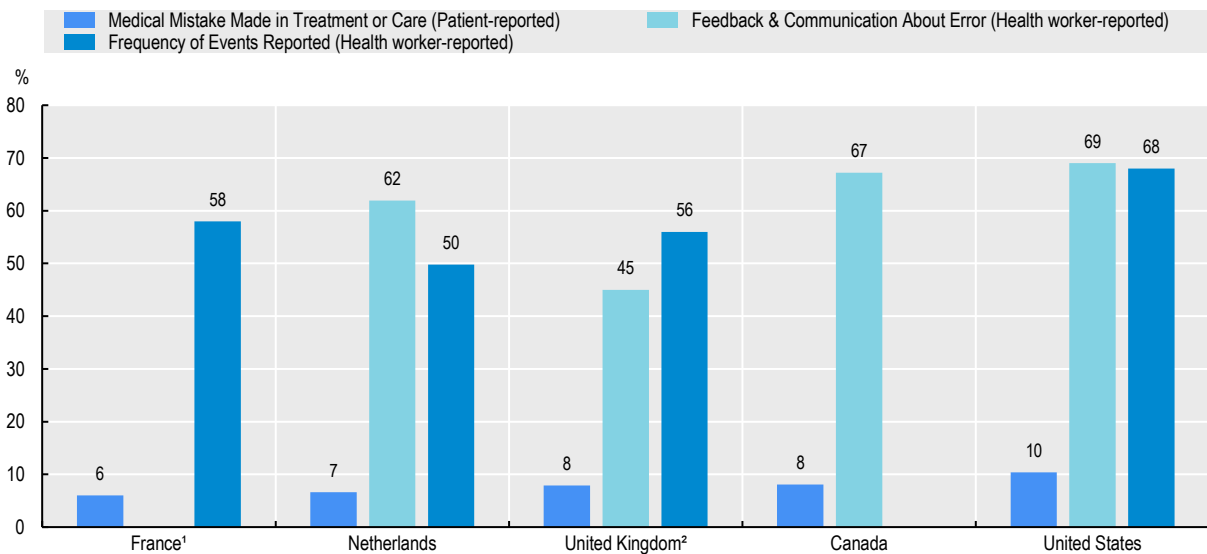
69. A number of OECD countries have started developing surveys to measure and monitor patient-reported experiences of safety. To compliment this, the OECD is currently working with countries to establish indicators on safety that are reported by patients. As of 2021, the target population of these efforts is patients who were hospitalised for any health condition and who were discharged from the hospital (i.e. excludes same day admissions) (OECD, 2019<sup>[61]</sup>).

70. These tools can be used to mirror PSC from the provider perspective. The following items, as an example, align with concepts currently evaluated using PSC surveys:

- Q1 Good communication between hospital staff
- Q5 Felt confident in the safety of treatment and care
- Q6 Experienced patient safety incidents
- Q9 Reported patient safety incidents to hospital staff
- Q17 Follow up care or treatment was clear
- Q18 Hospital staff explained how to take all prescribed medications

71. Using patient- and health worker-reported experiences of safety together can give policy makers and hospital managers improved insights as to how PSC is relating to patient’s experiences of safety, as well as other metrics of adverse events.

**Figure 3.4. Linking Patient-reported experience of safety measure (Medical mistake made in treatment or care) with health worker-reported PSC measures (Feedback and communication about error and frequency of events reported)**



1. Health worker reported figures are from Bourgogne-Franche-Comté, 2. Health worker reported figures are from Scotland only.  
 Note: For patient-reported measures, the Y-axis is % of respondents; for Health worker-reported measures, the Y axis is % positive response.  
 Source: The Commonwealth Fund 2020 International Health Policy Survey and national surveys, OECD Patient Safety Culture Pilot Data Collection 2020

72. Additional analysis is needed, but Figure 3.4 shows preliminary findings of what these analyses might look like from an international benchmarking perspective. This figure combines information on patient-reports of if a medical mistake was made during their care from the Commonwealth Fund 2020 International Health Policy Survey, with findings from national level PSC metrics on feedback and communication about error and frequency of events reported. At this point, results must be interpreted with

caution, but initial findings show that the U.S. for example has both relatively high rates of patient-reported experiences of medical errors, as well as high rates of communication and reporting of adverse events. More research is needed to understand if patient-reported experiences of medical errors are higher due to actual higher rates of adverse events, or if they are more frequently communicated back to patients due to characteristics of safety culture.

### ***Key linkages with other aspects of safety in health care***

73. In addition to the areas cited in the above sections, there are opportunities for further examination of the links between patient safety culture research and other aspects of health care, including safety climate (i.e. context-dependent surface manifestation of PSC) as well as the impact of PSC on safety attitudes and behaviour. Finally, more research is needed to better understand the relationships between PSC, safety outcomes, mitigating/contextual factors, and the effect of interventions.

## **Conclusions**

74. This report functions to serve as a comprehensive report of how countries health workers evaluate the safety culture of their work environments and the safety of the services that they and their colleagues provide—in a first step toward international benchmarking in this domain.

75. The key message is clear; there is room for improvement. Half of less of health workers across OECD countries felt that their workplace had an adequate safety culture in regard to staffing, non-putative response to errors, teamwork across units, handoffs and transitions, and management for support for patient safety. Even in the highest performing domain, 32% of health workers did not think there was a safety Staff support each other, treat each other with respect, and work together as a team. International benchmarking is a feasible and useful addition to exiting measurement initiatives on safety culture and can help to accelerate the necessary change.

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[48]

# Annex A. Data Collection Guidelines

## Introduction

For the purposes of the Patient Safety Culture (PSC) Pilot Data Collection, the OECD is seeking performance results of national, regional, or provider group efforts to measure PSC using the Hospital Survey of Patient Safety Culture v.1 (HSPSC v.1) and/or the Safety Attitudes Questionnaire (SAQ) [see section on Survey Instruments]. Preference is for nationally or regionally representative data.

Data will be collected on the most recent year that the assessment was made. Additional years of data may be provided.

## Key Notes

If a country does not use the HSPSC v.1 or SAQ, but includes similar domains or items in its PSC survey, we ask that you please include the results, noting the differences in the items in the data collection form and providing the source survey (either in English or the Source Language). The WG members will discuss potential for comparability.

At this time, the data collection will focus on HSPSC v.1, as opposed to HSPSC v.2. If your country is using HSPSC v.2, please complete the form for HSPSC v.1 using the corresponding domains, but note that the survey tool used is HSPSC v.2.

The focus on this data collection is only on the hospital/inpatient setting. The PSC expert group and the HCQO WG may discuss feasibility and availability of data comparing other settings in the future.

If a country would like to report on more than one year of data, please complete the data collection form separately for each year.

## General Specifications

### *Indicator Definitions:*

- Coverage: Staff in hospital settings who have responded to the HSPSC v.1 or SAQ.
- Numerator: For each item/domain, the number of respondents within a hospital who answered positively (e.g. “Strongly agree” or “Agree,” or “Always” or “Most of the time.”)
- Note: Negatively worded questions should be reverse coded when calculating percent “positive” response. (I.e. the total number of respondents within a hospital who answered “Strongly disagree” or “Disagree,” or “Never” or “Rarely”)
- Denominator: For each item/domain, the total number of survey respondents.
- Setting of Care: Hospital/inpatient services (including psychiatric hospitals), emergency department and services
- Stratification: If available we ask responses to include stratified results based on provider type: (Physicians, Nursing Staff, Other Clinical Staff, Support Staff, Management, Other)

- Level of Analysis: Regional/National/Provider group (if regional or national figures are not available)
- Data Source: Survey

#### **Metadata:**

- Data source and survey instrument used
- Year of data collection
- Total number of sites
- Total number of participants
- Average response rate
- Assessment of national representativeness
- Voluntary vs. mandatory survey data submission by participating hospitals

### **Indicator Calculation**

The indicators for both the HSPSC v.1 and SAQ will be calculated in terms of the average % of positive responses (i.e. percentage of respondents who are positive (for SAQ see scoring instruction \*) on each of the domains/ items requested. Information on the standard deviation is also requested.

If available, please submit the average % of positive responses (i.e. percentage of respondents who are positive (for SAQ see scoring instruction \*)) for the employee subgroups indicated.

Potential indicators based on priority domains will be further discussed with the OECD PSC expert group and the HCQO working party. Currently we are collecting information on all domains to also identify possible areas where there is significant heterogeneity in performance across countries.

### **Important References**

#### **Survey Instruments**

- HSPSC v.1: <https://www.ahrq.gov/sites/default/files/wysiwyg/sops/quality-patient-safety/patientsafetyculture/hospitalscanform.pdf>
- SAQ: [https://www.researchgate.net/publication/7194620\\_The\\_Safety\\_Attitudes\\_Questionnaire\\_Psychometric\\_Properties\\_Benchmarking\\_Data\\_and\\_Emerging\\_Research](https://www.researchgate.net/publication/7194620_The_Safety_Attitudes_Questionnaire_Psychometric_Properties_Benchmarking_Data_and_Emerging_Research)
- HSPSC v.2: <https://www.ahrq.gov/sites/default/files/wysiwyg/sops/surveys/hospital/hospitalsurvey2-form.pdf>

#### **Items within each Domain**

- HSPSC v.1: <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/patientsafetyculture/hospital/userguide/hospital-survey-items.pdf>

- SAQ:  
<https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0172390&type=printable>
- HSPSC v.2:  
<https://www.ahrq.gov/sites/default/files/wysiwyg/sops/surveys/hospital/hospitalsurvey2-items.pdf>

### ***Additional Guidance***

- \*SAQ Scoring Instructions: <https://med.uth.edu/chqs/wp-content/uploads/sites/75/2020/03/Scale-Computation-Instructions-updated-EWS-12.23.15.pdf>
- AHRQ Hospital Survey on Patient Safety Culture Version 1.0: User's Guide  
<https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/patientsafetyculture/hospital/userguide/hospitalusersguide.pdf>
- AHRQ Hospital Survey on Patient Safety Culture Version 2.0: User's Guide  
<https://www.ahrq.gov/sites/default/files/wysiwyg/sops/surveys/hospital/hospitalsurvey2-users-guide.pdf>

## Annex B. Characteristics of national PSC studies

Country	Year	Total number of sites	Total number of participants (total across all sites)	Average response rate (across all sites):	Hospital were required to participate?
Belgium	2020	11 sites	2,025 participants	53.5%	1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2019	37 sites	9,050 participants	63.6%	1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2018	1 site	272 participants		1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2017	4 sites	1,222 participants		1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2016	11 sites	5,400 participants	33.4%	1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2015	118 sites	43,770 participants	56.6%	1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2014	3 sites	1,314 participants		1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2013	1 site	82 participants		1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2012	4 sites	995 participants		1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2011	140 – 141 sites	56,568 participants	61.2%	1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2010	1 site	42 participants	61.8%	1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking

Belgium	2009	7 sites				1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2008	123 – 124 sites	2,153 participants	62.1%		1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2007	11 sites	46,774 participants	62.2%		1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2006	2 sites	5,274 participants	73.8%		1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Belgium	2005	5 sites	1,076 participants	79.0%		1) Mandatory for accreditation and federal quality and safety program 2) Voluntary for benchmarking
Canada	2018	20 sites	3,940 participants 10,441 participants	77.7% 48%		Voluntary <i>Required for accreditation</i>
France	2019	18 hospitals in 1 region: Bourgogne Franche Comté	788 healthcare professionals	14 hospitals with a response rate >60%		Voluntary
France	2018/2019	9 healthcare structures 4 regions Pays de Loire, Haut de France, Normandie, Auvergne Rhone Alpes	9 teams - 558 healthcare professionals			Voluntary
France	2017/2018	11 healthcare structures: CH Cornouaille, Quimper CH Niort CH Nord Caraïbe, Le Carbet CH Pays d'Apt CHU Caen CHU Nice Clinique Ambroise Paré, Toulouse Clinique des Cèdres, Toulouse Clinique les Cèdres, Brive-la-Gaillarde Hôpital européen de Marseille SSR Val Rosay, Saint-Didier-au-Mont-d'Or	22 teams - 240 healthcare professionals	19 teams with a response rate >60%		Voluntary
France	2015	166 hospitals: 10 regions : Bretagne, Normandie, Pays de Loire, nouvelle Aquitaine, Haut de France, Ile de France, Bourgogne Franche Comté, Auvergne Rhone Alpes, Martinique, Guadeloupe	11,418 healthcare professionals	57 hospitals with a response rate >60%		Voluntary
Greece*	2014	12 hospitals	1,376 healthcare professionals	59.6%		Voluntary <i>Participation in research</i>
Ireland*	2013/2014	41 participating hospitals	4,700 participants	13%		Voluntary <i>Participation in research</i>
Israel	2019	35 General Hospitals	6,194 participants	10%		Mandatory <i>Included in the National Program of Patient Safety Indicators</i>

Israel	2015	35 General Hospitals	2,586 participants		Mandatory <i>Included in the National Program of Patient Safety Indicators</i>
Israel	2012	35 General Hospitals	3,529 participants	27%	Mandatory <i>Included in the National Program of Patient Safety Indicators</i>
Japan	2018/2019	161 sites	Not indicated	89%	Voluntary
Mexico	2020	802 sites	46,918 participants		Voluntary
Netherlands	2005-2007	24 hospitals	6,605 participants	60.2%	Voluntary <i>But often required for accreditation</i>
Norway	2019	8,347 sites	101,574 participants	79%	Mandatory
Portugal	2018	65 sites	115,143 participants	26,2% (= 25%); 73,8% (< 25%)	Mandatory <i>Required under national legislation</i>
Saudi Arabia	2019	250 sites across HC sector	77,732 participants	46%	Voluntary <i>Required for accreditation</i>
Saudi Arabia	2021	366 sites across 20 directorates	134,924 participants	64%	Voluntary <i>Required for accreditation</i>
Slovenia*	2010/2011	10 acute general hospitals	3,084 participants	51% (11 % to 85 %)	Voluntary
Spain	2018		214 participants		Voluntary <i>Participation in research</i>
Spain	2009	227 ICUs	8,930 participants	83%	Voluntary <i>Participation in research</i>
Spain*	2006	24 hospitals	2,503 participants	40% (23.6% - 79.3%)	Voluntary <i>Participation in research</i>
United Kingdom (Scotland)*	2013	6 NHS acute hospitals	1,866 clinical staff	23%	Voluntary <i>Participation in research</i>
United States*	2021	320 hospitals	191,977 participants	60	Voluntary <i>Option to submit data for benchmarking purposes</i>
United States*	2018	630 hospitals	382,834 participants	54%	Voluntary <i>Option to submit data for benchmarking purposes</i>
United States*	2016	680 hospitals	447,584 participants	55%	Voluntary <i>Option to submit data for benchmarking purposes</i>
United States*	2014	653 hospitals	405,281 participants	54%	Voluntary <i>Option to submit data for benchmarking purposes</i>

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

\* indicates the source came from the published literature, and was not submitted by members of the PSC expert group

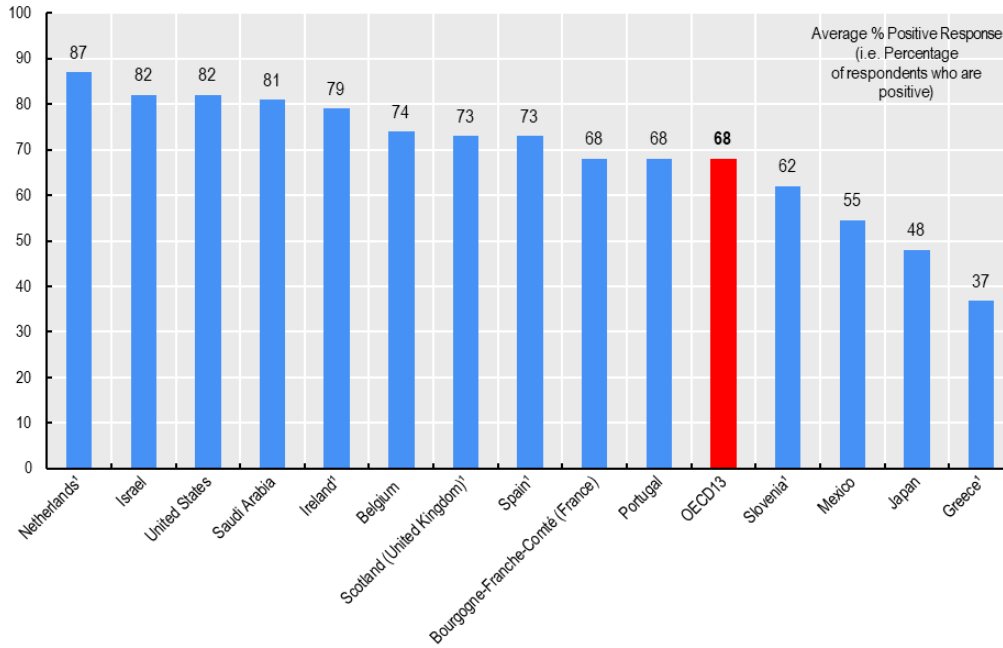
## Annex C. OECD Patient Safety Culture Expert Group Participants

Name	Country	Position
Suzanna Henderson	Australia	Commission on Safety and Quality in Health Care
Annemie Vlayen	Belgium	Federal Public Service of Health, Food Chain Safety and Environment and Hasselt University
Anne MacLaurin	Canada	Canadian Patient Safety Institute
Asmita Gillani	Canada	Accreditation Canada
Manuel Arriagada	Chile	Subsecretaría de Salud Pública
Solana Terrazas Martins	Chile	Subsecretaría de Salud Pública
Javiera Burgos Lagorde	Chile	Subsecretaría de Salud Pública
Solvejg Kristensen	Denmark	Aalborg University Hospital
Teele Orgse	Estonia	
Karolina Olin	Finland	Turku University Hospital
Catherine Auger	France	HAS
Vasiliki Kapaki	Greece	Health Policy Institute
Yaron Niv	Israel	Quality and Patient Safety
Yael Applbbaum	Israel	Israel Health Ministry
Ziona HAKLAI	Israel	Israel Health Ministry
Yaffa Ein-Gal	Israel	Israel Health Ministry, Safety & Quality Assurance Division
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Ken Taneda	Japan	
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Ingeborg Strømseng Sjetne	Norway	Norwegian Institute of Public Health
Valter Fonseca	Portugal	Department of Quality in Health
Ana Luisa Resendes Isabel Oliveira Anabela Pereira Coelho	Portugal	Instituto Politécnico de Lisboa (Escola Superior de Tecnologia de Saúde, Lisboa)
Michal Bedlicki	Poland	National Centre for Quality Assessment in Healthcare
Gratiela-Denisa	Romania	National Authority for Quality Management
Vesna Zupancic	Slovenia	Ministry of Health
Urban Nyhlén	Sweden	The National Board of Health and Welfare
Marianne Aggestam	Sweden	The National Board of Health and Welfare
Cordula Wagner Caroline Schlinkert	Netherlands	NIVEL
Dilek Tarhan	Turkey	Department of Health Quality, Accreditation and Employee Rights
Caren Ginsberg	United States	AHRQ
Carol J. DeFrances	United States	CDC
Anas Amr Yasser Alaska	Saudi Arabia	Saudi Patient Safety Center

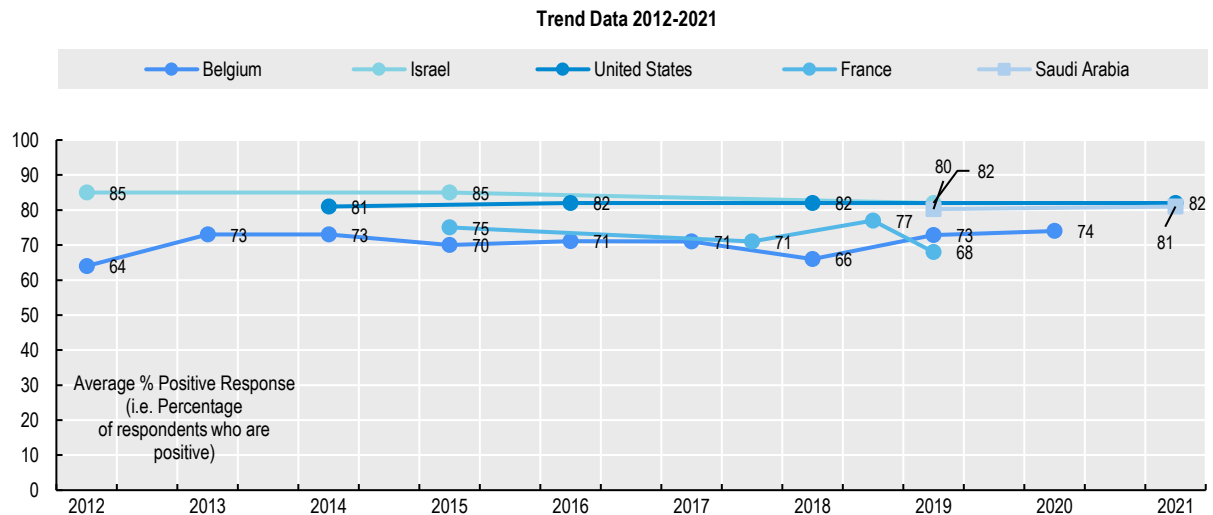


# Annex D. International Benchmarking of Patient Safety Culture—All Domains

Figure 1. Teamwork within units, data from latest year by country and trend data



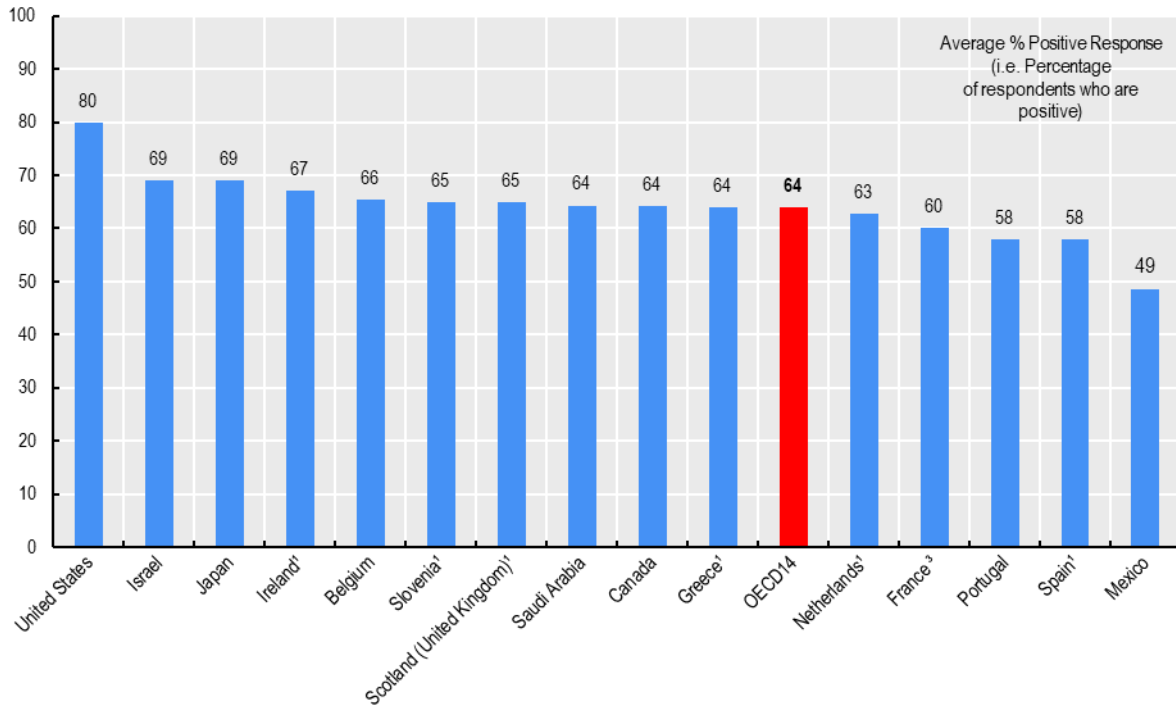
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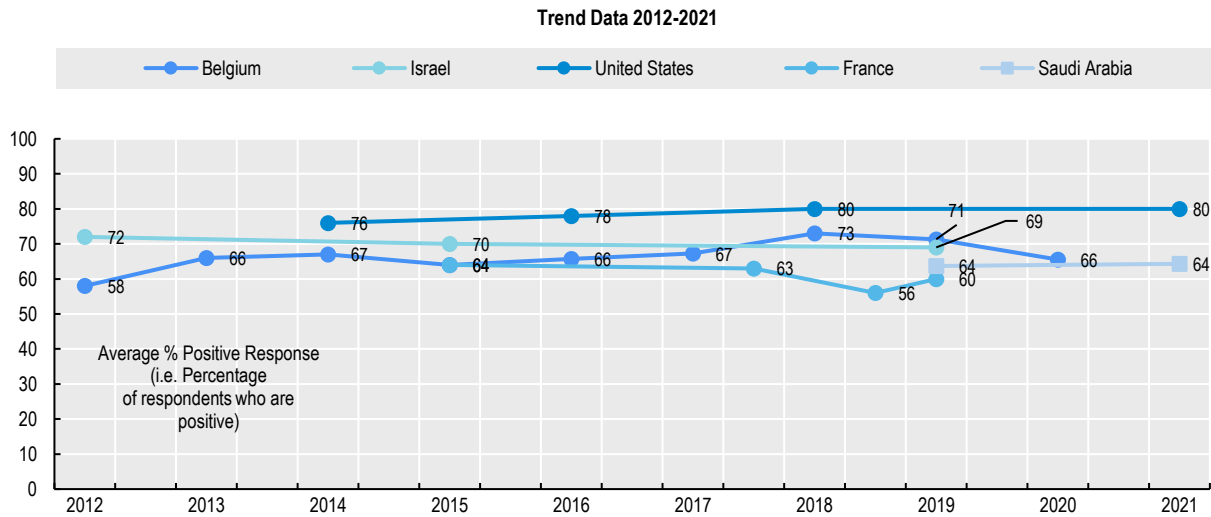
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

**Figure 2. Supervisor/Manager Expectations & Actions Promoting Patient Safety, data from latest year by country and trend data**



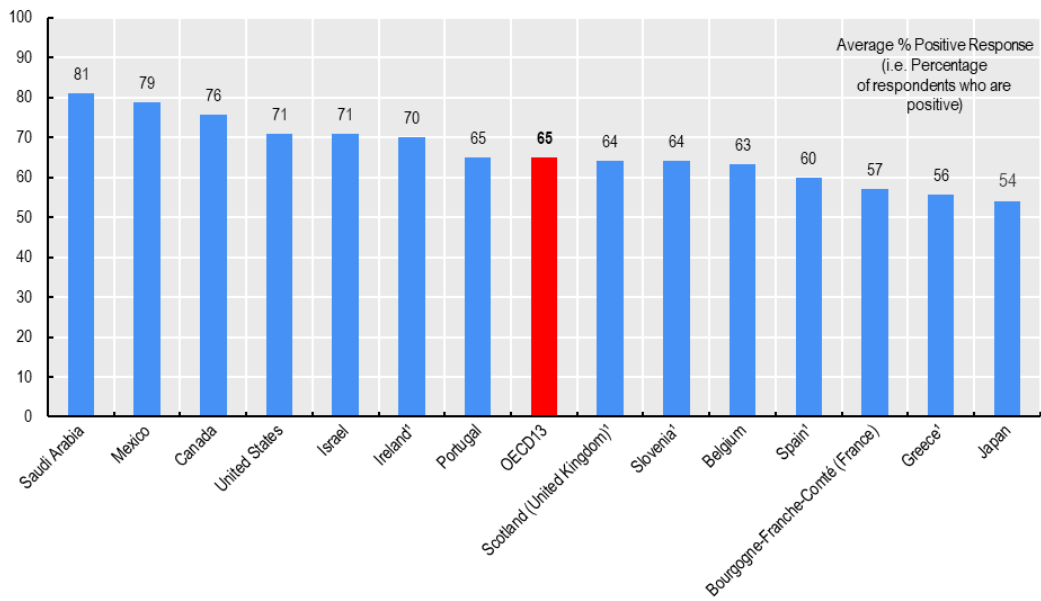
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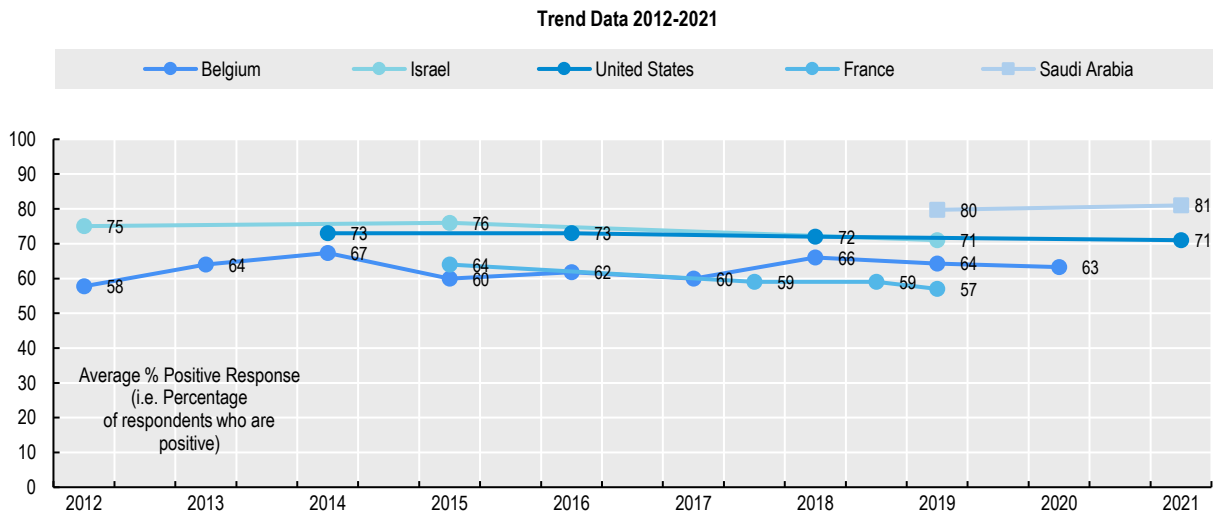
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

**Figure 3. Organizational Learning—Continuous Improvement, data from latest year by country and trend data**



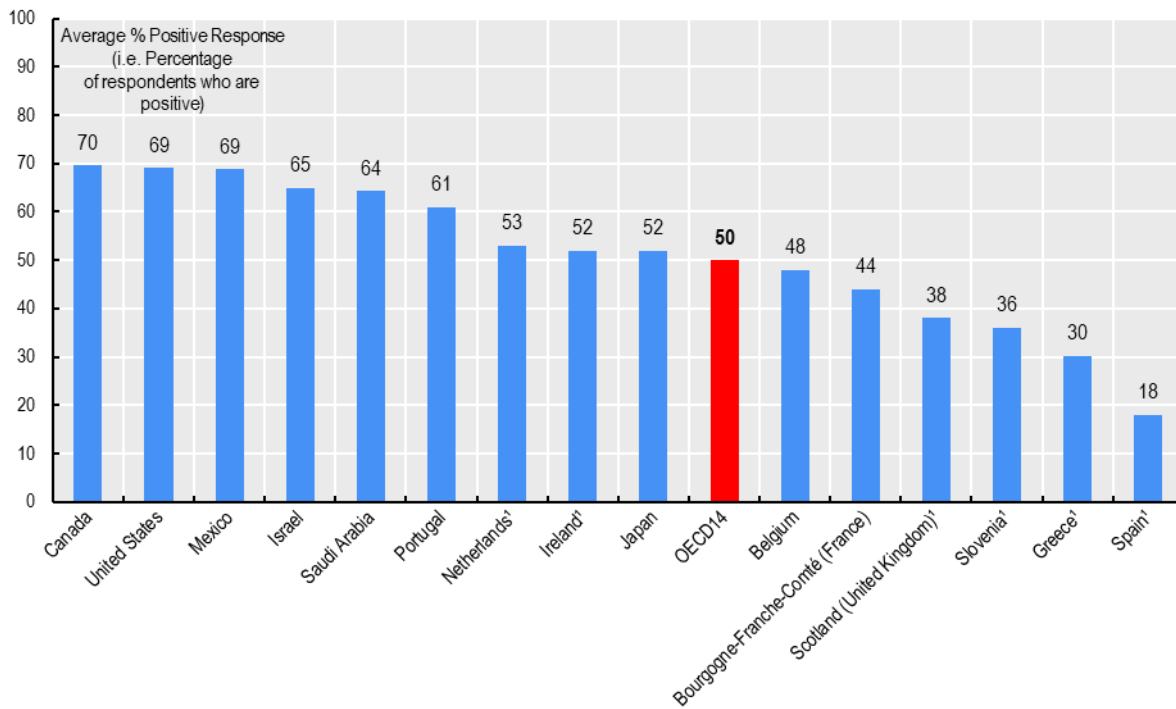
1. Data older than 2015.



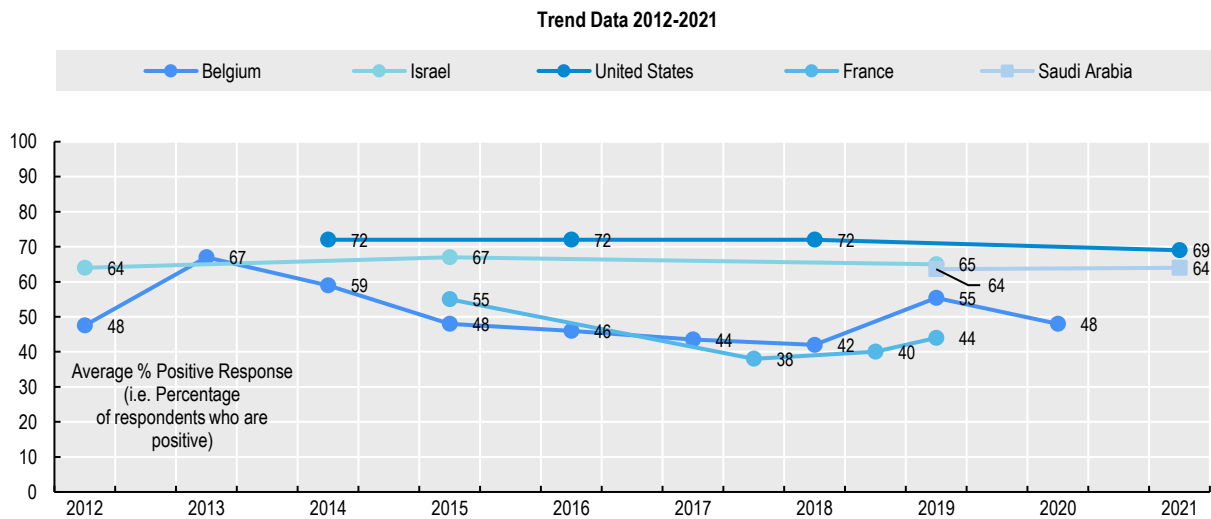
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

**Figure 4. Management Support for Patient Safety, data from latest year by country and trend data**



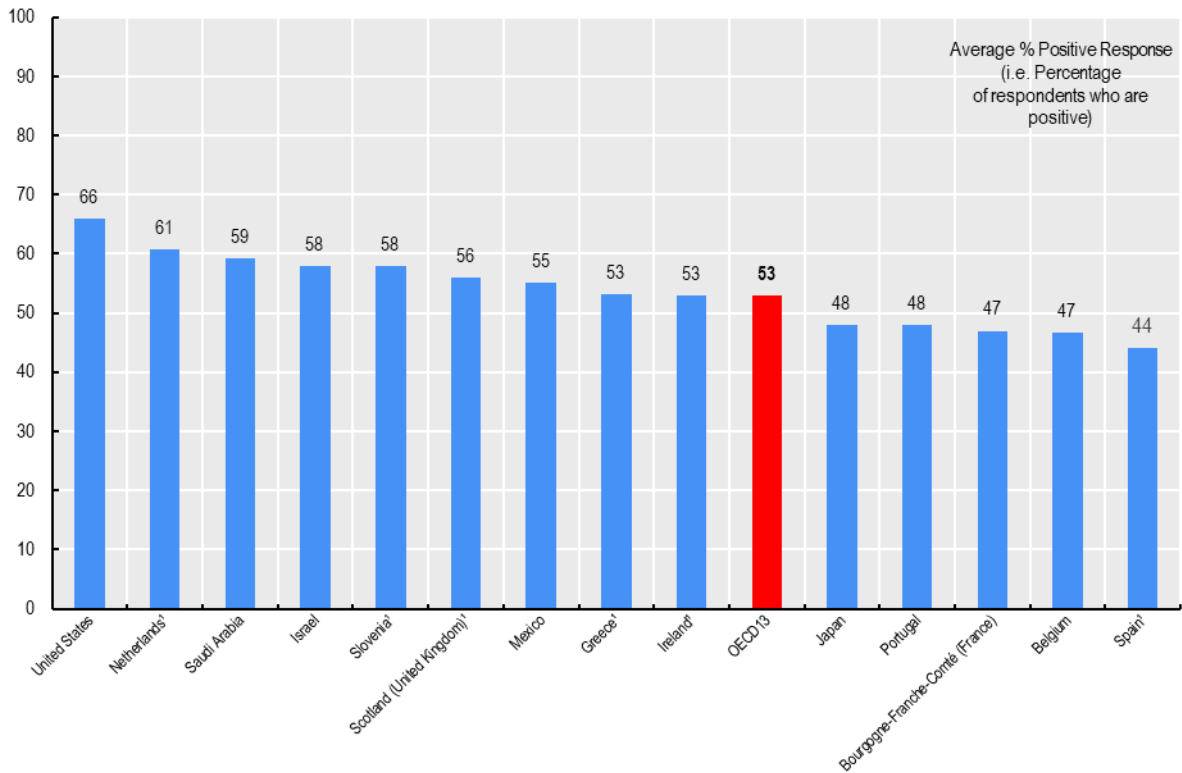
1. Data older than 2015



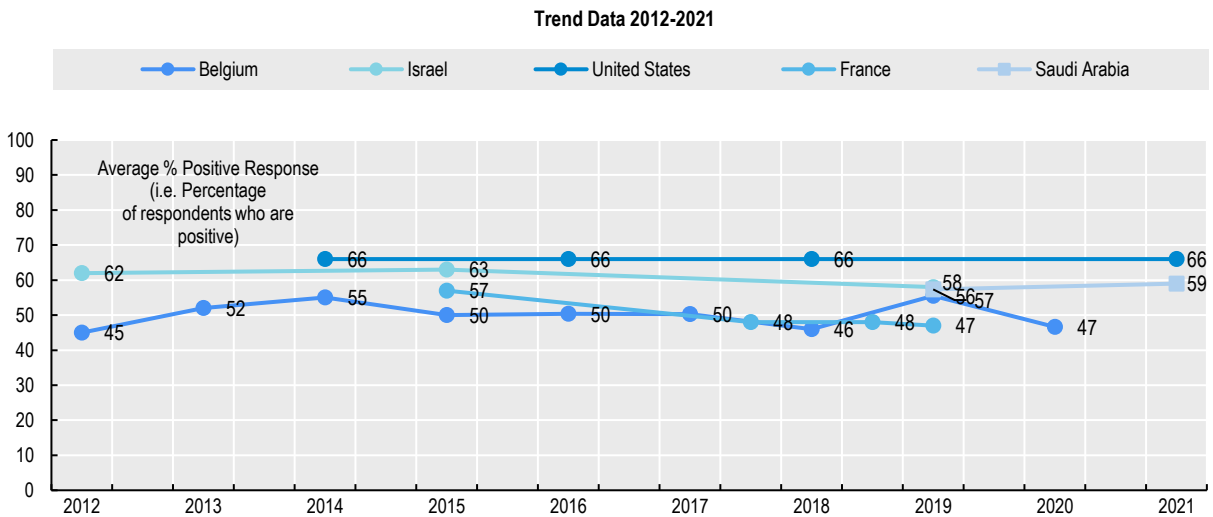
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

**Figure 5. Overall Perceptions of Patient Safety, data from latest year by country and trend data**



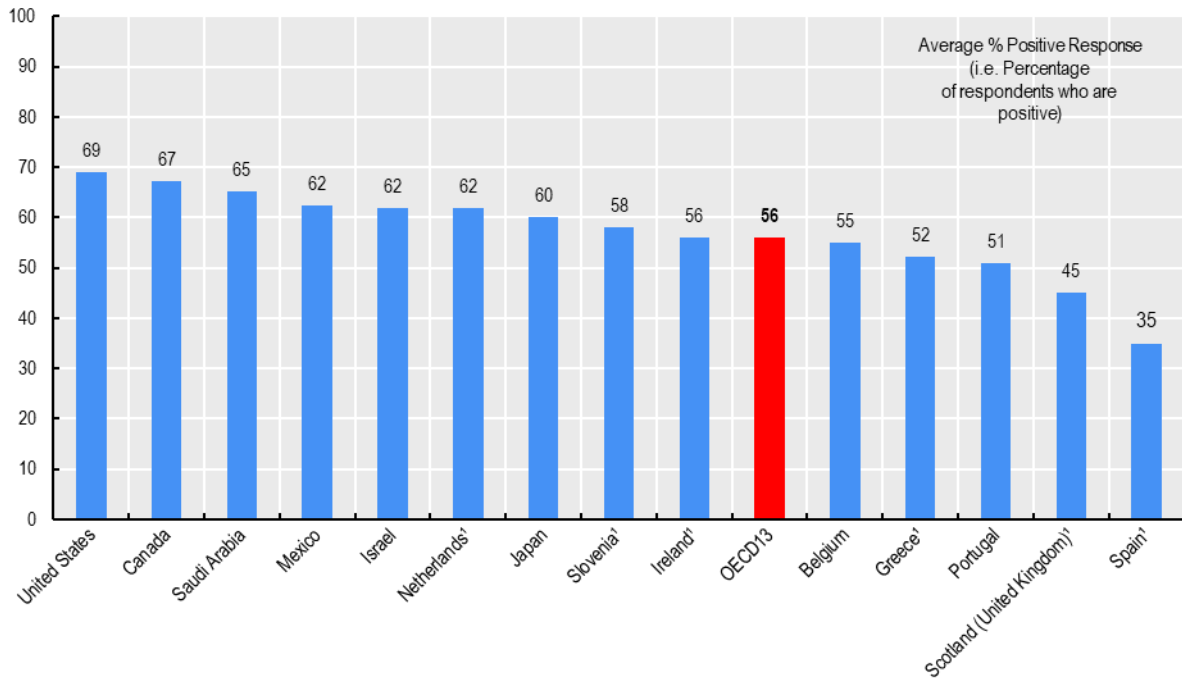
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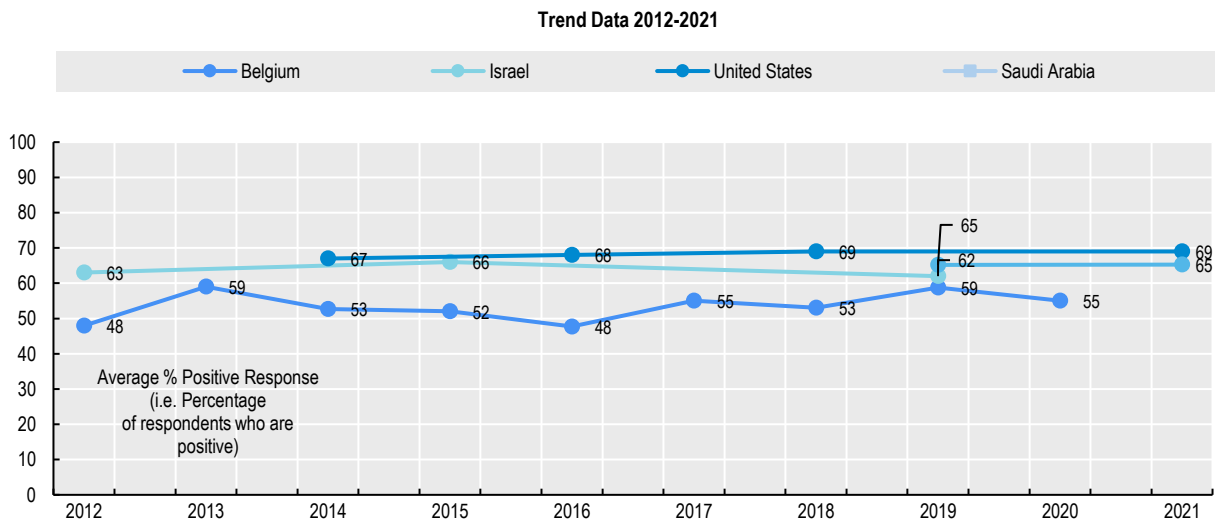
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

**Figure 6. Feedback & Communication about Error, data from latest year by country and trend data**



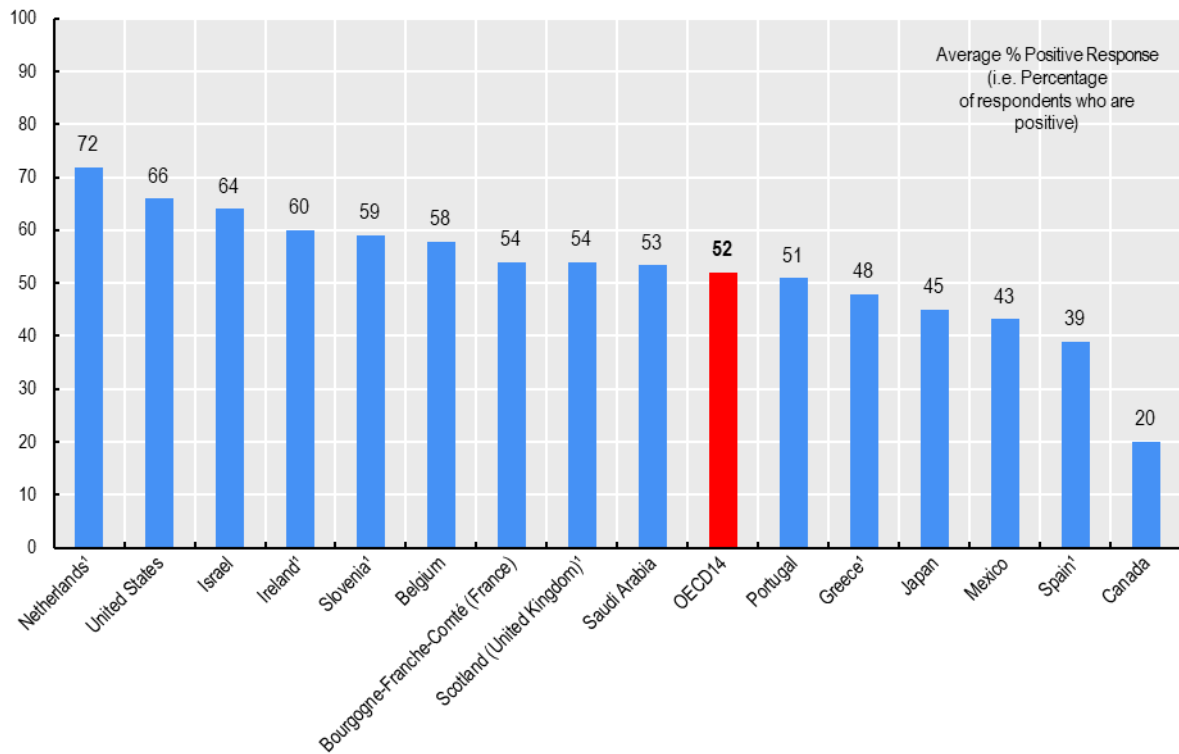
1. Data older than 2015.



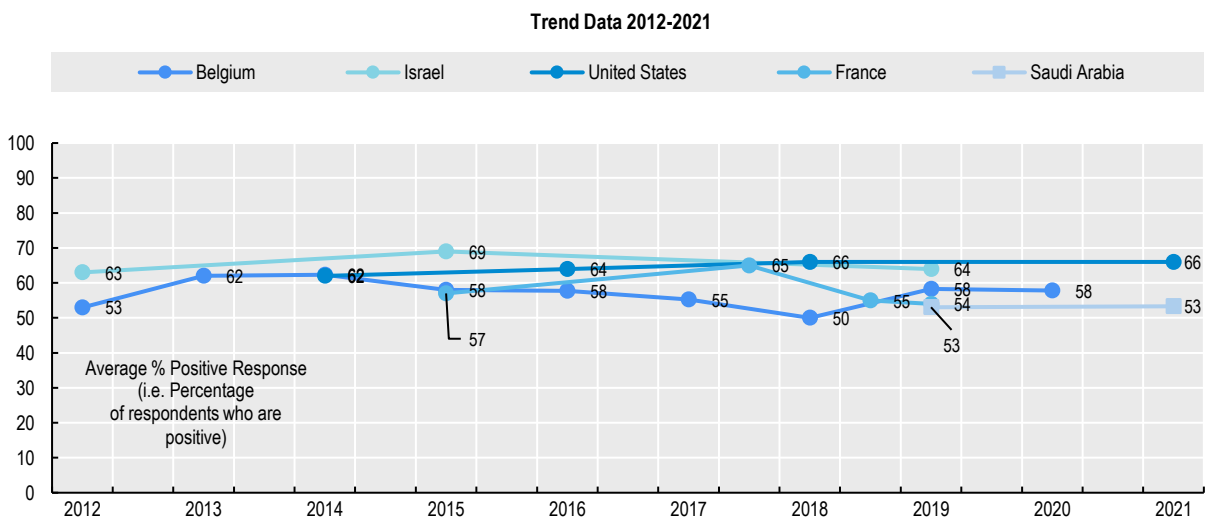
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

**Figure 7. Communication Openness, data from latest year by country and trend data**



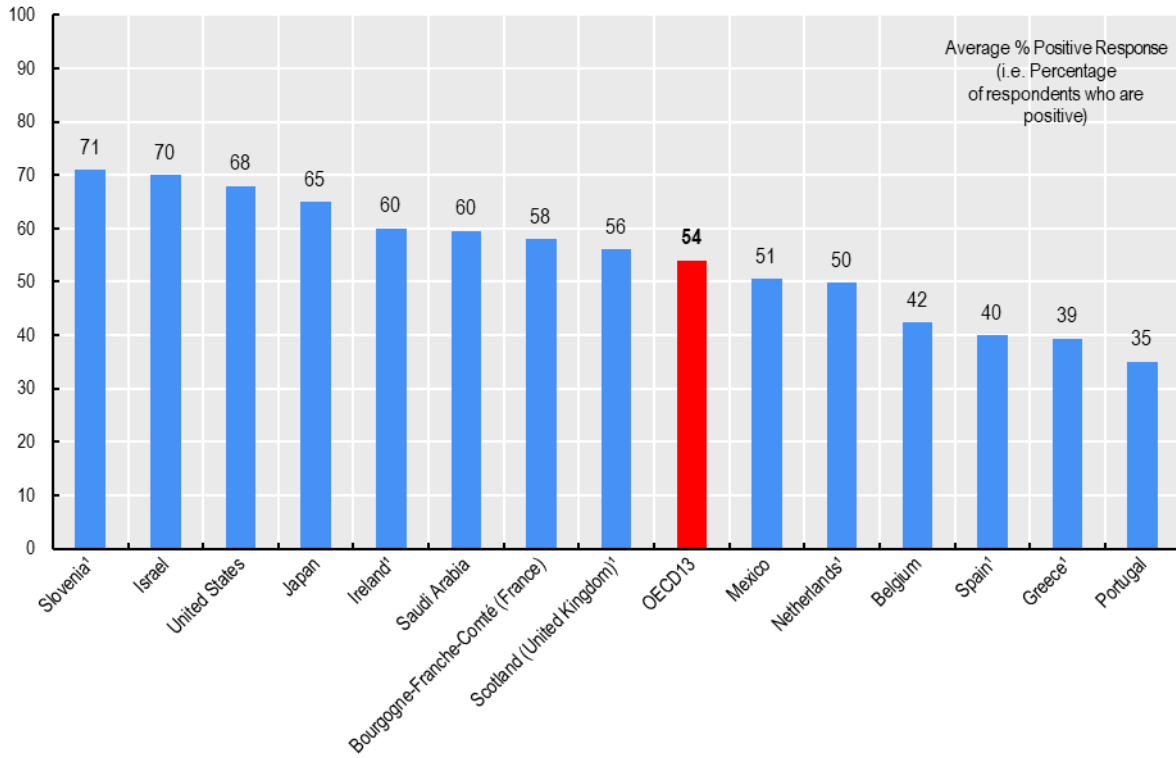
1. Data older than 2015.



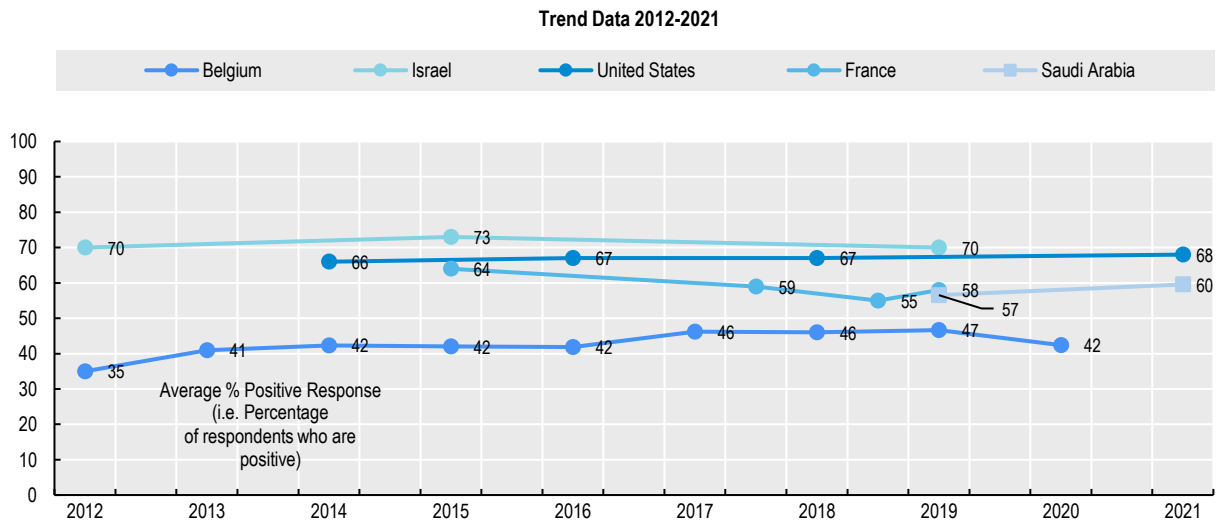
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

**Figure 8. Frequency of Events Reported, data from latest year by country and trend data**



1. Data older than 2015.

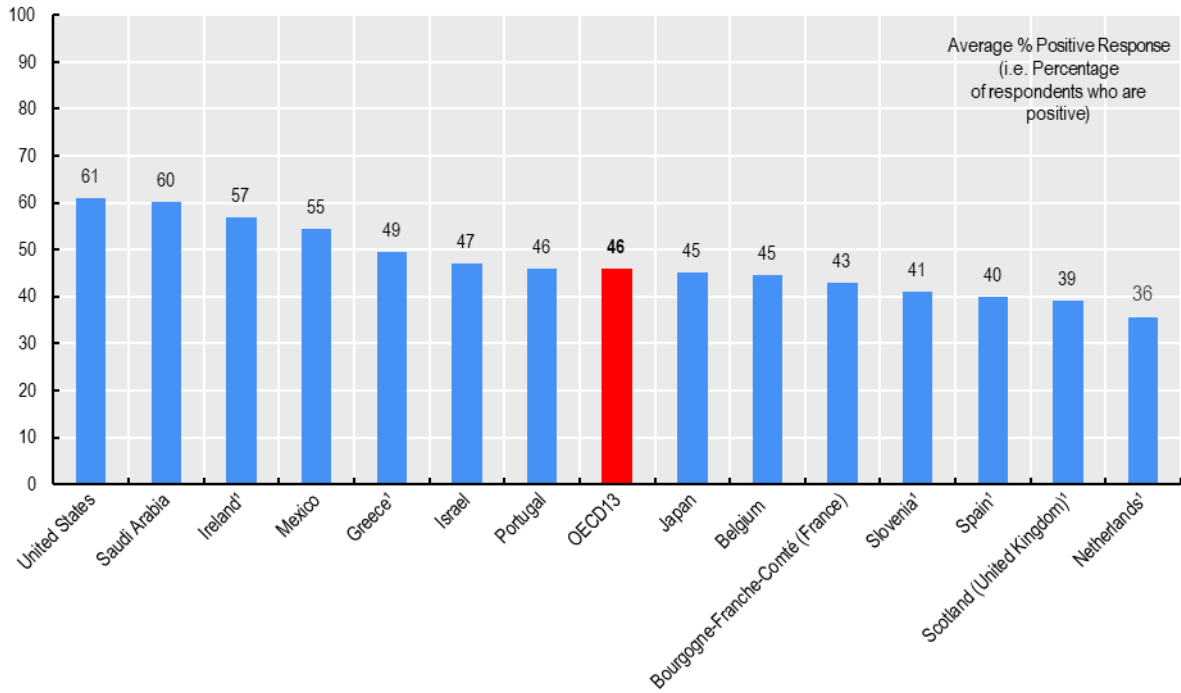


Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

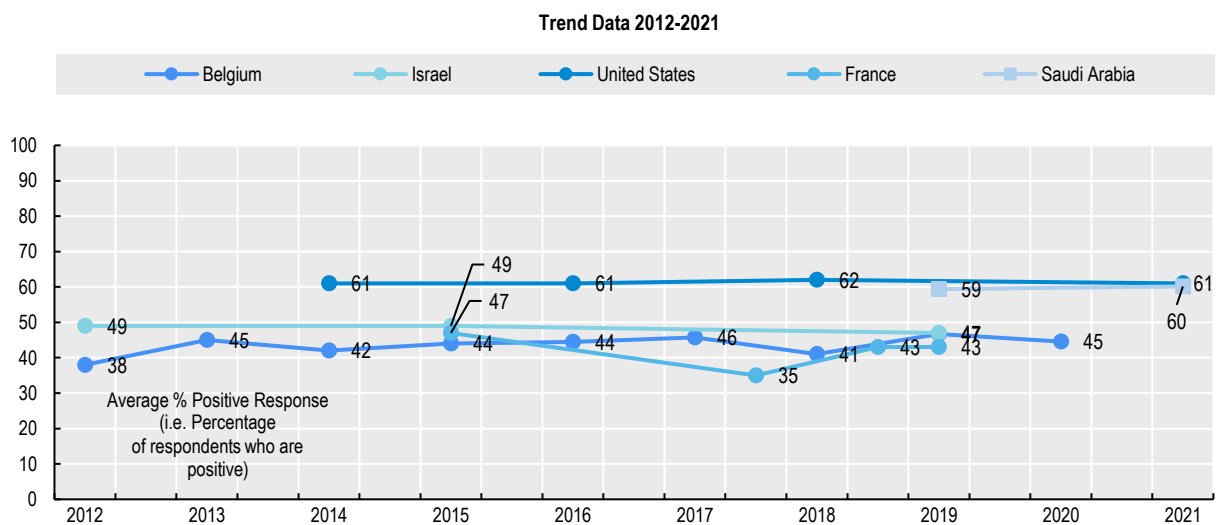
Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21



Figure 9. Teamwork across units, data from latest year by country and trend data



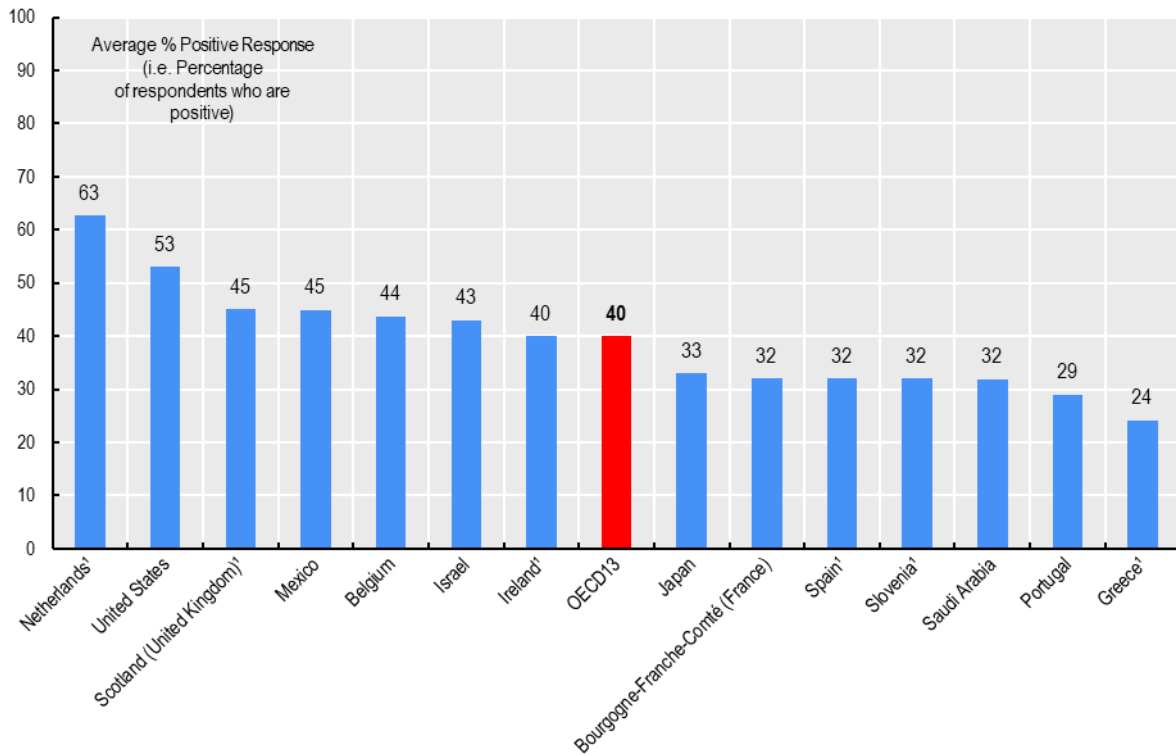
1. Data older than 2015.



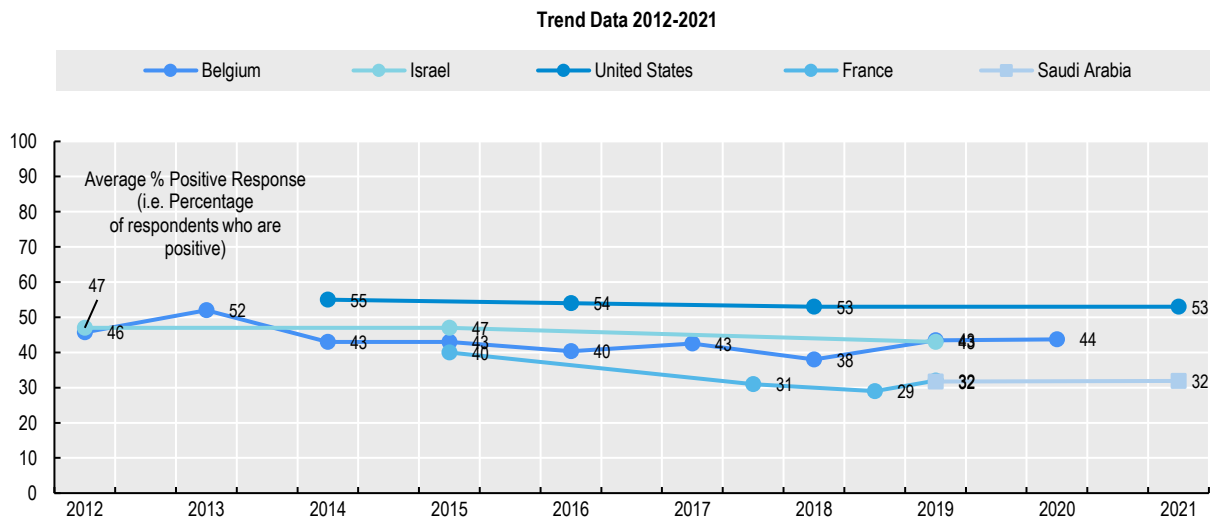
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

Figure 10. Staffing, data from latest year by country and trend data



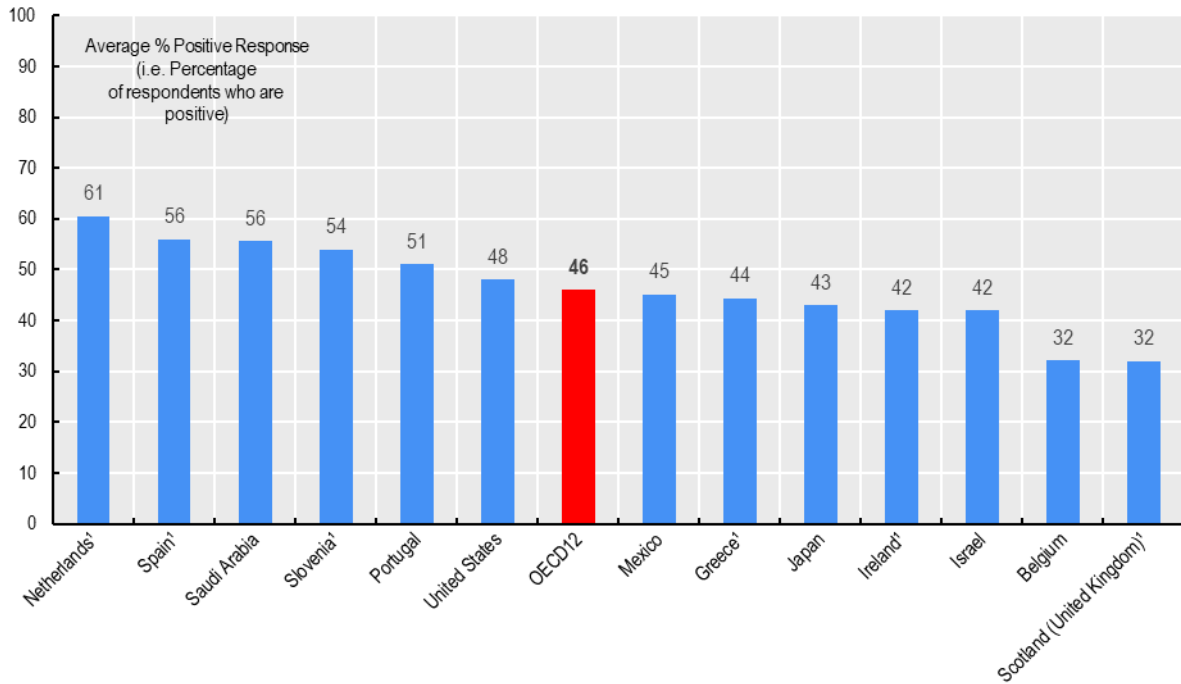
1. Data older than 2015



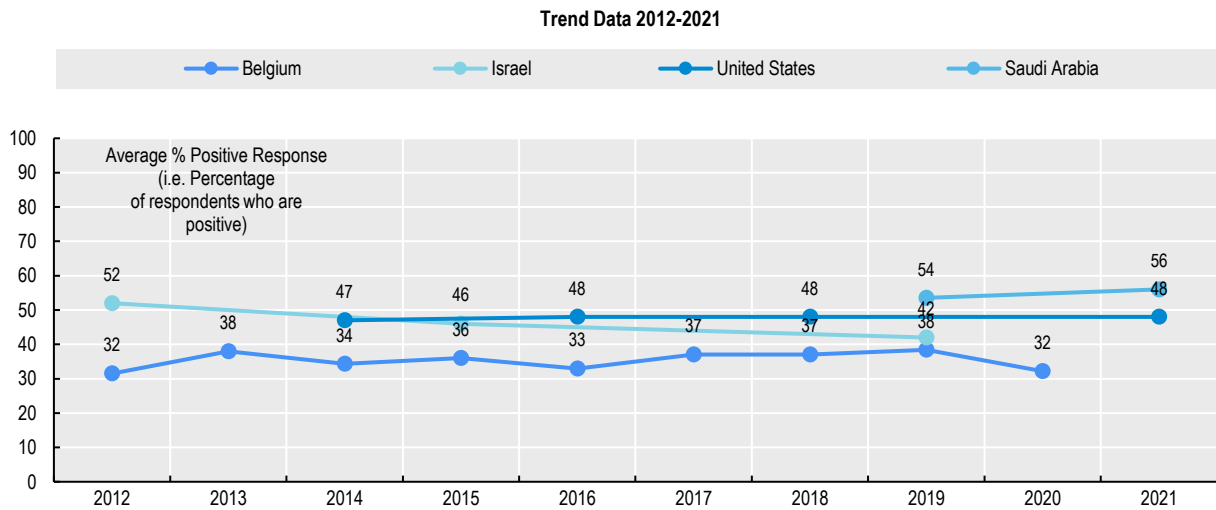
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

**Figure 11. Handoffs & Transitions, data from latest year by country and trend data**



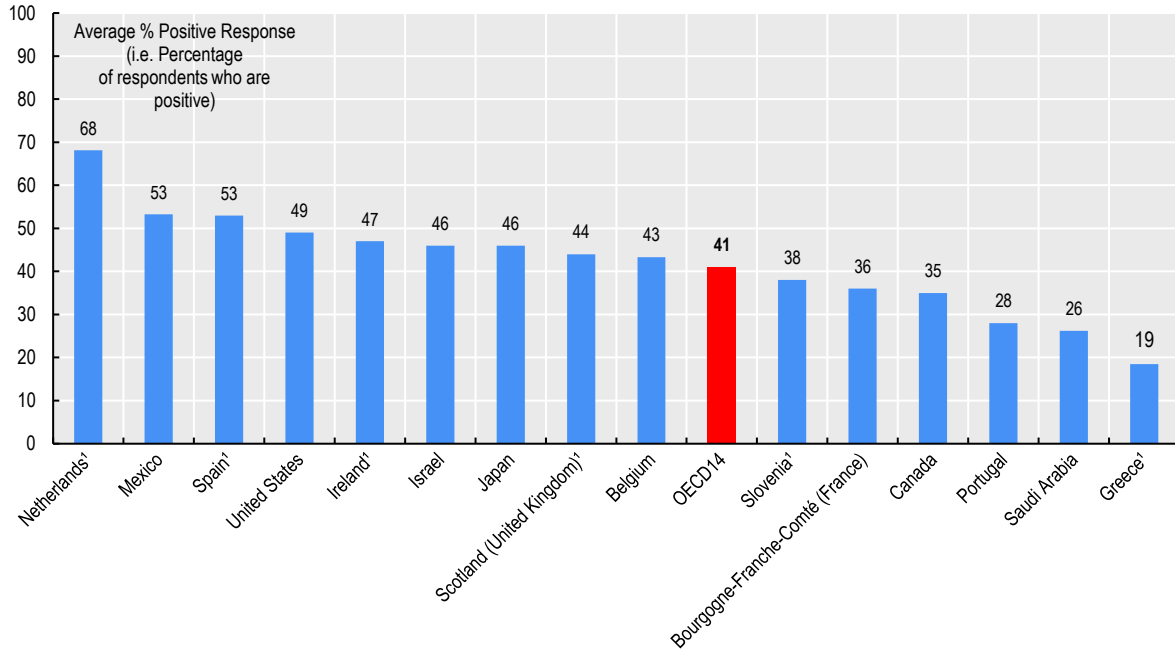
1. Data older than 2015.



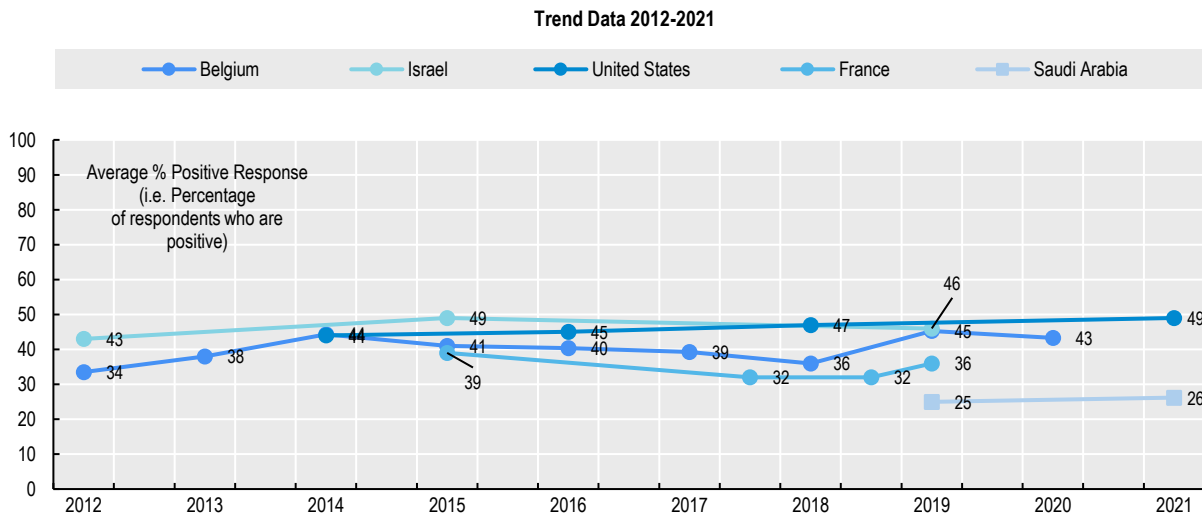
Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

**Figure 12. Nonpunitive Response to Errors, data from latest year by country and trend data**



1. Data older than 2015



Note: The size and composition sample of patients and hospitals may vary from year to year. Please see Annex B for more information on the included surveys.

Source: OECD Patient Safety Culture Pilot Data Collection, 2020-21

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