

Teleworking for Medical Reasons

Evidence From a Spanish Multinational Company

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Objectives: The aim of the study is to describe the most common medical grounds for requesting or extending teleworking and to examine which requests are typically approved. This study also investigates whether there is a correlation with gender, age, or job location. **Methods:** A prevalence study of 33,190 Spanish employees found that, last year, 106 teleworking requests were addressed exclusively for medical reasons. **Results:** The most frequent cause was musculoskeletal issues (30%). Of all the requests, 58% were denied; 33% were temporarily approved, primarily for musculoskeletal reasons ($P < 0.05$); and 8% were indefinitely approved. Requests were predominantly made by women ($P < 0.05$). Indefinite approvals were more prevalent among male employees ($P < 0.05$). **Conclusions:** Musculoskeletal reasons were the primary cause for teleworking applications and for the temporary granting of teleworking. Teleworking appears to be associated with gender and job location.

Keywords: medical reasons, teleworking, telecommuting, workplace, occupational medicine, occupational health

In recent years, with the advancement of information and communication technologies (ICTs), various work activities have emerged that leverage these technologies to enhance flexibility in both work schedules and locations. The exceptional circumstances of the COVID-19 lockdown facilitated the global expansion of these ICTs, enabling the continuity of essential services and the adaptation of economic activities to this new model. History has shown us that, after natural disasters, wars, or epidemics, there have been accelerations in medical knowledge and practice. Perhaps one of the legacies of the COVID-19 pandemic will be the widespread adoption of teleworking.¹⁻⁴

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EQUATOR Networking Reporting Guidelines: Authors have used and adhered to STROBE guidelines for observational studies. Document attached in SDC.

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LEARNING OUTCOMES

- Enumerate the different medical causes for teleworking requests.
- Discuss how teleworking can be useful for employees with different medical conditions.

In Spain, an initial draft of the Remote Work Law was rapidly created, which later served as the basis for the Royal Decree-Law 28/2020. Finally, the regulations governing remote work were consolidated in Law 10/2021. This law defines remote work as work carried out either at the employee's home or at a location designated by the worker, with a minimum duration of 3 months or constituting at least one third of the worker's daily working hours, and conducted exclusively through the use of ICTs.^{5,6}

The Spanish multinational banking company under investigation has its own organizational model where employees, if their roles permit, can opt to work remotely from their personal homes. The timing and percentage of stipulated working hours may vary depending on the department they are affiliated with. Some employees requested an increase in the percentage of teleworking hours. Some requests for remote work are based on socio-family reasons, whereas others are due to medical issues.

Some previous articles have contributed to the telework research literature by identifying and categorizing employee motives for teleworking^{7,8} and how these motives vary according to several individual differences.⁷ Typically, most respondents reported multiple reasons, especially when encouraged to list all of them.⁷ In this article, we will exclusively discuss requests based on medical reasons.

Our initial hypothesis was that we would receive more teleworking requests from female employees, influenced by gender-related factors. There is literature supporting this notion both before and after the COVID-19 pandemic.¹ It was also anticipated that most requests would come from older individuals, reflecting the increased incidence of chronic pathologies with age. Additionally, there was an expectation of more requests in Madrid due to its proximity to the capital and the significant presence of personnel in central services within large Group buildings. One of the expected benefits of teleworking is the potential reduction in sick leave and absenteeism durations.⁹⁻¹¹

The objective of our study is to describe the most common medical grounds for requesting or extending teleworking and to examine which requests are typically approved. We aim to investigate whether there is a correlation with gender, age, or job location.

METHODS

The current Spanish occupational risk prevention law¹² allows large companies to maintain medical services that perform both preventive and care tasks.

In this instance, the medical service operates as a dedicated department within the company.

From the medical service of a Spanish multinational in the banking sector, where over 99% of its workforce primarily engages in intellectual office tasks involving data visualization screens, a descriptive analysis was conducted on data collected from requests for teleworking or extensions of the pre-established teleworking percentage for their respective departments due to exclusively medical reasons. These requests were submitted by employees across the country from June 1, 2022, to May 31, 2023.

In this study, all principles of medical ethics have been diligently observed, and it has received approval from the Ethics Committee of the International University of La Rioja, under code PI021/2023.

To calculate the required sample size, the free Epi Info program was used,¹³ considering the total number of employees throughout the mentioned company nationwide, which stood at 33,190 as of December 31, 2022. An expected frequency of disability, capable of limiting the physical presence of an employee at their workplace, was set at 2%, based on data from specific disability contracts that companies of this size are legally obligated to report.^{14,15} The calculated sample size of 30 employees was deemed adequate for subsequent analyses to show statistically significant results with 95% confidence.¹³ In our study, we analyzed a total of 106 employee requests, which surpassed the estimated sample size.

The inclusion criteria were as follows:

1. Be a current employee of the company under study
2. Submit a teleworking request or request an increase in the predetermined teleworking percentage due to a medical reason through their direct manager and the human resources manager
3. Have job duties that can be carried out remotely
4. Have the employee's consent to be contacted by the Group's medical services and provide medical reports as evidence of the claimed medical condition.

The exclusion criteria were as follows:

1. Alleging social or family reasons, aside from the strictly medical grounds of the employee
2. Request teleworking due to an ongoing pregnancy or reproductive desire.

In these two scenarios, employees were transferred to another department to facilitate the processing of their requests through an alternative approach.

Approval Process

Employees interested in accessing or extending the percentage of hours of teleworking for medical reasons would notify their direct manager and their human resources manager, who, in turn, would inform the medical service. The medical service would then summon the employee, collect the information within the dedicated medical service program, and conduct a clinical session every Friday. During these sessions, collegiate decisions were made based on the following information: the patient's medical history, the provided medical reports, diagnosis, physical examination findings, current medication, mobility limitations, stability of injuries, recommendations from medical specialists, and prognosis.

These decisions were based on whether commuting between home and work would impact the patient's clinical condition and whether teleworking would facilitate or hinder the progress of their diagnosis.

This decision would determine whether to deny, approve indefinitely, or approve temporarily the extension of teleworking. Subsequently, the decision was communicated to the employee, their human resources manager, and the employee's direct manager in a concise manner, ensuring the employee's right to privacy and medical confidentiality.

The data collection was conducted by accessing the computer systems used for managing the healthcare medical services provided within the Spanish multinational banking sector, specifically through the WinMedtra platform. Within this platform, cases related to requests for extending teleworking due to medical reasons from the company were identified by the code "E016 — Teleworking Adaptation Consultation." This coding system enabled a filtered search to retrieve all relevant cases.

Authors have used and adhered to STROBE guidelines for observational studies (see Supplemental Digital Content for details, <http://links.lww.com/JOM/B698>).¹⁶

Data were extracted from the 106 query records spanning the period between June 2022 and May 2023. These records were individually reviewed, and the information was collected in a database using Microsoft Excel. An anonymization process was applied to safeguard privacy. To achieve this, personal information stored in the name, surname, and ID fields was removed and replaced with a unique identification number unrelated to the employee.

The variables recorded in the mentioned database included anonymous demographic data: gender (dichotomous categorical: female, male), age in years, the primary medical reason leading to the request by medical speciality (categorical: musculoskeletal, oncological processes, rheumatology, cardiovascular diseases, psychological disorders, neurology, persistent COVID-19, digestive issues, endocrine disorders and hematology, surgeries), and the outcome of the request (categorical: no, yes, and temporary, corresponding to: denial, indefinite approval and temporary approval, respectively).

Biases and Statistical Methods

One of the objectives is to assess whether there was a gender-based difference in requests for an extension of teleworking, as well as to examine whether there was a location-based difference (Madrid, outside Madrid). When conducting the statistical analysis involving gender (female, male) and the physical location of the workplace (Madrid, outside Madrid) in relation to teleworking approvals, it was observed that the frequencies in some cells did not meet the requirement of being higher or equal to 5. Consequently, the validity of the χ^2 approximation in this instance was compromised, potentially leading to inaccurate results. Therefore, the Fisher's exact test was employed as a substitute for the χ^2 test.

Using these data, a descriptive analysis of the cohort was performed, involving frequency measurements and percentages. Comparisons were made with the data from the entire employee population using the Student's *t* test for mean age, χ^2 tests for gender and workplace location, and Fisher's exact test when the observed frequencies did not meet the required minimum. Results were considered statistically significant if $P < 0.05$.

RESULTS

The study participants are summarized in Figure 1, presented through a flowchart that delineates the total company population, the population that requested teleworking, and the outcomes of indefinite approval, temporary approval, or denial of teleworking, categorized by gender (female, male), workplace location (Madrid, outside Madrid), and key characteristics.

Partial descriptive data are presented in Table 1, with figures provided in absolute numbers and percentages. The table displays characteristics based on gender (female, male) and workplace location (Madrid, outside Madrid) for both the entire company population (33,190 employees) and the subset of teleworking requests for medical reasons (106 employees).

It is observed that there are more male employees in the total workforce (53%), whereas there is a higher proportion of female teleworking applicants (64%). This reveals a statistically significant association ($P < 0.05$) between female gender and the request for teleworking.

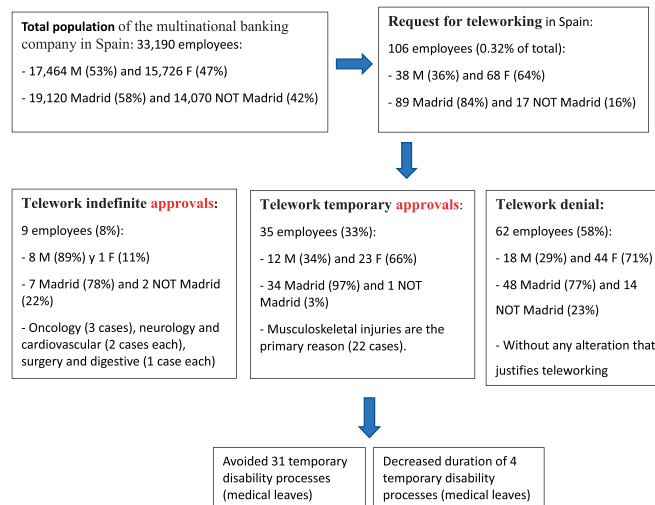


FIGURE 1. Flow diagram depicting the total population of the multinational banking company in Spain under study for the last year. It illustrates the teleworking requests, including denials, indefinite approvals, and temporary approvals (less than 4 weeks), categorized by gender, location, and key characteristics. Data are presented in both absolute numbers and percentages. M, male; F, female.

An analysis reveals that the majority of the company's employees are located within the community of Madrid (58%) compared to those outside it. Furthermore, there is a higher percentage of teleworking requests from employees within the community of Madrid (84%) as opposed to those outside the region. These findings highlight a statistically significant association ($P < 0.05$) between the location within Madrid and the incidence of teleworking requests.

Result Variables

To mitigate the influence of location as a confounding factor regarding gender in teleworking requests, we conducted the same calculations exclusively for the community of Madrid. Once again, we observed a reversal in the relationship between the proportions of men and women. Specifically, among employees working in Madrid, a majority are men (55%), whereas, among teleworking applicants providing services in Madrid, the majority are women (68%). Once more, a P value of 0.05 indicates a statistically significant association.

Regarding the data related to the age of the workers, the distribution and variability of ages in the total workforce and teleworking applicants appear quite similar. We observed that the employees who have requested teleworking fall within an age range of 27 to 63 years, with an average age of 45.6 years, in comparison to the average age of

44 years among the company's overall workforce. We then proceeded to compare the mean age of the entire workforce with that of the teleworking applicants using the Student's t test, following a prior assessment of variances ($P = 0.5008$). The analysis did not show significant evidence ($P = 0.05905$) to conclude that the two groups differ significantly.

Figure 2 illustrates a notable variability in the distribution of the reasons behind the requests. The most common reason for the requests was related to musculoskeletal issues (30%), followed by oncological conditions (8%), as well as psychiatric and rheumatological reasons (7% each). Cardiovascular, neurological, and surgical causes accounted for 7% each of the requests.

In the same Figure 2, the distribution of gender for each reason for requesting teleworking is also depicted. Notably, no significant differences were identified.

The primary outcomes of teleworking requests, including indefinite approvals, denials, and temporary approvals (lasting less than 4 weeks), are presented in Figure 3 and Table 2. A total of 58% of requests were rejected, whereas 33% were temporarily accepted, with musculoskeletal issues being the predominant reason. Additionally, 8% of the requests were granted indefinitely. Of the nine applications approved without a time limit, three were related to oncological diseases, whereas cardiac and neurological conditions accounted for

TABLE 1. Characteristics of the Total Company's Workforce and Teleworking Requests for Medical Reasons Categorized by Gender (Female, Male) and Workplace (Madrid, Outside Madrid)

Gender	Total Employees, n (%)	Telework Request, n (%)	Total Employees Gender vs Teleworking Request Employees Gender
Women	15,726 (47%)	68 (64%)	Test χ^2 of Pearson with correction of Yates $\chi^2 = 11.258$ $P < 0.05$
Men	17,464 (53%)	38 (36%)	
Total	33,190 (100%)	106 (100%)	
Worksite	Total Employees, n (%)	Telework Request, n (%)	Total Employee's Worksite vs Teleworking Request Employee's Worksite
Inside Madrid	19,120 (58%)	89 (84%)	Test χ^2 of Pearson with correction of Yates $\chi^2 = 29.0$ $P < 0.05$
	F: 8518 (45%) M: 10,601 (55%)	F: 61 (68%) M: 28 (32%)	
Outside Madrid	14,070 (42%)	17 (16%)	
	F: 7206 (51%) M: 6863 (49%)	F: 7 (41%) M: 10 (59%)	
Total	33,190 (100%)	106 (100%)	

χ^2 Test was conducted.
F, female; M, male.

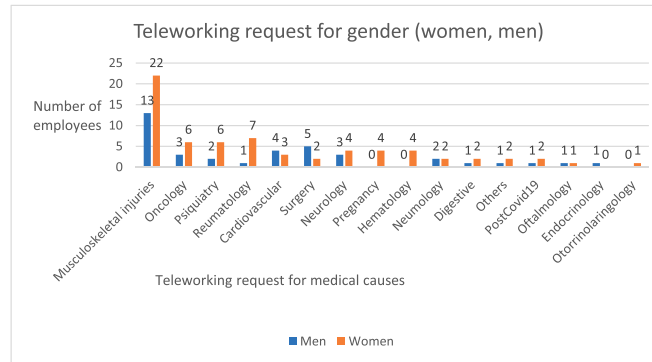


FIGURE 2. Medical reasons for requesting teleworking, in absolute numbers, categorized by medical specialties and gender (female and male).

two cases each, and digestive diseases and surgery each accounted for one case. It is worth noting that these cases had a poor prognosis and primarily involved male employees ($P < 0.05$).

Figure 3 reveals that musculoskeletal disorders constituted the largest share of temporary concessions (63%), followed by surgical cases (9%), and psychosocial, cardiovascular, and respiratory disorders (6% each).

When examining, using the Fisher's exact test, the potential relationship between medical reasons (by specialties) and the approval (or nonapproval, or temporary approval) of teleworking, we observed statistical significance ($P < 0.05$) only for temporary approvals and musculoskeletal issues. No statistically significant associations were found for the other specialties.

Regarding the approval of applications, an analysis based on gender was conducted using the χ^2 test ($\chi^2 = 12.299$), revealing a significant difference ($P < 0.05$) in the approvals based on the applicant's gender. However, it is worth noting that not all observed cell frequencies were greater than or equal to 5. For instance, among women, there was only one granted request, which compromised the validity of the χ^2 approximation and could lead to incorrect results. As a result, Table 2 displays the Fisher's exact test for both gender and location, showing significant outcomes. In other words, disparities exist in the approvals based on the applicant's gender ($P < 0.05$), as well as variances in the approvals based on the location of the applicant, indicating that the approval of requests is influenced by the applicant's workplace ($P < 0.05$).

In Table 2, it is evident that the proportion of denied applications is lower in Madrid (54% vs 82%). However, it is important to note that, in both cases, the observed frequency is relatively low. In Madrid, 7 applications were granted out of 89 requested (8%),

whereas, outside Madrid, 2 applications were granted out of 17 requested (12%).

DISCUSSION

There are many reasons for teleworking.^{7,8} It is not easy to differentiate requests based exclusively on medical reasons from those also based on social or family reasons. Often, employees report multiple reasons.⁷ In our study, we focused exclusively on medical reasons. For example, pregnancy is not an illness; it is a physiological process in women of fertile age, unless associated with pathology. These requests, categorized as “social and familial reasons” and “pregnancy reasons,” were processed by another dedicated department within the bank, not the medical service.

For these reasons, requests based on social or family reasons, as well as those due to ongoing pregnancy, were excluded. Nevertheless, four requests categorized as pregnancy were accepted due to medical issues (eg, pre-eclampsia and threatened abortion). One of these cases received temporary teleworking, as it was deemed beneficial for the employee's health.

Given that the gender proportion difference between men and women was more significant in the community of Madrid compared to outside of Madrid, this factor was considered in the calculation of both gender and location variables to prevent it from becoming a potential confounding factor.

When conducting the statistical analysis regarding gender and workplace location concerning the approval of teleworking, not all cell frequencies met the requirement of being higher than or equal to 5. For instance, there was only one case of indefinite approval among women, compromising the validity of the χ^2 approximation

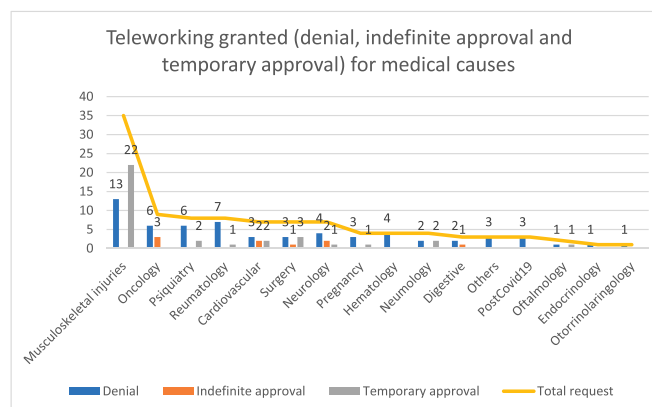


FIGURE 3. Medical reasons for requesting teleworking, in absolute numbers, categorized by medical specialties and granting status (denial, indefinite approval, and temporary approval).

TABLE 2. Characteristics of Employees Categorized by Gender (Female, Male) and Workplace (Madrid, Outside Madrid) Based on Whether Teleworking Was Indefinitely Granted, Denied, or Temporarily Granted for Medical Reasons

	Women, n (%)	Men, n (%)	Total, n (%)	Exact Fisher Test Teleworking Granted vs Gender
None	44 (65)	18 (47)	62 (58)	$P < 0.05$
Indefinite	1 (1)	8 (21)	9 (8)	
Temporal	23 (34)	12 (31)	35 (33)	
Total	68 (64)	38 (36)	106 (100)	

	Madrid, n (%)	Not Madrid, n (%)	Total, n (%)	Exact Fisher Test Teleworking Granted vs Worksite
None	48 (54)	14 (82)	62 (58)	$P < 0.05$
Indefinite	7 (8)	2 (12)	9 (8)	
Temporal	34 (38)	1 (6)	35 (33)	
Total	89 (84)	17 (16)	106	

Fisher's exact test was used for calculation.

($P < 0.05$) and potentially leading to incorrect results. Therefore, the Fisher's exact test was employed for both gender and location, resulting in a significant finding ($P < 0.05$).

Interpretation Regarding Gender, Age, and Location

Initially, a significant disparity in the distribution of applicants' gender has been supported, with women predominantly requesting an extension of remote working. This may be associated with a potential gender-related concern and employees' pursuit of work-life balance, particularly in terms of home and family responsibilities.¹ Age was not significantly related to teleworking requests. Concerning location, we find support for the initial hypothesis. The nature of the job, working conditions, demands, and workload can influence this choice. The conditional acceptance of the request based on the workplace's location might be due to the convenience accessible to workers in the province of Madrid for using teleworking (central offices, transportation challenges, etc), whereas, in other provinces, this option might not be as readily available.

Interpretation Considering the Reasons for the Requests

A broad spectrum of reasons was evident behind these requests. It is worth noting that, although musculoskeletal injuries were the most frequent cause for extending teleworking, none of them received indefinite approval, despite being the primary reason for temporary concessions. Among the cases granted temporary approvals (constituting 33% of all requests), musculoskeletal issues predominated (63%). Our findings align with our initial expectations because musculoskeletal disorders, which belong to the musculoskeletal issues group, are known to be among the most common causes of sick leave.^{17–19}

As depicted in Figure 1, temporary approval of a teleworking request could contribute to a decrease in or prevention of temporary disability. Upon reviewing the cases, it became evident that medical leave was potentially averted in 31 out of 35 instances where temporary teleworking was granted, whereas the duration of leave was reduced in the remaining 4 cases. Additionally, existing literature supports that teleworking can decrease sick leave durations following common medical procedures such as meniscectomy or upper respiratory tract infections.^{9–11}

Although teleworking offers advantages, it is crucial to consider the associated risks when working from home.^{5,6} The worker's home is deemed a restricted-access area, limiting the ability to assess workplace risks effectively, as this assessment primarily relies on data provided by the worker, potentially reducing the effectiveness of preventive measures. Existing literature, both predating and following the COVID-19 pandemic, supports that teleworking can be advantageous for employees with disabilities.^{20–22}

Approval Decisions

The medical service would summon the employee, collect the information within the dedicated medical service program, and conduct a clinical session every Friday. During these sessions, collaborative decisions were made based on whether commuting affected the patient's clinical situation or whether teleworking was more beneficial for the progression of their diagnosis. Article 15 of the Spanish Occupational Risk Prevention Law¹² guided these decisions, based on general preventive principles such as the following: to avoid risks, evaluate the risks that cannot be avoided; address the risks at their source; adapt the job to the person; consider the evolution of technology; replace what is dangerous with what entails little or no danger; plan prevention actions; adopt measures that prioritize collective protection over individual protection; and provide appropriate instructions to workers.

An expected rate of disability, capable of limiting an employee's physical presence in the workplace, was set at 2%, based on data from specific disability contracts that companies of this size are legally obliged to report.

The anticipated disability rate of 2%^{14,15} is remarkable, suggesting that 664 employees may have a disability. This is noteworthy because it implies that only 16% of individuals with disabilities have requested teleworking accommodations. However, this statistic is nuanced, as not all employees with disabilities have requested teleworking, and conversely, not all teleworking requests are from employees with disabilities.

Despite being a basic descriptive study, our research meets the sample size requirements enabling conclusions that can be extended to other companies with comparable characteristics within our environment.

Teleworking is associated with gender, as there were more requests from women but more indefinite approvals for men, as well as to location in the community of Madrid, although no correlation is found with age. The primary reason for requesting and temporarily granting teleworking (less than 4 weeks) is musculoskeletal issues. However, none of the indefinite approvals are related to this cause. We believe that teleworking, in companies resembling ours, can help reduce temporary disability and its duration, potentially delaying or preventing permanent disability. This would benefit employee health, the company, and society. Developing management tools and decision-making support is necessary in this context. More research is required to enhance understanding of the advantages and drawbacks of teleworking for employees with varied medical conditions.

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