



# Inequalities in the use of gynecological visits and preventive services for breast and cervical cancer in Roma women in Spain

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## Abstract

**Objectives** The Roma population in Spain makes up about two percent of the population and has worse health indicators than the general population. We analyzed both populations in 2006 and 2014 to discover whether there are differences in terms of gynecological visits and preventive services for breast and cervical cancer in Spain.

**Methods** Cross-sectional study is based on the Spanish National Health Survey (SNHS) of 2006 and 2012 and the National Health Survey of the Roma Population (NHSRP) of 2006 and 2014.

**Results** Roma women used gynecological visits less than the general population in 2006 (ORa 0.5 [0.4; 0.6] and in 2014 (ORa 0.2 [0.2; 0.3]). In addition, use of the mammogram was lower in Roma women (ORa 0.7 [0.6; 0.8]), especially in the ages of the screening tests, and they had lower probability of receiving cervical examinations in 2006 (ORa 0.5 [0.4; 0.6]) and in 2014 (ORa 0.7 [0.6; 0.9]).

**Conclusions** This study shows that the inequality gap in gynecological visits and preventive services for breast and cervical cancer in Roma women has persisted during the years studied (2006 and 2014), despite Spanish prevention policies.

**Keywords** Roma health · Mammography · Cervical screening · Screening programs · Gynecological visits · Inequality

## Introduction

The Roma population is currently the largest ethnic minority population in the European Union (EU). Despite that fact that the Roma settled in Europe centuries ago, primarily in Spain, Portugal, France, Germany, Russia,

Romania and Hungary (García 2006), Roma people continue to be affected by significant discrimination and suffer from social exclusion. Roma people have worse health outcomes in the different countries where they reside, in terms of morbidity and mortality (Masseria et al. 2010), and they have less frequent use of preventive health services (European Union; Jarcuska et al. 2013), which is frequently attributed to social factors (Fernández-Feito et al. 2017).

In the case of Spain, the Roma population (Kale, Spanish “gitanos”) is estimated to be between 1.5 percent (700,000) and 2.1 percent (970,000) of the total population of the country (La Parra-Casado et al. 2013). The Roma population has worse health indicators related to vision and hearing problems (Latorre-Arteaga et al. 2017), oral health, obesity and cardiovascular disease (La Parra-Casado 2009), smoking prevalence (Usera-Clavero et al. 2019), worse self-rated health and a higher prevalence of chronic diseases compared to the general population (La Parra-Casado et al. 2018).

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In Spain, gynecological care is a part of the basic services provided by the National Health System. In addition, in all of the Autonomous Communities, there is a breast cancer screening program that is population-based and is offered to all women ages 50–69. In order to achieve and maintain high participation rates, public health services direct women to health visits every 2 years. These summons are based on population registers that are reliable, valid and that have been exhaustively tested. They are also subject to continuous evaluation and improvement. Participation rates have reached an acceptable level called for by European recommendations ( $\geq 70\%$ ) in 93 percent of Autonomous Communities. Cervical cancer screening is an opportunistic screening program. That is to say, it is a non-systematic activity carried out by Autonomous Communities within the health services without an explicit summons of the target population. Rather, services rely on contacting women when they have an appointment with the health system for another medical reason. The type of test used is the pap smear test every 3–5 years, and the target population are asymptomatic women that are or have been sexually active, ranging in age from 25 to 65 years (Ministerio de Sanidad 2013; Molina Barceló et al. 2016). In terms of participation rates, none of the Autonomous Communities has reached an acceptable rate as indicated by the European recommendations ( $\geq 70\%$ ) (López de Argumedo et al. 2016).

Despite the universal nature of the Spain health system and the equal offer of these services to all women, in 2006 24.4 percent of Roma women reported having never gone to a gynecological visit for a reason not related to pregnancy or birth, compared to 17.3 percent of women in the general population (data standardized by age). Therefore, Spanish Roma women make less use of gynecological medical attention than women in the general population. On the other hand, cancer prevention services receive less participation from Roma women than preventive services such as mammography or vaginal smears, for early diagnosis of disease (Carrasco-Garrido et al. 2011; Ministerio de Sanidad Servicios e Igualdad and Dirección General de Salud Pública Calidad e Innovación 2018).

The National Strategy for Inclusion of the Roma Population in Spain 2012–2020 aimed to reduce the percentage of Roma women who had never had a gynecological visit, highlighting specifically the need to reduce inequality and attend to diversity in the health services of the National Health System (Ministerio de Sanidad 2014). Also, policies related to quality of the National Health System advocated the development and evaluation of programs related to accessibility and quality of care for groups that are at-risk or especially vulnerable (Ministerio de Sanidad. España 2010). Finally, the Council of Europe recognizes the need to strengthen participation in cancer screening programs,

while ensuring equality of access and taking into account possibilities for the development of specific strategies for certain socioeconomic groups (Molina Barceló et al. 2016; International Agency for Research on Cancer 2017).

There is scarce scientific evidence in Europe that compares the Roma and majority populations. The evidence shows that patterns in the use of health services of the Roma population are different from those of the general population, for example, there are higher levels of acute hospital services use, perhaps as a result of lower levels of access to primary care (European Union 2014). Frequently, the health outcome estimates of the Roma population are based on a single study (Cook et al. 2013), specifically in terms of breast and cervical cancer prevention screening (Fundación Secretariado Gitano 2009). The most recent studies are at the local level and are limited to cervical cancer screening. Information about the existence of screening programs and what they involve does not reach the women who need them (Andreassen et al. 2018).

Therefore, this study is novel in that it aims to highlight the inequalities in the use of gynecological visits and breast and cervical cancer screening among Roma women in 2006 and 2014 in Spain and to identify changes that occurred during this interval of time.

## Methods

### Sample and procedure

Cross-sectional study is based on data from the Spanish National Health Survey (SNHS) of 2006 and 2012 and the National Health Survey of the Roma Population (NHSRP) of 2006 and 2014. The SNHS is a regular survey carried out for the first time in 1987 by the Ministry of Health of the Government of Spain. The SNHS data from 2006 correspond to a representative sample of 29,478 people (50.9 percent women); SNHS 2012 data are of 21,007 people (51.2 percent women). The SNHS is a population-based survey carried out in households within the nation. It uses multi-stage stratified sampling and uses personal interviews to capture information (National Statistics Institute). The effective samples of the SNHS in 2012 and 2006 reached 89.6 and 96.1 percent, and the response rates of heads of households were 71.1 and 61.1 percent, respectively. In these surveys, there was no estimate of the response rate of the Roma population for 2006 and 2014. These surveys do not allow for a determination of whether the interviewee belongs to the Roma community or not. The NHSRP data from 2006 refer to a representative sample of 993 people who identify themselves as members of the Roma community based on a question from the interviewer that allowed them to self-identify as members

of the Roma population (53.0 percent women). The NHSRP 2014 data, whose sample is also representative, include 1167 people (50.3 percent women). The NHSRP is a population-based survey whose selected sample represents the Roma population with Spanish nationality that resides in neighborhoods with the greatest concentration of Roma population.

## Measures

The measures on health services use and prevention practices among women in the NHSRP from 2006 and 2014 are formulated in the same way as those of the SNHS from 2006 and 2012, which allows for comparison of the results among the two populations.

The questions and measures selected for the study were:

- (a) Have you ever had to a gynecological visit?
- (b) Time passed of one year since her last gynecological visit
- (c) Have you had a routine check-up in your last gynecological visit?
- (d) Have you ever had a mammogram (breast x-ray)?
- (e) Have you ever had a pap smear test (cell sample)?

As a result of the combination of the four surveys, two new variables were created to identify inequalities among the two populations of women and to examine possible changes over time. These were the study population (general population/Roma population) and the year of study (2006–2012/14).

## Data analysis

In order to compare the populations, whose age structure is different, we decided to project the results for the standard European population. We carried out a descriptive, comparative analysis among Roma and general population women related to the variables described above. The partial response rate among Roma women in 2014 was 97 percent for having had a gynecological visit, 98.5 percent for having had a mammogram, and 96.4 percent for having had a pap smear test. In the general population, the partial response rate to these questions for 2012 was 100 percent.

The variable age was coded in three different ways for each preventive service. For visits to the gynecologist, the age intervals established were: age 16–19, age 20–45, age 46–60 and age 60 and older. For mammograms, the age intervals were established based on the major screening programs in Spain (Ministerio de Sanidad 2013): age 16–49; age 50–69; and age 69 and older. Finally, the age intervals for pap smear tests were based on the recommendations of the Spanish Society for Gynecology and Obstetrics: age 16–24, age 25–65, age 65 and older

(Asociación Española de Patología Cervical y Colposcopia 2014).

A logistic regression model was used to explain the use of health services by study year, the population studied and the interaction among the two variables. The coefficients obtained in the logististical model permitted the calculation of adjusted odds ratios and their 95% confidence intervals for the studied population, year of study and the interaction among the different age intervals studied. The interaction effect between the population studied and the study year was included, based on the proposal described by Glenn Firebaugh (Firebaugh 1997), in order to evaluate whether there was a change in the differences observed in the variables resulting from each logistical regression model between the general population and the Roma population in both study years.

## Results

An increase was observed in the frequency of women in both populations who declared having made a visit to the gynecologist in the years 2006 and 2012/14 (ORa 1.3 [1.2–1.4]). In the Roma population, this was a significantly lower percentage than in the general population ORa 0.7 [0.6; 0.8]). The interaction between the year of study and the population was not significant (ORa 1.1 [0.8; 1.5]), neither in terms of the total, nor in terms of the age intervals. This shows that the difference in the use of this service between women of the two populations has been sustained during the time period studied. Observed by age group, punctual gynecological visits had increased more among those age 20–45 years (ORa 1.1 [1.0–1.3]) and in those over age 60 (ORa 1.8 [1.6–2.0]), although there was a lower frequency of use among the Roma population (ORa 0.6 [0.5–0.8]) y (ORa 0.8 [0.6–0.1]) (Table 1).

Over the 8 years, there was a decrease in both groups in terms of the percentage of women who had made a visit to the gynecologist in the past year for a reason not related to pregnancy or birth (ORa 0.8 [0.8; 0.9]). Roma women made less frequent visits than general population women (ORa 0.6 [0.5; 0.7]), and this gap was maintained between the 2 years studied, given that the interaction was not significant (ORa 0.8 [0.6; 1.1]). In the two groups of women over age 45, there was a decrease in the frequency of use of this type of service (ORa 0.8 [0.7–0.9]), and a statistically significant difference persisted in both 2006 and 2014 in all of the age groups except in the group of those age 16–19 (ORa 0.6 [0.2–1.6]), (Table 1).

In relation to visits for the routine check-up in the last gynecology visit, the frequency decreased for Roma women (ORa 0.6 [0.4; 0.8]), while it increased for general population women between the years studied (ORa 1.3 [1.2; 1.4]). In

**Table 1** Use of gynecology visits. Comparison of the Roma populations and general population. Spain 2006–2012/14

Year	Total		16–19 years		20–45 years		46–60 years		+60 years	
	2006	2012/14	2006	2012/14	2006	2012/14	2006	2012/14	2006	2012/14
Have you ever had a gynecological visit?										
% Roma Pop.	73.9	79.8	19.4	36.7	84.3	84.7	82.5	84.5	60.9	76.2
% General Pop.	81.4	85.0	31.2	29.1	89.2	90.3	95.0	95.9	68.1	79.6
Adjusted OR (95% CI)										
OR Interaction	1.1	(0.8–1.5)	2.7	(0.8–8.6)	0.9	(0.6–1.5)	0.9	(0.4–2.0)	1.1	(0.7–2.0)
OR study year	1.3**	(1.2–1.4)	0.9	(0.8–1.1)	1.1*	(1.0–1.3)	1.2	(0.9–1.5)	1.8**	(1.6–2.0)
OR study population	0.7**	(0.6–0.8)	0.9	(0.5–1.6)	0.6**	(0.5–0.8)	0.3**	(0.3–.4)	0.8*	(0.6–0.1)
Time passed of 1 year or less since her last gynecological visit										
% Roma Pop.	39.7	31.5	66.7	54.5	46.4	41.1	43.5	29.2	17.9	9.9
% General Pop.	49.3	45.3	64.1	72.1	56.6	55.0	54.6	48.8	25.1	20.8
Adjusted OR (95% CI)										
OR Interaction	0.8	(0.6–1.1)	0.5	(0.1–3.5)	0.9	(0.6–1.3)	0.7	(0.4–1.3)	0.6	(0.3–1.7)
OR study year	0.8**	(0.8–0.9)	1.5	(1.0–2.0)	0.9	(0.9–1.0)	0.8**	(0.7–0.9)	0.8**	(0.7–0.9)
OR study population	0.6**	(0.5–0.7)	0.6	(0.2–1.6)	0.6**	(0.5–0.7)	0.5**	(0.4–0.7)	0.5**	(1.3–0.8)
Have you had a routine check-up in your last gynecology visit?										
% Roma Pop.	71.0	59.4	60.0	37.5	73.9	67.3	61.5	50.7	74.1	51.7
% General Pop.	83.4	86.4	63.5	71.0	86.4	87.9	87.9	88.8	73.2	82.1
Adjusted OR (95% CI)										
OR Interaction	0.5**	(0.3–0.7)	0.2	(0.0–2.6)	0.6	(0.4–1.0)	0.6	(0.9–1.3)	0.2**	(0.1–0.5)
OR study year										
Of Roma Pop.	0.6**	(0.4–0.8)	1.4	(1.0–2.1)	1.1*	(1.0–1.2)	1.1	(0.9–1.2)	0.4*	(0.2–0.8)
Of General Pop.	1.3**	(1.2–1.4)	1.4	(1.0–2.1)	1.1*	(1.0–1.2)	1.1	(0.9–1.2)	1.7**	(1.5–1.9)
OR study population										
In 2006	0.5**	(0.4–0.6)	1.1	(0.2–7.4)	0.3**	(0.3–0.5)	0.2**	(0.1–0.2)	1.0	(0.6–1.9)
In 2012/14	0.2**	(0.2–0.3)	1.1	(0.2–7.4)	0.3**	(0.3–0.5)	0.2**	(0.1–0.2)	0.2**	(0.1–0.9)

Reference category: General population 2006. \*Sig. < 0.05, \*\*Sig. < 0.01, Pop. Population, OR Odd Ratio, CI95%; Confidence interval 95% for Odds Ratio

comparison, a lower percentage of Roma women visited the gynecologist to carry out a routine check-up than did general population women in both 2006 (ORa 0.5 [0.4; 0.6] and in 2012/14 ORa 0.2 [0.2; 0.3]). During the time period studied, there was a significant increase in the difference between the two populations of women in terms of routine gynecological check-ups (ORa 0.5 [0.3; 0.7]). By age, we observed a significant decrease in this type of visit in the group of Roma women over age 60 (ORa 0.4 [0.2–0.8]), while in the same group in the general population, there was a significant increase (ORa 1.7 [1.5–1.9]). In 2012/14, the difference in use in the Roma population was significantly less (ORa 0.2 [0.1–0.9]) and there was a significant increase in the difference between the two groups of women (ORa 0.2 [0.1–0.5]) (Table 1).

The percentage of women who had carried out a mammogram increased in the two groups during the years studied (ORa 1.2 [1.1; 1.2]). Women over age 69 registered

an increase in the frequency of this test. Taking into account the analysis by study population, the percentage of Roma women who received this service was less than that of women in the general population (ORa 0.7 [0.6; 0.8]), above all for the screening target age group. The results of the interaction reveal that the situation has not changed between the years studied (ORa 1.1 [0.8; 1.4]) (Table 2).

In terms of women who had ever had a pap smear test, the frequency of both groups increased between the years studied (Roma population ORa 1.7 [1.3; 2.3] and general population ORa 1.3 [1.2; 1.4]). When comparing the two populations, Roma women continued to have a lower probability of carrying out this test, both in 2006 (ORa 0.5 [0.4; 0.6]) and in 2014 (ORa 0.7 [0.6; 0.9]). This difference was predominant in the screening age group (age 25–65). There was also a significant and decreasing difference in the study years between Roma women and general population women (Table 2).

**Table 2** Use of mammograms and pap smear tests. Comparison of the Roma populations and General population. Spain 2006–2012/14

Year	Age groups							
	Total		16–49		50–69		+69	
	2006	2012/14	2006	2012/14	2006	2012/14	2006	2012/14
Have you ever had a mammogram (breast x-ray)?								
% Roma Pop.	36.9	41.6	29.5	23.6	60.8	74.8	28.1	65.4
% General Pop.	46.8	50.3	28.2	28.3	91.0	92.8	47.5	65.0
Adjusted OR (95% CI)								
OR Interaction	1.1	(0.8–1.4)	0.7	(0.5–1.1)	1.5	(0.8–2.8)	2.3*	(1.1–2.3)
OR study year								
Of Roma Pop.	1.2**	(1.1–1.2)	1.0	(0.9–1.1)	1.3**	(1.1–1.6)	4.8**	(2.3–10.0)
Of General Pop.	1.2**	(1.1–1.2)	1.0	(0.9–1.1)	1.3**	(1.1–1.6)	2.1**	(1.8–2.3)
OR study population								
In 2006	0.7**	(0.6–0.8)	0.9	(0.8–1.1)	0.2**	(0.1–0.2)	0.4**	(0.2–0.7)
In 2012/14	0.7**	(0.6–0.8)	0.9	(0.8–1.1)	0.2**	(0.1–0.2)	1.0	(0.6–1.8)
Have you ever had a pap smear test (cell sample)?								
% Roma Pop.	49.4	62.8	27.5	44.8	56.1	68.9	42.7	40.0
% General Pop.	65.0	70.8	31.6	38.7	81.4	84.0	36.9	51.2
Adjusted OR (95% CI)								
OR Interaction	1.3*	(1.2–1.4)	1.6	(.6–4.1)	1.4*	(1.0–2.0)	0.5*	(0.3–1.0)
OR study year								
Of Roma Pop.	1.7**	(1.3–2.3)	1.4**	(1.2–1.6)	1.7**	(1.2–2.4)	0.9	(0.5–1.8)
Of General Pop.	1.3**	(1.2–1.4)	1.4**	(1.2–1.6)	1.2**	(1.1–1.3)	1.8**	(1.6–2.0)
OR study population								
In 2006	0.5**	(0.4–0.6)	1.0	(0.6–1.5)	0.3**	(0.2–0.4)	1.3**	(1.0–1.8)
In 2012/14	0.7**	(0.6–0.9)	1.0	(0.6–1.5)	0.4**	(0.3–0.6)	0.7**	(0.4–0.6)

Reference category: General population 2006. \*Sig. < 0.05, \*\*Sig. < 0.01, Pop. Population, OR Odd Ratio, CI95% Confidence intervals for 95% Odds Ratio

## Discussion

Our research shows that the inequality in the use of gynecological visits and preventive tests for breast cancer and cervical screening between Roma and general population women observed in 2006 persisted in 2012–2014. The Spanish National Health Survey (SNHS) includes the non-identified Roma population as such, thus the observed inequalities could be even greater.

The frequency with which Roma women made a visit to the gynecologist increased in the two studied years. However, the gap in use remains, given that percentage of general population women who visited the gynecologist also increased. The inequality between the two groups of women in terms of gynecological visits in the past year also persists, and it is important to highlight the decrease in the frequency of Roma women's visits for routine check-ups (not related to pregnancy or birth) in the time period studied. This resulted in an increase in inequality. The conclusion of this first analysis related to gynecological

preventive visits shows a continued gap in use between the two populations studied, to the disadvantage of Roma women. This occurred despite the fact that the 8 years in question took place during a political and health policy context that has been defined as favorable for health prevention services, and an international context of increasing demand for gynecological services (Dall et al. 2013).

In all of the age groups, the Roma population less frequently used gynecological services than women in the general population. This difference was maintained between the two groups of women, but in terms of routine check-ups, the difference increased significantly in the years studied, above all in women over age 60. At advanced ages, women confront worse socioeconomic conditions and greater health inequalities (Ministerio de Sanidad Servicios e Igualdad and Dirección General de Salud Pública Calidad e Innovación 2018), and therefore, they miss the opportunity to benefit from routine check-ups in the prevention of diseases.

We also observed an increase in the frequency of mammograms among Roma women in the target screening ages, which is considered positive from the prevention perspective. However, it should be noted that there has also been a significant increase in use of this exam among Roma women over age 69, at the end of screening test (Consejería de Sanidad. Gobierno de Cantabria 2015). In this age range, the increase in Roma women's frequency of carrying out a mammogram with respect to that of general population women in 2014 could suggest late diagnosis among symptomatic women.

The most positive result in terms of inequality reduction observed among both populations is for those who had ever had a pap smear test. The percentage increased for both populations, but there was a greater increase among the Roma population.

### Relevance of the findings

Spanish legislation and health strategies aim to reduce inequalities in health (Ministerio de Sanidad 2014). Our study analyzed the universality of use of gynecological visits and breast cancer and cervical cancer prevention services as well as the potential of public health service to provide public health services to all population groups from a perspective of equity. Our results do not support the conclusions of the follow-up report of the Operational Plan of 2014–2016 and the intermediate follow-up of the National Strategy for the Social Inclusion of the Roma Population 2012–2020, which affirms that there has been a reduction in the difference in gynecological visits between the general and Roma populations (Ministry of Health 2017). The results obtained in our study confirm an inequality in the use of prevention services among Roma women in Spain, which has been shown in prior studies (Fundación Secretariado Gitano 2009; La Parra-Casado 2009). Furthermore, this study also shows that these inequalities persist over time and have not decreased in recent years. However, as with other studies on health indicators carried out with the Roma population, we observed a discrete improvement in the younger generations (Vives-Cases et al. 2018).

The scarce information found in other European studies also shows inequalities in the use of gynecological visits and prevention services. In Hungary between 2003 and 2004, gynecological visits during the past 5 years were 78 percent among Roma women ages 18–64, compared to 89 percent among general population women. Mammograms carried out in the prior 2 years were 15 percent in Roma women compared to 34 percent in the general population (Kósa et al. 2007). Later, another Hungarian study carried out between 2004 and 2015 showed that young Roma women maintained a significantly lower rate of visits to the

gynecologist, although there were no significant differences between both groups of women age 45–69 (János et al. 2017). Finally, in Romania, Roma women less frequently made visits for cervical cancer screening than did non-Roma women (46% vs. 63%) (Andreassen et al. 2018).

Given that belonging to an ethnic minority group influences the presence of specific health inequalities, health interventions require that health professionals have knowledge of the Roma population and culture and their predominant state of health (García 2006). Use of preventive services would be supported by strengthening cultural competency in health interventions as well as through personal or group education about cancer, reminders about visits and an increase in accessibility, which can increase the rate of participation in cancer screening among ethnic minorities (Escribà-Agüir et al. 2016; Andreassen et al. 2017). Overall, it is important to orient health systems toward cultural competency and to support strategies to reduce barriers in access, improve effective communication among health institutions and the population of different ethnic groups (Gil-González et al. 2007) and to enhance quality in health care.

### Limitations

The limitations of this study include the use of two different surveys carried out in two different years, rather than a longitudinal study, which limits the possibility of attributing causality. The NHSRP of 2014 did not coincide in time with the SNHS of 2012, and this time difference could increase the magnitude of the differences observed in the study population. Finally, health surveys do not include information related to the barriers perceived by women that prevent them from carrying out preventive and early detection practices (Carrasco-Garrido et al. 2011). The article analyzes the differences in the use of certain preventive services between women in the Roma population and in the general population. However, we did not analyze the social determinants of these differences, which could explain the barriers to accessing the health system. Nor were the economic crisis that occurred between 2006 and 2014 and its corresponding budget cuts taken into account, which could have affected accessibility or quality of care of at-risk or vulnerable groups in different ways.

Finally, it should be noted that there is a limitation related to breast cancer and cervical cancer screening programs in Spain. While breast cancer screening is population-based, that is, it is actively offered to the whole target population in a systematic way and within a regulated health policy framework (with protocols and adequate and continuous quality evaluation of results), cervical cancer screening is opportunistic. Thus, there is little opportunity for monitoring or evaluation. Therefore,

prudence is warranted when evaluating ethical and social implications, given that those groups that are most fortunate and have the best levels of health are those that most often participate in these programs.

## Conclusion

Despite public policies to reduce health inequalities and to consider diversity in health services in Spain, we did not observe a reduction in the gap in the use of gynecological visits nor the use of preventive services among Roma and general population women. Future studies should focus on identifying and explaining the barriers that Roma women face to access gynecological health services and breast and cervical cancer screening programs. They should also explore their relationship to social determinants (Masseria et al. 2010) and to gender (Janevic et al. 2012) as has been recommended in other contexts (Djikanovic et al. 2018). It is important to remedy existing social inequalities between the Roma and general populations through promoting equality in the use of preventive services. Also, this should take place through non-discriminatory programs, through care aimed at the specific needs of the Roma population, and with the participation of Roma people.

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## Compliance with ethical standards

**Conflict of interest** The authors have no conflict of interest.

**Ethical approval** The research was approved by the Ethics Committee of the University of Alicante (Spain). Those interviewed were informed in writing and verbally of the objective of the survey, the voluntary nature of participation, the protection of anonymity and confidentiality, and of the institution and team responsible for conducting the survey. No incentive for participation was offered to respondents.

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