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1 Prevalence and predictive factors for renouncing medical 2 care in poor populations of Cayenne, French Guiana

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28 **Abstract**

29 **Background**

30 Access to health care is a global public problem. In French Guiana, there exists social
31 inequalities which are specially marked amongst immigrants who make up a third of the
32 population. Health care inequalities are prevalent. The objective of this study was to
33 determine factors associated with why health care amongst the poor population of Cayenne
34 was renounced.

35 **Study design**

36 The study was cross sectional. It focused on knowledge, attitudes, practices and beliefs of the
37 population living in poor neighborhoods of the Cayenne area.

38 **Methods**

39 Populations coming at the Red Cross mobile screening unit in poor urban areas of Cayenne
40 were surveyed from July 2013 to June 2014. Structured questionnaires consisted of 93
41 questions. Written informed consent was requested at the beginning of the questionnaire. The
42 predictors for renouncing medical care were determined using logistic regression models and
43 tree analysis.

44 **Results**

45 Twenty percent of persons had renounced care. Logistic regression showed that renouncement
46 of health care was negatively associated with having no regular physician Adjusted Odds Ratio
47 (AOR)=0.43 (95%CI=0.24-0.79) and positively associated with being embarrassed to ask
48 certain questions AOR=6.81 (95%CI=3.98-11.65) and having been previously refused health
49 care by a doctor AOR=3.08 (95%CI=1.43-6.65). Tree analysis also showed that three of
50 these variables were linked to renouncement, with feeling shy to ask certain questions as the
51 first branching.

52 **Conclusion**

53 Although most people felt it was easy to see a doctor, one in five had renounced health care.
54 The variables identified by the models suggest vulnerable persons generally had previous
55 negative encounters with the health system and felt unwanted or non eligible for healthcare.
56 Healthcare mediation and welcoming staff may be simple solutions to the above problems
57 which were underscored in our observations.

58 **Keywords**

59 Health care; renouncement; poor populations; logistic regression; Tree analysis; French
60 Guiana.

61 **Introduction**

62 **Background**

63 Health inequalities between countries and within countries remain salient[1]. Both absolute
64 and relative material standards matter, with the later having a greater importance[2,3].
65 Inequalities in income are paralleled by inequalities in health [4]. Richer countries generally
66 have better indicators than poorer countries, however, there is great heterogeneity[5]. French
67 Guiana has the highest GDP per capita on the South American continent, attracting numerous
68 immigrants in search of a better life. Thus, a third of the population are immigrants, a great
69 proportion of whom have no residence permit[6]. The health system of French Guiana is
70 French with modern facilities and the possibility of obtaining universal health insurance,
71 including for illegal foreign citizens residing for more than 3 months on the territory. As for
72 all French territories, mitigating health inequalities remains a major public health goal. There
73 are great socio-sanitary differences between the various French regions, notably for French
74 Guiana [7]. Previous studies in French Guiana have shown that undocumented immigrants
75 reported a poorer health status[8]. Studies have also shown that immigrants were tested later
76 for HIV[9], were more likely to interrupt follow up[10], and, for cancer, had more advanced
77 stages upon diagnosis[11]. The complexities of a poor immigrants' life, of the health care

78 system and of the administrative requirements to access to rights, the lack of transport, and the
79 refusal by some private practitioners to see patients with universal health insurance are all
80 potential determinants of a sick patient to renounce to see a doctor[12].

81 **Objectives**

82 We thus conducted a study in patients consulting the Red Cross screening truck in
83 impoverished neighborhoods in Cayenne to determine how frequently persons had renounced
84 healthcare and the variables that were most frequently associated with this.

85 **Methods**

86 **Ethical aspects**

87 The study protocol was approved by the Comité d'Évaluation Éthique de l'Inserm (CEEI/IRB)
88 (n°13-107) and the Commission Nationale Informatique et Liberté (CNIL) (authorisation
89 n°1680353v0).

90 **Study design**

91 The study was cross-sectional. It was a descriptive and comparative knowledge, attitudes,
92 practices, and beliefs study.

93 **Setting**

94 The study was conducted from from July 1st, 2013 through June 30th, 2014 in poor
95 neighborhoods of the Cayenne area. Neighborhoods were defined as « poor » if one of the
96 following criteria were verified: neighborhood figuring in the City Hall list of « Contrats
97 Urbains de Cohésion Sociale » (CUCS, urban contracts of social cohesion); spontaneous
98 habitat zone (housing without building permits); neighborhoods without running water and/or
99 electricity and/or municipal handling of waste and garbage.

100 **Participants**

101 The study population was poor populations. The surveyed population was adults, seeking free
102 screening services at the Red Cross mobile screening unit (truck offering testing for HIV,
103 diabetes, high blood pressure).

104 The surveyed areas are sensibly different from the rest of Cayenne and selected for this. They
105 are mostly, but not exclusively inhabited, by immigrants. Given the small size of Cayenne, the
106 surveyed areas are not very far from the health structures. However they are devoid of health
107 structures, social facilities, and public transportation is often not available. The estimated
108 population living in the surveyed areas was 46 000 relative to the 101 412 persons living in
109 the greater Cayenne area.

110 **Outcome criteria**

111 The renouncement of care which was defined by answering yes to the question "Have you
112 been ill or had pains and renounced care?". The answer to this question had no time frame but
113 referred to French Guiana and thus represents a prevalence during the stay in French Guiana.

114 **Inclusion criteria**

115 Adults, over 18 years of age.

116 **Non inclusion criteria**

117 Person belonging to the study population refusing to participate, having previously
118 participated, <18 years of age.

119 **Sampling method**

120 Samples were stratified by inclusion centers, with an equivalent proportion of persons relative
121 to the estimated source population seen at each site.

122 The Red Cross mobile unit exists since 2012. It allows going towards populations in the
123 poorest neighborhoods. Nurses are accompanied by health mediators from the local
124 communities (DAAC, development, accompaniment, animation, cooperation). Twice a month
125 a doctor is there to check vaccinations.

126 **Data collection**

127 The trained multilingual surveyors from the targeted communities asked all persons
128 consulting the mobile unit. Written and oral information was given to all eligible persons.
129 Written informed consent was requested at the beginning of the questionnaire. Persons
130 accepting to participate to the study were interviewed face to face in their native language
131 using a structured questionnaire that had been translated in local languages (Haitian Creole,
132 Spanish, Portuguese, English, SrananTongo). The study was proposed to the first person
133 arriving on site and then the second questionnaire was proposed when the surveyor had
134 finished with the first person, and so on until the work day was finished.
135 Questionnaires were anonymous and numbered for each study site and according to their rank
136 in passage that day. The questionnaires had 93 questions divided in 5 parts: sociodemographic
137 profile, health profile, health practices, attitudes, practices and knowledge on health
138 matters and health insurance. The EPICES score was calculated as described elsewhere [13].
139 The interview lasted up to 60 minutes. The initial questionnaire was devised by the Clinical
140 Investigation Center and was reviewed and modified by the partners (Health insurance,
141 municipalities NGOs Red Cross, Médecins du Monde, DAAC). It was pretested on 10
142 persons of the target population to optimize its comprehension and the perception.
143 Patients were compensated for the time they gave the interviewer and were given a 5 euro
144 voucher plus prevention material on diabetes, high blood pressure, HIV, and information
145 about access to health insurance. Questionnaires were reviewed by the study coordinator,
146 who then validated them if they were coherent.

147 **Statistical methods**

148 Data analysis was performed using R. Univariate analysis was performed then frequency
149 distributions for each covariate were compared between those who had renounced health care
150 and those that had not. Thematic logistic regression models considering significant variables
151 ($p < 0.05$) were computed for different set of questions: sociodemographic profile, health

152 profile, medical practices, attitudes, attitudes, practices and knowledge on health matters and
153 health insurance. Finally, the variables selected from these thematic multivariate models
154 were added to a global logistic regression model. The goodness of fit test was used. The
155 most parsimonious models were selected using Akaike's information criterion.
156 In addition CART analyses were performed using R [14,15]. Classification And
157 RegressionTree analysis is a non parametric multidimensional exploratory method. It is a
158 segmentation method based on the construction of a decision tree. It aims to partition the
159 sample using explanatory variables so that the obtained segments are as homogenous as
160 possible regarding the dependent variable. It proceeds by successive iterations, the sample
161 first being partitioned in homogenous sub-samples, each of which is then partitioned in
162 homogenous sub samples, iteratively. In some cases, the trees obtained being too intricate,
163 pruning is used to obtain a more parsimonious model.

164 **Results**

165 Between July 2013 and June 2014, a total of 546 questionnaires were filled. The refusal rate
166 was zero. Table 1 provides a description of the study population stratified into 2 groups
167 according healthcare renouncement. This table considers significant variables in the different
168 sets of questions and other variables as age, gender, social vulnerability, income and
169 perception of how easy it is to see a doctor. Table 2 presents the variables associated with
170 healthcare renouncement and the p values. There were 51.8% of women. The average age was
171 37.0 (sd=12.9) in women and 35.6 (sd=13.7) in men. According to the EPICES score using
172 the 30 threshold, 477 (87.4%) were socially precarious. Most of these persons came from
173 foreign countries, 47% were foreign having some form of health insurance and additional
174 27% were foreign without insurance but were eligible to it as shown in Figure 1. Overall, 5%
175 were foreigners not eligible for health insurance.

176 A significant proportion of persons had very low incomes for the standard of life of French
177 Guiana (medical consultation costs: 23 Euro; net minimum wage: 1 137 Euros): 20% of
178 patients earned less than 300 Euros per month, 35.2% less than 500 Euros, and 55% less than
179 800 Euros per month.

180 Overall, 113 persons (20.7%) had previously renounced health care whereas 433 had never
181 done so (79.3%).Renouncement of care was more frequent in the precarious group
182 ($p=0.005$).

183 Four hundred and three persons (73.8%) thought it was easy to see a doctor in Cayenne.
184 Among those that had never renounced care 75.8% though it was easy to see a doctor.
185 Among those that had previously renounced for care still 66.4% thought it was easy to see a
186 doctor.

187 For those having arrived in French Guiana for less than a year, 20 (18%) had
188 renouncedwhereas 78 (69%) of those having arrived before 2013 had renounced, $p=0.02$ (see
189 Table 2).

190 Table3summarizes the differences between the two groups for different variables and shows
191 adjusted odds ratios for thematic logistic regression models.For the sociodemographic
192 variables, financial difficulties and being shy to ask certain questions or to go through
193 medical or administrative appointments were significantly associated with the outcome. For
194 the health profile, only the fact of having received dental care in the past 3 years was
195 significant. For the medical practice and attitudes variables, having consulted the emergency
196 ward in the past year, having a family physician and having been refused care by a doctor
197 were significant predictors. For the variables pertaining to health insurance, having health
198 insurance and understanding mail from health insurance were predictors.

199 Table 4shows the global model using the significant variables from each thematic logistic
200 regression model. Among all the variables cited below, only being embarrassed to ask

201 certain questions or to go through medical or administrative appointments, having a family
202 physician and having been refused care by a doctor were predictive of renouncement of care.
203 Figure 2 shows that CART analysis identified feeling shy to ask certain questions or to go
204 through medical or administrative appointments. CART analysis showed the 2 paths
205 associated with renouncement of health care. The most salient one was feeling shy to ask
206 certain questions or to go through medical or administrative appointments. The number
207 shows the probability of healthcare renouncement and the one in brackets the proportion of
208 observations in the leaf.

209 **Discussion**

210 Over 70% of the surveyed population, a vulnerable subset of the general population in
211 Cayenne, declared it was easy to see a doctor in Cayenne. This was somewhat at odds with
212 perceptions based on anecdotal reports. The context of health care setting at the time of the
213 survey may have inflated the perception of the ease of contacting a doctor. In addition, the
214 population showing up at the red cross bus may have represented a biased selection of
215 persons least likely to renounce care thus leading to an underestimation of the main outcome.
216 However, one in five persons had previously renounced care. In comparison, in France
217 15.4% of persons declared having renounced to care in 2008, and among those earning less
218 than 870 Euros per month this proportion reached 24% [16]. The association between low
219 socio economic status and access to care is often observed but the proximal forces operating
220 are not always explicit. The present study may offer some insights on perceptions or
221 behaviors that may be of operational interest. A number of variables were independent
222 predictors of renouncing care. In addition, the use of CART analysis was, to our
223 knowledge, an original way to partition the population in homogenous groups regarding the
224 main outcome. The most salient predictor was declaring feeling shy to ask certain questions
225 or to go through medical or administrative appointments. Having previously been refused

226 medical care was associated with increased likelihood of having renounced care. Having a
227 family physician was associated with a lower probability of having renounced care. The
228 above findings suggest that factors such as self esteem or knowledge of one's right to
229 healthcare are possible determinants to target in order to access to care. Some persons being
230 denied care may have generalized this experience to the health system as a whole either as a
231 reluctance to be rejected again or as a belief that they were not entitled for health care[17].
232 Most of these persons were immigrants from countries where the authority and status of
233 health professionals or administrative officers may have required the patients to be more
234 submissive to authority. It may thus have taken some adjustment to be aware of one's rights
235 and to learn how to navigate the health system [18], as suggested by the fact that the most
236 recent immigrants tended to renounce more frequently. A recent public health law suppressed
237 the mandatory fee that patients without full coverage had to disburse. The future impact of
238 this measure on renouncement of care is debatable but the present results suggest it may
239 improve access.

240 Although, prior to the study variables such as fluency in French, transport means,
241 employment, health insurance, residence permits were suspected determinants reported in the
242 literature [19,20], multivariate analyses did not retain them as significantly associated with
243 the outcome. Perhaps in this urban area, there are a number of geographically accessible
244 alternative offers of health care that buffer some of the difficulties of vulnerable patients.
245 However, beyond a simple contact with a physician, follow up may have been a more
246 difficult problem than acute care for vulnerable patients, but we did not investigate this
247 question. Given the broad cultural diversity in French Guiana, we predicted to find that some
248 cultural differences would arise. Although Haitian nationals seemed to renounce more often,
249 after multivariate analyses, nationality, a proxy to culture, was not retained, suggesting that

250 socioeconomic determinants were the confounding variable behind specific “cultural”
251 determinants.
252 Caution should be exercised when making inference from the results to all poor populations
253 of Cayenne because those that never showed up at the Red Cross truck despite the health
254 mediators' efforts may have represented a different subgroup less concerned by its health or
255 unable to be present when the surveyors were on site. In addition, the surveyed areas were
256 particularly known as poverty pockets but a number of other vulnerable persons live in other
257 parts of town where the mix of determinants of renouncement may be different. However, and
258 this was a deliberate choice, the surveyed population was globally very vulnerable and thus
259 its attitudes, behaviors and practices are precious knowledge for health care actors in order to
260 improve access to care in this population.

261 These results concern vulnerable populations living in a country with a universal health care
262 system that is often presented as a model, but still struggles to achieve one of its priorities: to
263 ensure that everyone has equal access to care. Therefore the present results may be very
264 different from, and not applicable to, situations where persons do not have these access to
265 health rights. As observed elsewhere, financial difficulties were linked to poverty [1].
266 However, here it seemed "shyness" to interact with the system and prior refusal of care
267 stressed that, beyond the perception of one's right to health care and perhaps one's status in
268 society may be even more important psychosocial determinants [2] that presumably apply
269 beyond the particular context of French Guiana.

270 **Conclusion**

271 Although these vulnerable populations reported that access to a physician was easy, 21% of
272 the population declared having previously renounced health care. Shyness to ask and prior
273 refusal of care were negatively associated with access to care whereas having a regular
274 physician seemed like facilitating access to care after adjustment for confounding. Ensuring

275 that all public servants remain cordial to make the health system more welcoming and
276 familiar to vulnerable groups thus seems to be important to improve access to care in
277 Cayenne. Health mediation, may also be an important response to reduce renouncement of
278 health care[21].

279 **Competing interests**

280 The authors declare that they have no competing interests.

281 **Authors' contributions**

282 LV performed data analysis and interpretation, and prepared the manuscript. BG was
283 responsible for data collection. BG, MCP, AVM, TP, CB, CG and AA participated in the
284 research design. CG and MD were involved in the final manuscript draft. MN initiated the
285 study, provided guidance on data analyses, and was involved in the interpretation of data,
286 manuscript writing and manuscript revision. All authors read and approved the final
287 manuscript.

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346 **Figure**

347 **Figure 1 – Descriptive analysis**

348 Description of the study population according to nationalities, access, eligibility and no
 349 eligibility to healthcare system - Results expressed as percentage - Others : Guinea Bissau,
 350 Dominica and Peru

351 **Figure 2–CART analysis**

352 CART analysis for variables significantly associated with healthcare renouncement

353 **Tables**

354 **Table 1 – Descriptive analysis**

355 Description of the study population stratified according to renouncement – Results expressed
 356 as numbers (%) or medians and interquartile ranges (25%-75%).

	Renouncement (n)	No renouncement (n)
Sociodemographic profile		
Age	33 (26-42)	35 (25-45)
Gender		
Female	52 (46)	231 (53)
Male	61 (54)	202 (47)
Being Haitian		
No	57 (50)	280 (65)
Yes	56 (50)	153 (35)
Being in France, less than a year :		
No	78 (69)	298 (69)
Yes	20 (18)	42 (10)
Non applicable	15 (13)	93 (21)
Marital status		
In a couple/family/roomate	38 (34)	196 (45)
Single	75 (66)	237 (55)
Social vulnerability		
No	5 (4)	64 (15)
Yes	108 (96)	369 (85)
Income level		
Less than net minimum wage	89 (79)	294 (68)
Around net minimum wage	12 (10)	90 (21)
More than net minimum wage	11 (10)	46 (10)
No response	1 (1)	3 (1)
Having financial difficulties		
No	28 (25)	202 (47)
Yes	82 (73)	229 (53)
Having financial help		
No	53 (47)	253 (58)
Yes	59 (52)	178 (41)
Taking Holidays		
No	92 (81)	310 (72)
Yes	21 (19)	123 (28)
Reason for coming		
Health insurance	94 (83)	408 (94)
Other	19 (17)	25 (6)
Being shy to ask certain questions or to go through medical or administrative appointments		
No	50 (44)	381 (88)

Yes	63 (56)	49 (11)
Health profile		
Health status 3years ago:		
The same	43 (38)	127 (29)
Better	52 (46)	268 (62)
Worse	18 (16)	37 (9)
Having received dental care in the past 3 years		
No	27 (24)	181 (42)
Yes	86 (76)	250 (58)
Having good sight		
No	28 (25)	70 (16)
Yes	85 (75)	363 (84)
Medical practice, attitudes		
Having consulted the emergency ward in the past year		
No	47 (42)	95 (22)
Yes	66 (58)	338 (78)
Having a family physician		
No	64 (57)	133 (31)
Yes	49 (43)	300 (69)
Thinking it is easy to see a doctor		
No	11 (10)	22 (5)
Yes	75 (66)	328 (76)
No response	27 (24)	83 (19)
Having time to explain problems when you see a doctor		
Yes	90 (80)	379 (88)
No	19 (17)	32 (7)
Never consulted	4 (3)	22 (5)
Having been refused health care by a doctor in French Guiana		
No	87 (77)	387 (89)
Yes	24 (21)	25 (5)
Never consulted	1 (2)	20 (6)
Having been refused health care by the PASS		
No	48 (42)	164 (38)
Yes	11 (10)	15 (3)
Never consulted	53 (47)	254 (59)
Attitudes, practices and knowledge on health matters		
Knowing about complementary health insurance		
Yes	51 (45)	264 (61)
No	61 (54)	160 (37)
Knowing the difference between CMU and AME		
Yes	48 (42)	233 (54)
No	64 (57)	191 (44)
Thinking need to feel pain or malaise to be sick		
No	71 (32)	325 (75)
Yes	36 (63)	93 (22)
Knowing infrastructures or associations which help people in administrative process		
Yes	70 (62)	326 (75)
No	43 (38)	106 (25)
HIV-knowledge Quizz		
<7 true responses	74 (65)	226 (52)
7true responses	39 (35)	207 (48)
Health insurance		
Having documentation proving health insurance		
No	53 (47)	137 (32)
Yes	60 (53)	296 (68)

Understanding mail from the health insurance		
Yes	74 (65)	337 (78)
No	9 (8)	11 (2)
Never received	30 (27)	85 (20)

357

358 **Table 2 – Bivariate analysis**

359 Variables associated with a history of healthcare renouncement

	p
Sociodemographic profile	
Being Haitian	0.01
Being in France, less than a year	0.02
Social vulnerability	0.005
Marital status	0.03
Having financial difficulties	<0.001
Having financial help	0.04
Taking Holidays	0.05
Reason for coming	<0.001
Being shy to ask certain questions or to go through medical or administrative appointments	<0.001
Health profile	
Health status 3years ago	0.004
Having received dental care in the past 3 years	<0.001
Having good sight	0.05
Medical practice, attitudes	
Having consulted the emergency ward in the past year	<0.001
Having a family physician	<0.001
Having time to explain problems when you see a doctor	0.01
Having been refused health care by a doctor in French Guiana	<0.001
Having been refused health care by the PASS	0.008
Attitudes, practices and knowledge on health matters	
Knowing about complementary insurance	0.004
Knowing about the difference between CMU and AME	0.05
Thinking one needs to feel pain or malaise to be sick	0.04
Knowing about infrastructures or associations which help people in administrative process	0.01
HIV-knowledge Quizz	0.02
Health insurance	
Having documentation proving health insurance	0.003
Understanding mail from the health insurance	0.004

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362 **Table 3 – Thematic multivariate analysis**

363 Variables associated with a history of healthcare renouncement

	OR	95%CI	p
Sociodemographic profile			
Being Haitian			
No	1		
Yes	1.25	0.72-2.17	0.42
Being in France, less than a year :			
No	1		
Yes	1.32	0.62-2.81	0.47
Non applicable	1.46	0.49-4.33	0.50
Social vulnerability			
No	1		
Yes	1.55	0.47-5.14	0.48
Marital status			

In a couple/family/roomate	1		
Single	1.52	0.91-2.54	0.11
Having financial difficulties	1		
No	1		
Yes	1.81	1.01-3.23	0.05
Having financial help	1		
No	1		
Yes	0.94	0.56-1.57	0.81
Taking Holidays	1		
No	1		
Yes	1.56	0.78-3.09	0.21
Reason for coming	1		
Health insurance	1.74	0.80-3.79	0.17
Other	1		
Being shy to ask certain questions or to go through medical or administrative appointments	1		
No	1		
Yes	8.72	5.15-14.76	<0.001
Health profile			
health status 3years ago:	1		
The same	1		
Better	0.67	0.42-1.06	0.09
Worse	1.52	0.76-3.04	0.23
Having received dental care in the past 3 years	1		
No	1		
Yes	0.47	0.29-0.77	0.003
Having good sight	1		
No	1		
Yes	0.71	0.42-1.20	0.21
Medical practice, attitudes			
Having consulted the emergency ward in the past year	1		
No	1		
Yes	1.83	1.12-2.97	0.02
Having a family physician?	1		
No	1		
Yes	0.33	0.20-0.53	<0.001
Having time to explain problems when you see a doctor	1		
Yes	1		
No	1.72	0.87-3.40	0.30
Never consulted	2.52	0.43-14.73	0.12
Having been refused health care by a doctor in French Guiana	1		
No	1		
Yes	2.60	1.29-5.23	0.01
Never consulted	0.14	0.02-1.22	0.08
Having been refused health care by the PASS	1		
No	1		
Yes	1.60	0.61-4.24	0.12
Never consulted	0.68	0.42-1.10	0.34
Attitudes, practices and knowledge on health matters			
Knowing about complementary insurance	1		
Yes	1		
No	1.57	0.95-2.57	0.08
Knowing about the difference between CMU and AME	1		
Yes	1		
No	1.17	0.70-1.95	0.54
Thinking need to feel pain or malaise to be sick	1		
No	1		
Yes	1.48	0.89-2.45	0.13
Knowing about infrastructures or associations which help			

people in administrative process			
Yes	1		
No	1.51	0.91-2.51	0.11
HIV-knowledge Quizz			
<7 true responses	1		
7true responses	0.78	0.47-1.28	0.32
Health insurance			
Having documentation proving health insurance			
No	1		
Yes	0.49	0.23-0.65	0.02
Understanding mail from the health insurance			
Yes	1		
No	3.33	1.31-8.45	0.01
Never received	0.91	0.47-1.75	0.77

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365 **Table 4 – Logistic regression**

366 Logistic regression model using the significant variables from each thematic logistic
 367 regression model.

Variables	OR	95%CI	p
Having financial difficulties			
No	1		
Yes	1.66	0.97-2.86	0.07
Being shy to ask certain questions or to go through medical or administrative appointments			
No	1		
Yes	6.81	3.98-11.65	<0.001
Having received dental care in the past 3 years			
No	1		
Yes	0.87	0.49- 1.56	0.64
Having consulted the emergency ward in the past year			
No	1		
Yes	1.38	0.80- 2.40	0.25
Having a family physician			
No	1		
Yes	0.43	0.24-0.79	0.006
Having been refused health care by a doctor in French Guiana			
No	1		
Yes	3.08	1.43- 6.65	0.004
Never consulted	0.23	0.05- 1.19	0.08
Having documentation proving health insurance			
No	1		
Yes	0.61	0.30- 1.23	0.17
Understanding mail from the health insurance			
Yes	1		
No	2.05	0.60- 6.95	0.25
Never received	0.54	0.23- 1.25	0.15

368

369 **Additional file**

370 **File 1 – STROBE Statement**

371 Checklist of items that should be included in reports of cross-sectional studies.

372