SUPPLEMENTARY APPENDIX 1-STUDY PROTOCOL

Protocol Approved:
Action to promote organized cancer screening among people learning to read and write in Ain (ADOCPA01)

The Auvergne-Rhône-Alpes Regional Cancer Screening Coordination Center or Centre Régional de Coordination des Dépistages des Cancers Auvergne-Rhône-Alpes (CRCDC AuRA) has been commissioned by the French Ministry of Health to organize and implement screening programs for breast, colorectal and cervical cancer in the Auvergne-Rhône-Alpes region, in accordance with specifications published in the Journal Officiel. The target groups for these programs are women and men aged 50 to 74 (immunological screening test for colorectal cancer), women aged 50 to 74 (screening mammography) and women aged 25 to 65 (screening smear or HPV test, depending on age). A screening promotion strategy has been put in place to increase the number of screening examinations carried out in areas with the lowest participation rates, and to work in partnership (medical, social, associative, institutional) to reduce inequalities in access for the most vulnerable groups.

As part of this study, facilitators contacted all the structures (social and sociocultural centers[1] , association) offering sociolinguistic workshops in the Ain department to propose health education sessions aimed at illiterate or illiterate people. This article presents the results of health education workshops conducted in nine structures (seven social and sociocultural centers and two associations) between January 2019 and March 2020.The structures participating in the study had a territory of action that covered five communities of communes located in the south and north-east of the Ain department Appendix 1 presents the socio-demographic, economic and educational typology of households living in these communities. Based on a review of the literature on evidence-based actions that have an effect on behavior change in the face of cancer and cancer screening, employees designed health education sessions in line with health literacy criteria and inspired by the Health Belief Model . The objectives of these sessions were to increase the level of knowledge about health, cancers and screening; to rectify erroneous representations about cancer; to increase the feeling of self-efficacy and autonomy in the face of cancer and cancer screening; to increase the uptake of cancer screening; to analyze changes in knowledge, social and cultural representations and the feeling of self-efficacy in the face of cancer and cancer screening among a population in illiterate or illiterate situations. A pilot study carried out in 2017 in the same department defined the average number of health education sessions at 8 (between 5 and 10), depending on the level of understanding of the groups formed. These eight sessions are referred to in this article as the "intervention", and Table 1 provides a description and objectives for each session. Sessions lasted between 1.5 and 2 hours, ensuring a satisfactory and efficient exchange between participants and the facilitator. The participating structures w e r e the place where the intervention was carried out and all the data collected.

[1] These centers are centers of initiative driven by residents and supported by professionals, capable of defining and implementing a social development project for the entire population of a given area (sources https://www.centres-sociaux.fr/qui-sommes-nous/). Centers sociaux et socioculturels make listening to and meeting local residents, as well as observing and methodically collecting data, the tools of their analyses, thus contributing to the elaboration of concerted territorial diagnoses. These centers do not act alone; they know the other associative, administrative, political or economic players in their project area. In this way, they forge the relationships necessary for the actions to be carried out.

data. For the purposes of this study, we contacted all 14 structures in the Ain department that organized sociolinguistic workshops for all audiences except asylum seekers. Appendix 2 shows the geographical location of these structures in the department. Following this request, nine of the 14 structures agreed to take part in the study. Participation in the study by the structures and individuals did not entitle them to remuneration or any other form of benefit. Participation was voluntary and subject to registration. The team had a background in public health, health management, social psychology and psychology.
in the health sector. Members' academic degrees ranged from master's to doctorate (MSc, MPh, PhD and MD).

Before the intervention began, the facilitators (Masters and PhD) presented the study to the head of the sociolinguistic workshops, and with their help, whenever possible, formed homogeneous groups (groups with the same linguistic profile) to carry out the intervention We were thus able to form 12 homogeneous groups out of the 17 that benefited from the intervention. The intervention was systematically offered to all participants in the sociolinguistic workshops. Table 2 shows the main characteristics of our study population. The two animators carried out all the interventions, and the same animator carried out the entire intervention in each of his groups. The sociolinguistic workshop leaders from the different facilities took part in the intervention as observers.
The intervention scheme and number of sessions had been tested in 2017 during the pilot study. In addition to the "pre-intervention questionnaire" and the "post-intervention questionnaire", we used the free association method to ask participants what a word evoked in them:
"cancer", "screening"... In this approach, the facilitator gave a simple instruction: "*What do you think of when I say cancer?*" and noted all the participants' answers. The brainstorming method was also used by the facilitators to carry out a rapid end-of-session evaluation. The aim was to collect the elements retained by the participants and thus observe the acquisition of new knowledge during the sessions. The intervention was followed by a single, semi-directive, individual interview conducted in French. However, depending on the language skills of the facilitator, some questions were translated to ensure that they were properly understood. During the interview, the facilitators made an audio recording to collect the data. During the interviews, the participants addressed questions concerning: 1/the acquisition of new knowledge; 2/the participants' feelings during and following the interventions; 3/the ability to provide information on cancers and screening, and to help those around them to undergo screening examinations; 4/the participants' intention to undergo cancer screening examinations; 5/the quality of the interventions and modifications to be made to them. The interviews and their transcriptions were carried out by the facilitator who carried out the intervention. The transcripts were not validated by the participants. For the purposes of this work, it was decided not to define a saturation threshold for data collection, and thus to give the floor to everyone available during the interview slots.

Table 1: Presentation grid for health education sessions

Session	Session name	Session objectives	Operational objectives
a	Presentation of the speakers and the intervention.	- Introducing the facilitator and health education sessions. - Pre-intervention evaluation questionnaire*.	- Build trust between the facilitator and participants. - Informing participants about the study and obtaining their non-opposition. - Gather information on participants' profiles (identity, age, gender, idiom/origin, level of education, level of French comprehension, level of French expression, linguistic profile, telephone, neighborhood and commune of residence). - Distribution of the health education session presentation binder. - Pre-intervention evaluation questionnaire assessing participants' knowledge and sense of self-efficacy prior to the intervention. the intervention. 11 questions including: 2 on knowledge of cancers, 3 on the ability to make medical appointments, to visit one's GP or a healthcare professional involved in cancer screening programs, and 6 on cancer screening methods and examinations.
b	Healthcare professionals.	- Acquire knowledge about health and its determinants. - Acquire new individual health skills.	- Know the functions of body parts. - Know the health specialists for each body part. - Understand the central role of the primary care physician and the importance of the coordinated care. - Offering resources to people without GPs. - Introduce cancer screening by naming and locating the different parts of the body involved (colon - breast - skin - uterus).
c	Risk factors and representations of cancer.	Acquire knowledge about health and its determinants.	- Enable participants to express themselves and exchange views on the theme cancer. - Bring out the representations associated with cancer. - Answering questions and deconstructing misconceptions. - Inform about cancer risk factors.

d, e and f	Information on organized screening for breast, colorectal and cervical cancer - Section 1.	- Acquire knowledge about health and its determinants. - Acquire new individual health skills. - Influencing behavior. - Learn about prevention and lifestyle resources. - Helping you make a decision. - Influencing behavior.	- Share and learn about the female reproductive system, its function and cervical cancer. - Exchange and share knowledge about cervical cancer screening the uterus. - Discuss cervico-vaginal smear tests (obstacles, why, how?). - The role of midwives, GPs, gynecologists and other health professionals in screening. - Learn about and discuss breast cancer screening. - Learn about and discuss colorectal cancer screening. - Remind people how to take advantage of these screenings. - Reminder of exclusion criteria for organized breast cancer screenings and colorectal cancer. - Practical implementation of the colorectal cancer screening test.
g	Information on organized screening for breast, colorectal and cervical cancer - Section 2.	- Knowledge of prevention resources. - Helping you make a decision. - Acquire new individual health skills. - Influencing behavior.	- Deciphering the screening invitation letter for each cancer. - Discuss invitation letters. - Criteria for exclusion from the screening program for each cancer. - How to obtain the invitation letter to participate in cervical cancer screening.

h	Assessment of the intervention	- Qualitative assessment of intervention. - Post-intervention evaluation questionnaire*.	- Review key messages from previous sessions. - Invitation letters sent to the women concerned. - Completion of a post-intervention evaluation questionnaire that assessed the participants' knowledge and sense of self-efficacy following the intervention. 18 questions, including 11 from the pre-intervention questionnaire and 7 questions about the benefits of screening and invitation letters.

* The pre- and post-intervention questionnaires consisted of text and illustrations. ***Optional, depending on the needs and audience of each group.*

Table 2: Description of the main characteristics of the study population

Age		**Gender**		**Language profile**	
Less than 25	8	Female	164	ACC	34
years 25 to 49	97	Male	11	AELE	48
years	67			ASL	21
50 to 74 Over 74	3			Mixed	70
				Missing	2
Schooling		**Level of French comprehension**		**Level of expression in French**	
Not in school	28	Low	17	Low	32
Primary	53	Medium	46	Good	37
Secondary	56	Good A1	47	Medium	41
More than secondary	6	A2	9	A1	13
Other	5	B2	14	A2	10
Missing	27	Missing	3	B2	3
			39	Missing	39
Pre-intervention questionnaire		**Post-intervention questionnaire**		**Individual interviews**	
Yes	128	Yes	115	Yes	63
No	47	No	60	No	111

Home /Origin		**Structures**			
Africa Latin	85	Social and socio-cultural centers	161		
America	1	Resto du cœur	9		
Asia / Middle East Europe	36	Association Prévessin-Moëns que j'aime	5		
Missing	36				
	17				

Table 3: Sociodemographic, economic and educational typology of households by commune.

Population	CA Haut - Bugey Agglomération	CC de Miribel et du Plateau	CC de la Plaine de l'Ain	CA du Pays de Gex	CC de la Côtière in Montluel	France Métropole
Population in 2017	**63236**	**23839**	**77644**	**95070**	**24847**	**64 639 133**
Population density (number of inhabitants per km²) in 2017	91,8	363,6	109,1	234,8	1 94,9	118,8
Number of households in 2017	26 714	9 392	32 837	40 350	9 316	28 734 433
Sources: Insee, RP2012 and RP2017 main geographic surveys on 01/01/2020						
Housing	**CA Haut - Bugey Agglomeration**	**CC de Miribel and Plateau**	**CC de la Plaine de l'Ain**	**CA du Pays de Gex**	**CC de la Côtière in Montluel**	**France Metropole**
Total number of units in 2017	31 810	10 137	38 035	48 994	9 998	34 980 732
Percentage of households owning their main residence in 2017, in	52,2	66,6	63,9	55,9	66,1	57,6
Source: Insee, RP2017 principal exploitation in geography on 01/01/2020						
Revenue	**CA Haut - Bugey Agglomeration**	**CC de Miribel and Plateau**	**CC de la Plaine de l'Ain**	**CA du Pays de Gex**	**CC de la Côtière in Montluel**	**France Metropole**
Number of tax households in 2017	25 823	9 170	32 687	33 183	9 091	27 409 461
Percentage of tax households paying income tax in 2017	49,4	64,8	54,8	52,5	59,2	52,1
Median disposable income per consumption unit in 2017, in euros	19 920	25 310	22 260	34 520	23 220	21 110
Poverty rate in 2017, in	16,0	6,7	9,8	13,0	7,3	14,5
Warning : For reasons of statistical confidentiality, some indicators may not be available.						
Sources: Insee-DGFiP-Cnaf-Cnav-Ccmsa, Fichier localisé social et fiscal in geography at 01/01/2020						
Employment - Census unemployment	**CA Haut - Bugey Agglomeration**	**CC de Miribel and Plateau**	**CC de la Plaine de l'Ain**	**CA du Pays de Gex**	**CC de la Côtière in Montluel**	**France Metropole**
Total employment (salaried and non-salaried) at place of work in 2017	27 395	12 150	30 332	19 722	10 480	25 826 145
**of which salaried employment at place of work in 2017, in %.*	89,0	89,9	88,1	83,5	90,0	86,9
Change in total employment at place of work: average annual rate between 2012 and 2017, as a % of total	-0,9	0,3	1,6	1,6	0,4	0,0
Employment rate of 15 to 64 year-olds in 2017	75,1	76,4	78,3	81,3	79,8	74,1
Unemployment rate for 15 to 64 year-olds in 2017	13,7	9,2	10,5	10,0	8,2	13,4
Sources: Insee, RP2012 and RP2017 main geographic surveys on 01/01/2020						

CA: Community agglomeration; CC: Community commune; CAHB : CA Haut - Bugey Agglomération (42 communes including Arbent, Bellignat, Nantua, Oyonnax); CC de Miribel et du Plateau (6 communes including Miribel); CC de la Plaine de l'Ain (53 communes including Ambérieu-en-Bugey and Saint-Rambert-en-Bugey); CA du Pays de Gex (27 communes including Prevessin Moens); CC de la Côtière à Montluel (9 Communes including Montluel).

Table 4: School enrollment and proportion of part-time employees

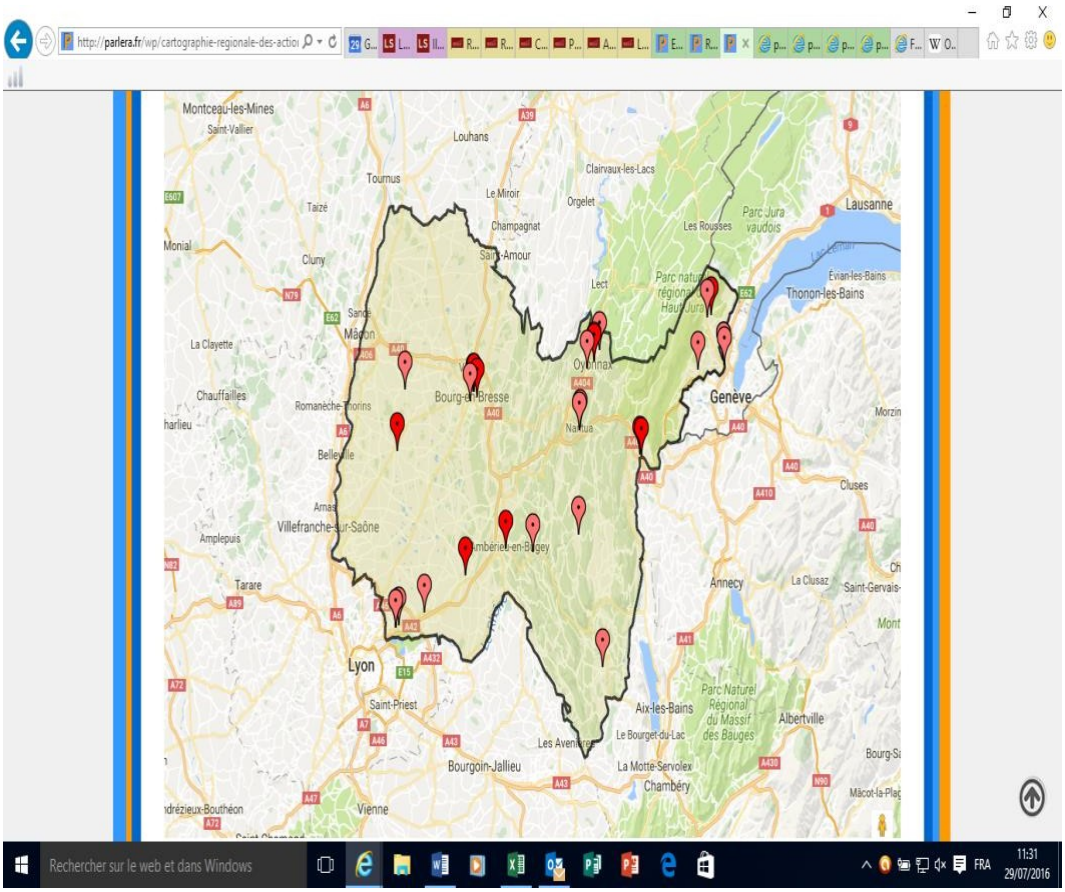
	School enrollment by age and gender, 2017*						Employees aged 15 to 64, by gender, age and part-time status in 2017**.				
		Total population	School population	Percentage of population with schooling				Men	of which % part-time	Women	of which % part-time
				Set	Men	Women					
CA Haut - Bugey Agglomeration	**25 to 29 years old**	3 300	114	3,5	3,2	3,8	**25 to 54 years**	8 788	3,7	8 114	21,3
	30 years or more	40 474	317	0,8	0,7	0,8	**55 to 64 years**	1 753	9,3	1 620	27,3
CC de Miribel et du Plateau	**25 to 29 years old**	599	24	4,0	4,6	3,4	**25 to 54 years**	1 483	3,7	1 515	23,6
	30 years or more	6 144	40	0,6	0,7	0,6	**55 to 64 years**	240	5,2	244	28,5
CC de la Plaine de l'Ain	**25 to 29 years old**	4 472	115	2,6	1,9	3,2	**25 to 54 years**	12 175	3,2	11 447	25,0
	30 years or more	48 923	299	0,6	0,5	0,8	**55 to 64 years**	1 800	8,7	2 159	31,0
Pays de Gex CA	**25 to 29 years old**	6 748	518	7,7	7,8	7,5	**25 to 54 years**	17 930	6,4	16 140	32,7
	30 years or more	58 342	1 058	1,8	1,6	2,0	**55 to 64 years**	2 581	8,8	2 272	38,3
CC de la Côtière in Montluel	**25 to 29 years old**	1 642	69	4,2	3,7	4,8	**25 to 54 years**	4 085	2,3	3 703	21,3
	30 years or more	14 717	114	0,8	0,7	0,9	**55 to 64 years**	631	7,4	688	29,6
France	**25 to 29 years**	3 762 208	310 058	8,2	7,9	8,6	**25 to 54**	8 603 767	5,5	8 620 215	25,0

Métropole	**old**						**years**			
	30 years or more	41 646 935	406 277	1,0	0,9	1,0	**55 to 64 years**	1 533 757	9,1	1 750 370	30,5

*Source: Insee, RP2017 main survey, geography on 01/01/2020.

**Source: Insee, RP2017 exploitation principal, geography on 01/01/2020.

Figure 1: Geographical location of structures in the Ain department



Source : http://parlera.fr/wp/cartographie-regionale-des-actions-2/map/