



Post-screening care of suspect breast lesions in a French cohort: studies of the determinants of quality and costs of care

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Breast cancer screening in France

- Modalities
 - National screening program generalized in 2004
 - Free of charge
 - Women at standard risk, 50-74
 - Clinical examination + mammogram, 2 incidences /breast
 - Every 2nd year
 - Private and public practice radiologists
 - Systematic 2nd reading for all Birad 1-2-3 mammograms
 - No direct connection to reference breast centers (pts referred to their GP)

Breast cancer screening in France

- Results

- Around 2.4 Mos Women/year = 52,1% participation
- 8% positive mammograms at 1st reading
- 1.3% positive mammograms at 2nd reading
- 6.3 cancers/1000 women screened
- 2nd reading accounts for 9% of all cancers
- 15% in situ
- among invasive cancers 36.5% < 10 mm, 75% N-
- 10-20% women are estimated to undergo individual screening

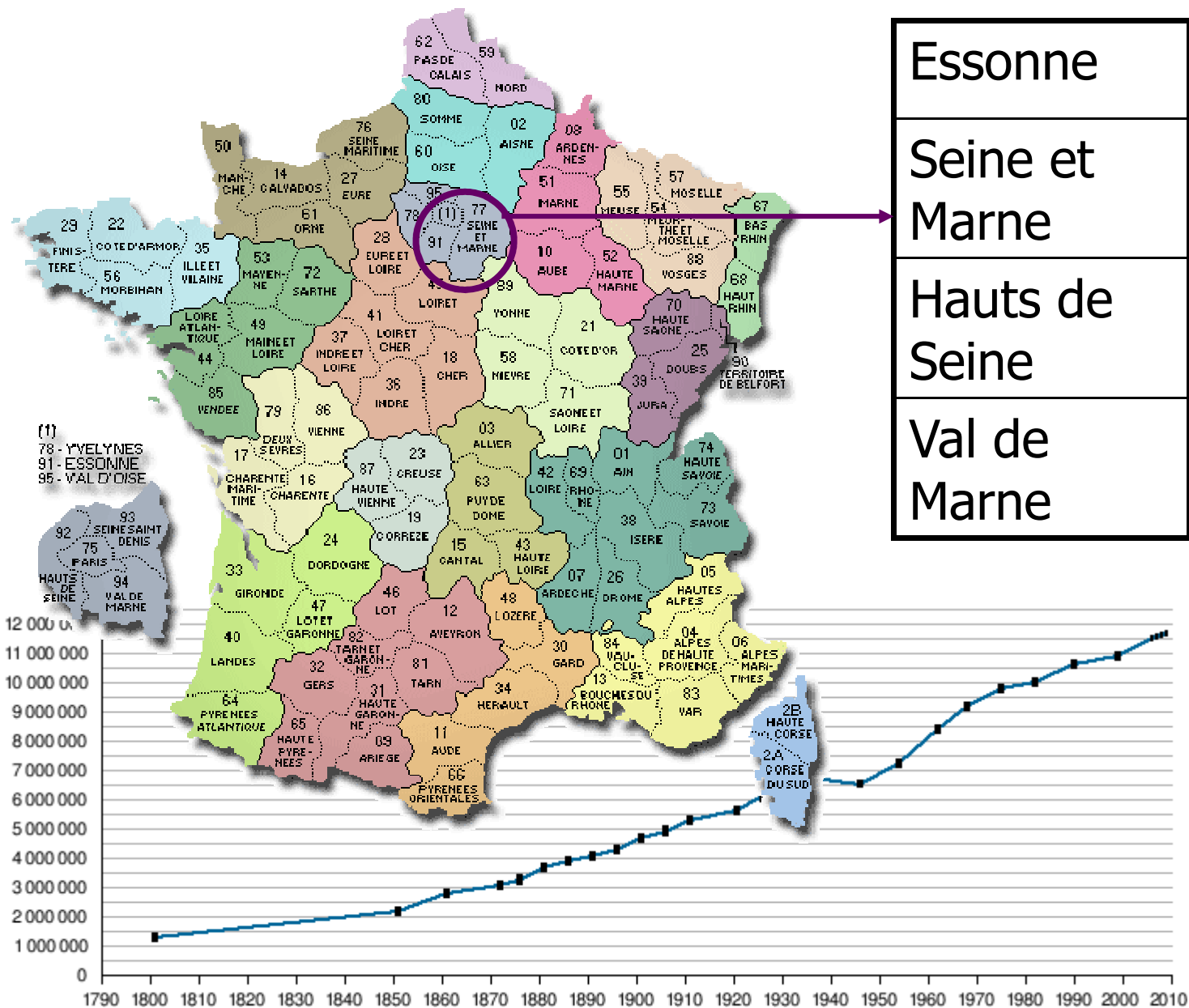
Breast cancer screening in France

- Participation to National screening program correlated to:
 - **Inequality indexes** (participation lower if inequality index higher)
 - **Density of gynecologists** (participation lower if more gynecologists)
 - **Age** (participation lower if less women 70-74)

Objectives of the study

- To describe the health care pathways of women with a positive mammogram in the South Pole of “Ile de France”, whether inside or outside national screening program
- Evaluate the factors that determine the quality and costs of care among these women during the diagnostic phase

French « Ile de France » population



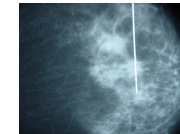
All women on the official lists of 4 national screening centers



Birad 4-5 at screening within the program

Breast biopsy outside screening program

**3107 women
1/07/08 - 30/06/09**



CRISAPIF



3107 questionnaires sent

**1053 women answered (34%)
788 (75%) OK for transmission of their data from health insurance**

Data sent to screening centers

Anonymous nbr



Analyses



Response rate

N (%)	National Screening	Outside National Screening	Total
Seine et Marne	215 (29%)	88(34%)	303(30%)
Essonne	119 (49%)	97(31%)	216 (39%)
Haut de Seine	175(33%)	109 (32%)	284 (33%)
Val de Marne	177(38%)	77 (35%)	250 (37%)
Total	689 (35%)	367 (32%)	1053

Response rate linked to age (p=0.001) and sub-areas (p=0.001)

Predictors of women's acceptance of data collection

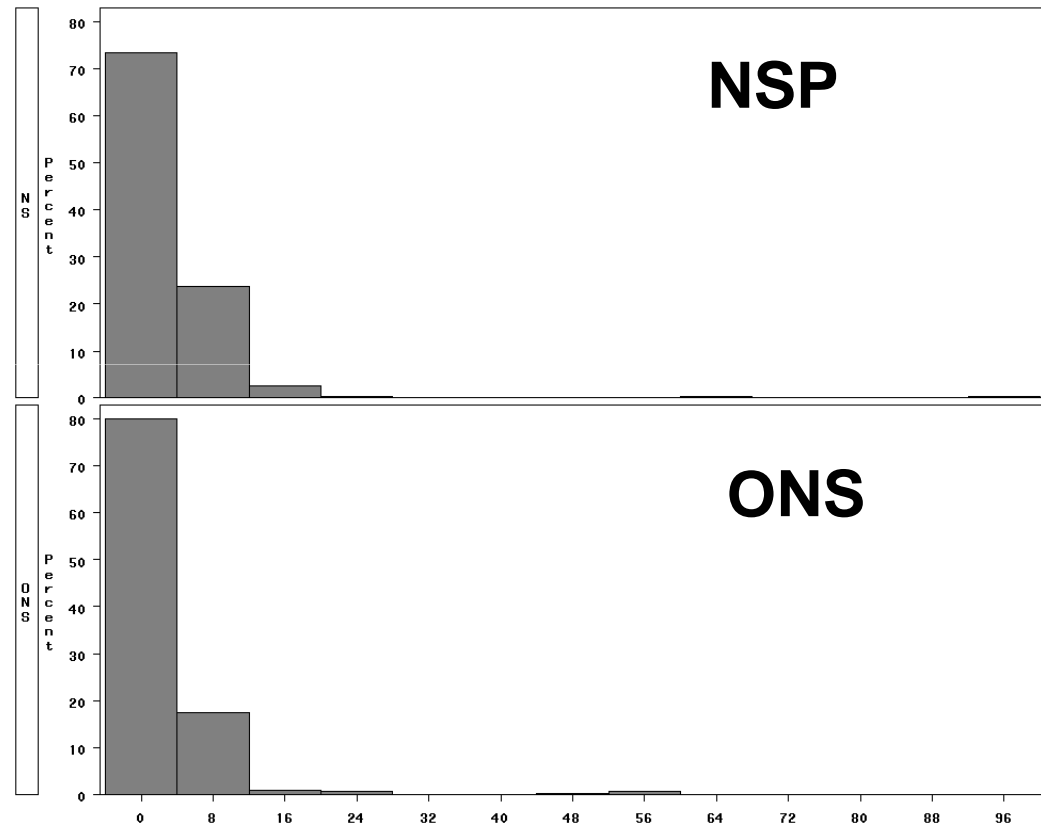
	Non adjusted OR [IC 95%]	Adjusted OR [IC 95%]
Screening progr OSP vs SP	2.37 [1.71 ; 3.28]	2.11 [1.50 ; 2.99]
Education level ≥ Graduated vs undergraduate	2.02 [1.50 ; 2.71]	1.88 [1.38 ; 2.54]
Areas 77 vs 94	0.75 [0.52 ; 1.09]	0.79 [0.53 ; 1.19]
91 vs 94	1.53 [0.98 ; 2.40]	1.50 [0.93 ; 2.42]
92 vs 94	1.05 [0.71 ; 1.56]	0.93 [0.62 ; 1.40]

Women's characteristics

	NSP N=686 (62%)	OSP N=387 (38%)	p
Age (<i>average</i>)	63 [7]	61[7]	0.002
Professional status :			
Active	229 (34)	158 (43)	0.002
Non active	454 (66)	208 (57)	
Marital status :			0.009
In couple	425 (62)	257 (70)	
Not in couple	261 (38)	110 (30)	
Education :			<.0001
undergraduate	368 (58)	152 (42)	
≥ graduated	283 (42)	267 (58)	
Average number of children (SD)	2 (1)	2 (1)	0.37
Family history of breast cancer	213 (32)	134 (38)	0.06
First lesion or not	540 (81)	264 (73)	<0.001
Menopause	623 (91)	343 (94)	0.11
Average age at menopause (years)	50 [6]	50 [5]	0.60

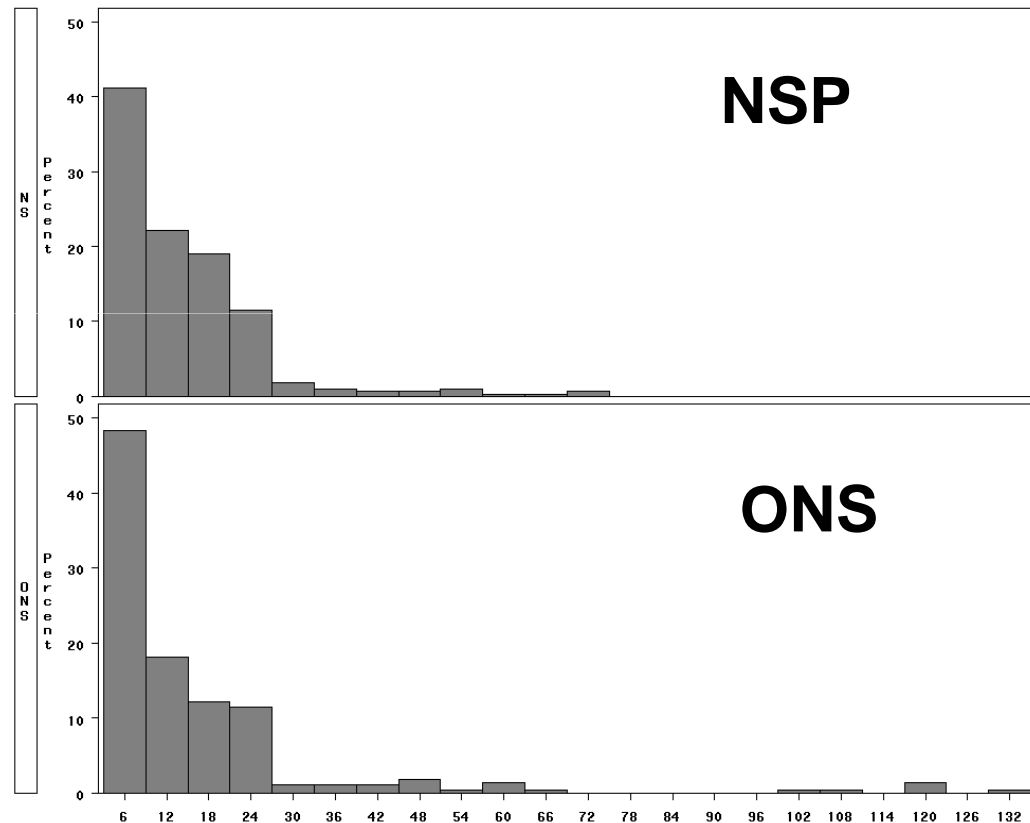
Time interval mammogram-biopsy

- The median interval between mammogram and biopsy was **2 weeks** [interquartile range 1, 3] (N = 813)
- Different among NSP vs ONS ($p < 0.001$: Wilcoxon test): **3.25 weeks vs. 2.92 weeks**



Time interval mammogram-treatment (in case of cancer)

- The median interval between mammogram and treatment was **13 weeks** [interquartile range 8,17] (N = 560)
- Different among NSP vs ONS ($p < 0.001$: Wilcoxon test)



Predictors of time intervals

- Longer treatment interval (>13 weeks) were statistically associated with:
 - age over 60 years (OR 1.4 CI [1.0; 2.0])
 - undergraduation (OR 1.8, CI [1.3 2.5])
- No difference according to:
 - Couple vs single (OR 1.10, [0.79; 1.55])
 - Family history of breast cancer (OR 1.19, CI [0.85; 1.68]).

Satisfaction among women with final diagnosis of cancer (67%)

"very satisfied" or "somewhat satisfied"

	SP (n=686)	OSP (n=387)	Total (n=1057)	p
The way you announced your diagnosis	344 (87)	263 (82)	607(85)	0.068
The information at this time	346 (89)	259 (82)	605 (86)	0.006
Your overall medical care	380 (98)	289 (93)	669(96)	0.001
Coordination of care	374 (96)	283 (90)	657(93)	0.001
Your psychological care: n (%)	229 (76)	175 (70)	704 (74)	0.11

Women's level of satisfaction with information received (among women with cancer)

"sufficient information"

	SP (n=686)	OSP (n=387)	Total (n=1057)	p
Disease	322 (85)	257 (83)	579(84)	0.32
Treatment	329 (89)	251 (83)	580(87)	0.02
Side effects	247 (73)	202 (70)	449(72)	0.49
Organization and management	332 (93)	269 (90)	601 (91)	0.16
Patients associations	118 (54)	118 (56)	236 (55)	0.59
The diagnosis	201(51)	151(47)	352(50)	0.32

Costs of care

- For women with benign diagnoses, the median costs of diagnostic procedures from mammogram to diagnosis (included) is **953 € [436;1471]**
- For women with cancer, the median costs of diagnostic procedures from mammogram to treatment (not included) is **1687 € [1160;2214]**.

BENIGN COSTS	Sum reimbursed, 95% CI	Mean number of acts, 95% CI
Screening mammogram	66	1
- Biopsy	738 [244 ; 1232]	1.04 [0.98 ; 1.09]
-Microbiopsy	26 [16; 37]	0.32 [0.19;0.45]
-Macrobiopsy	264 [175;354]	0.42 [0.28;0.55]
-FNAC	2[1;3]	0.17 [0.07;0.27]
-Surgical biopsy	446 [-61;953]	0.13 [0.04;0.23]
US	5 [2;8]	0.19 [0.08;0.30]
MRI	4 [0;7]	0.08 [0.0;0.15]
GP	15[2;28]	0.96 [0.19;1.73]
Specialist	10 [6;13]	0.58 [0.39;0.78]
Sick leave (days)	72 [-73;218]	0.13 [-0.13;0.39]
Biology	13 [5;21]	3.47 [1.49;5.45]
Other	30 [22;43]	0.66 [0.41 ; 0.91]
Total	953 [436 ; 1471]	7.90 [5.12 ; 10.69]

CANCER COSTS	Sum reimbursed, 95% CI	Mean number of acts, 95% CI
Screening mammogram	66	1
- Biopsy	1106 [712;1500]	1.14 [1.07 ; 1.21]
-Microbiopsy	46 [35 ; 57]	0.50 [0.39;0.61]
-Macrobiopsy	81[36;126]	0.14 [0.06;0.22]
-FNAC	1 [0;2]	0.11 [0.04;0.17]
-Surgical biopsy	977 [572 ; 1382]	0.39 [0.29;0.50]
US	37 [32;42]	1.35 [1.20;1.51]
MRI	12[7;16]	0.23 [0.15;0.32]
GP	63[53;72]	3.09 [2.60;3.55]
Specialist	40[32;48]	2.20 [1.78;2.62]
Sick leave (days)	260 [-15;535]	1.45 [0.38;2.52]
Biology	72 [52;92]	14.65 [11.58;17.72]
Other	31 [24 ; 38]	0.71 [0.47 ; 0.92]
Total	1687 [1160 ; 2214]	25.85 [21.96 ; 29.55]

Summary and conclusions

- Characteristics of women OSP differ from those within SP (younger, more often active, more educated, more often in couple, had more often previous history, accepted more often transfer of their data)
- Time interval between mammogram and biopsy is short (2 weeks), while time to treatment in case of cancer is long (med 13 weeks)
- Shorter interval to treatment is linked to age and socio-economic status. It is also shorter among women OSP (subject to bias)

Summary and conclusions

- Women are overall very satisfied with their pathway of care. Women in SP are even more satisfied than women OSP.
- Diagnostic pathways are somehow heterogenous. Median costs of diagnosis for cancer are quite high (1687 €), and appear also elevated in case of benign disease (953 €)
- Determinants of costs are under evaluation

Thanks to:

**ALL WOMEN
who participated**



**GROUPE DE TRAVAIL
POLE SUD SENOLOGIE**



**Department of public Health and
Economics, IGR**

Florence Journeau

Julie Chevalier

Julia Bonastre

Ellen Benhamou

G rard de Pourville

ESSEC

ADOC Zahida Brixi

ADMC91 Agn s Bernoux, Hamou Ait
Hadad

ADK92 Sophie Dehe

ADC77 A Kaufmanis, Eliane Bernard

SMAMIF Marc Poissonnet, Dr

Mich le Serrechia, Dr Jean Ducos

CRISAPIF Xavier Sastre-Garau