



WASABY

Water and Soil contamination and Awareness on Breast cancer risk
in Young women

M4.4 Report

Report on WASABY Breast Cancer Incidence Database

WP 4: Roberto Lillini
30-04-2020



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Report on WASABY Breast Cancer Incidence Database

<i>Version</i>	<i>Author</i>	<i>Date</i>
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1. Background

According to the WASABY Data Collection Protocol, each participating Cancer Registry (CR) was required to provide information on breast cancer cases (coded as C50 according to the ICD-10) diagnosed during a specific ten-year period (to be defined separately for each participating CR, e.g. 2001-2010), together with age at diagnosis (or 5-year age groups), morphology and data on the place of residence at the time of diagnosis (exact x and y coordinates or Smallest geographic-administrative Unit [SU]).

About data storage, two alternative modalities were defined:

1. Data could be centrally stored at FONDAZIONE IRCCS ISTITUTO NAZIONALE DEI TUMORI and, only for the selected number of cancer registries involved in WP6 analyses, data will be shared with the ONKOLOSKI INSTITUT LJUBLJANA. Data were stored individually (but anonymously) and, if a CR sent breast cancer cases by SU, data were stored at aggregated level.
2. Only results of the analysis (performed by the CR) could be shared in the WASABY project. This was the compelled choice for the CRs which were not allowed to send their data, due to their specific regulation on information and privacy.

Regardless of the chosen modalities, data were not joined in a global database but, according to the rules stated in the Project, WASABY will use a specific database for each CR, formatted in the most similar fashion and analyzed by the same methods and techniques.

The following paragraphs of this report describe the characteristics of every sent database, according to the chosen modality.

2. Cancer Registries and chosen modality

Table 1 reports the list of the participating CRs, divided by nation of belonging and characteristics of the chosen modality of participation to WASABY.



Table 1 - Cancer Registry and chosen modality

Modality	Nation	Cancer Registry	Aggregation level	Geo-coding
1	Italy	Alto Adige	Individual data	Longitude X & Latitude Y coordinates
		Napoli	Individual data	Longitude X & Latitude Y coordinates
		Palermo	Individual data	Longitude X & Latitude Y coordinates
		Parma	Individual data	Census Tract
		Ragusa	Individual data	Longitude X & Latitude Y coordinates
		Siracusa	Individual data	Longitude X & Latitude Y coordinates
		Trapani	Individual data	Longitude X & Latitude Y coordinates
		Trento	Individual data	Longitude X & Latitude Y coordinates
		Umbria	Individual data	Census Tract
	Varese	Individual data	Longitude X & Latitude Y coordinates	
	Lithuania	Lithuania	Individual data	Eldership
	Portugal	Central Portugal	Individual data	Parish
		Northern Portugal	Individual data	Parish
	Spain	Basque Country	Aggregated data	Census Tract
		Castellon-Valencia	Individual data	Census Tract
		Girona	Individual data	Longitude X & Latitude Y coordinates
		Granada	Individual data	Longitude X & Latitude Y coordinates
Murcia		Individual data	Census Tract	
Navarra	Aggregated data	Census Tract		
2	France	Bas-Rhin	Only results of the analysis (performed by the CR) will be shared	
		Calvados		
		Cancers gynécologiques de Côte-d'Or		
		Doubs et Territoire de Belfort		
		Gironde		
		Haute Vienne		
		Haut-Rhin		
		Hérault		
		Isère		
		Lille et sa région		
		Loire-Atlantique et Vendée		
		Manche		
		Poitou-Charentes		
		Somme		
		Tarn		
	Guadeloupe			
	Martinique			
	Germany	Schleswig-Holstein		
	Poland	Greater Poland		
		Kielce		
Silesia				
Masovia				
Podkarpackie				
Slovenia	Slovenia			





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Northern Ireland Cancer Registry (UK) was not able to send own data, due to legal delay on Data Share Agreement preparation with the P.I. institution.

3. Characteristics of each database: modality 1

The following paragraphs report the characteristics of the database sent by the CRs and organized by WP4 personnel, according to the requests presented in the WASABY Data Collection Protocol.

3.1 Alto Adige Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2004 – 31/12/2013

Total number of 0-49 years old cases: 747

Patient ID: Yes

Date of Diagnosis: Yes

Date of Birth: Yes

Age: Yes

ICDO3 M: Yes

Subtype ER: Yes

Subtype PGR: Yes

Subtype HER2: Yes

Subtype KI67: Yes

Subtype FISH: Yes

X: Yes

Y: Yes

Reference: Yes

SU: Census Tract, computed by WP4

Municipality Code: Yes

Municipality: Yes

Population

Age class. Yes

Year: 2001 0-49 F Census

SU: Census Tract

Shapefile

.shp: 2001 Census Tract

.shx: 2001 Census Tract

.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version

SU: 2001 Census Tract

3.2 Napoli Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2008 – 31/12/2015

Total number of 0-49 years old cases: 1514

Patient ID: Yes

Date of Diagnosis: Yes

Date of Birth: Yes

Age: Yes

ICDO3 M: Yes

Subtype ER: Yes

Subtype PGR: Yes

Subtype HER2: Yes

Subtype KI67: Yes

Subtype FISH: Yes

X: Yes

Y: Yes

Reference: Yes

SU: Census Tract, computed by WP4

Municipality Code: re-coded by WP4

Municipality: re-coded by WP4

Population

Age class. Yes

Year: 2001 0-49 F Census

SU: Census Tract

Shapefile

.shp: 2001 Census Tract

.shx: 2001 Census Tract

.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version

SU: 2001 Census Tract





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3.3 Palermo Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2005 – 31/12/2014
Total number of 0-49 years old cases: 1914
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: No
Age: Yes
ICDO3 M: Yes
Subtype ER: No
Subtype PGR: No
Subtype HER2: No
Subtype KI67: Yes
Subtype FISH: No
X: Yes
Y: Yes
Reference: Yes
SU: Census Tract, computed by WP4
Municipality Code: Yes
Municipality: Yes

Population

Age class: Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version
SU: 2001 Census Tract

3.4 Parma Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2001 – 31/12/2010
Total number of 0-49 years old cases: 381
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: No
Age: Yes
ICDO3 M: Yes
Subtype ER: Yes
Subtype PGR: Yes
Subtype HER2: Yes
Subtype KI67: Yes
Subtype FISH: Yes
X: No
Y: No
Reference: No
SU: Census Tract
Municipality Code: re-coded by WP4
Municipality: re-coded by WP4

Population

Age class: Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version
SU: 2001 Census Tract





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3.5 Ragusa Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2001 – 31/12/2012
Total number of 0-49 years old cases: 515
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: No
Age: Yes
ICDO3 M: Yes
Subtype ER: Yes
Subtype PGR: Yes
Subtype HER2: Yes
Subtype KI67: Yes
Subtype FISH: Yes
X: Yes
Y: Yes
Reference: Yes
SU: Census Tract, computed by WP4
Municipality Code: Yes
Municipality: Yes

Population

Age class: Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version
SU: 2001 Census Tract

3.6 Siracusa Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2004 – 31/12/2013
Total number of 0-49 years old cases: 587
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: No
Age: Yes
ICDO3 M: Yes
Subtype ER: Yes
Subtype PGR: Yes
Subtype HER2: Yes
Subtype KI67: Yes
Subtype FISH: Yes
X: Yes
Y: Yes
Reference: Yes
SU: Census Tract, computed by WP4
Municipality Code: Yes
Municipality: Yes

Population

Age class: Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version
SU: 2001 Census Tract





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3.7 Trapani Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2002 – 31/12/2011
Total number of 0-49 years old cases: 574
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: Yes
Age: Yes
ICDO3 M: Yes
Subtype ER: Yes
Subtype PGR: Yes
Subtype HER2: Yes
Subtype KI67: Yes
Subtype FISH: Yes
X: Yes
Y: Yes
Reference: Yes
SU: Census Tract, computed by WP4
Municipality Code: Yes
Municipality: re-coded by WP4

Population

Age class. Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version
SU: 2001 Census Tract

3.8 Trento Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2003 – 31/12/2013
Total number of 0-49 years old cases: 946
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: Yes
Age: Yes
ICDO3 M: Yes
Subtype ER: No
Subtype PGR: No
Subtype HER2: No
Subtype KI67: No
Subtype FISH: No
X: Yes
Y: Yes
Reference: Yes
SU: Census Tract, computed by WP4
Municipality Code: re-coded by WP4
Municipality: re-coded by WP4

Population

Age class. Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version
SU: 2001 Census Tract





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3.9 Umbria Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2001 – 31/12/2013
Total number of 0-49 years old cases: 2008
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: Yes
Age: Yes
ICDO3 M: Yes
Subtype ER: Yes
Subtype PGR: Yes
Subtype HER2: Yes
Subtype KI67: Yes
Subtype FISH: Yes
X: No
Y: No
Reference: No
SU: Census Tract
Municipality Code: Yes
Municipality: re-coded by WP4

Population

Age class: Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version
SU: 2001 Census Tract

3.10 Varese Cancer Registry

Cases

Period of diagnosed incidence: 01/01/1996 – 31/12/2012
Total number of 0-49 years old cases: 2679
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: Yes
Age: Yes
ICDO3 M: Yes
Subtype ER: Yes
Subtype PGR: Yes
Subtype HER2: Yes
Subtype KI67: Yes
Subtype FISH: No
X: Yes
Y: Yes
Reference: Yes
SU: Census Tract
Municipality Code: Yes
Municipality: Yes

Population

Age class: Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Italian 2001 version
SU: 2001 Census Tract





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3.11 Lithuania Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2001 – 31/12/2012
Total number of 0-49 years old cases: 3797
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: Yes
Age: Yes
ICDO3 M: Yes
Subtype ER: Yes
Subtype PGR: Yes
Subtype HER2: Yes
Subtype KI67: No
Subtype FISH: No
X: No
Y: No
Reference: No
SU: Eldership
Municipality Code: No
Municipality: No

Population

Age class: Yes
Year: 2011 0-49 F Census
SU: Eldership

Shapefile

.shp: No
.shx: No
.dbf: No

Socio-Economic Index

EDI: Not available
SU: Not available

3.12 Central Portugal Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2001 – 31/12/2011
Total number of 0-49 years old cases: 3715
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: No
Age: Yes
ICDO3 M: Yes
Subtype ER: No
Subtype PGR: No
Subtype HER2: No
Subtype KI67: No
Subtype FISH: No
X: No
Y: No
Reference: No
SU: Parish
Municipality Code: No
Municipality: No

Population

Age class: Yes
Year: 2011 0-49 F Census
SU: Parish

Shapefile

.shp: 2011 Parish
.shx: 2011 Parish
.dbf: 2011 Parish

Socio-Economic Index

EDI: Portuguese 2011 vers.
SU: 2011 Parish





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3.13 Northern Portugal Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2003 – 31/12/2012
Total number of 0-49 years old cases: 5561
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: No
Age: Yes
ICDO3 M: Yes
Subtype ER: No
Subtype PGR: No
Subtype HER2: No
Subtype KI67: No
Subtype FISH: No
X: No
Y: No
Reference: No
SU: Parish
Municipality Code: No
Municipality: No

Population

Age class: Yes
Year: 2011 0-49 F Census
SU: Parish

Shapefile

.shp: 2011 Parish
.shx: 2011 Parish
.dbf: 2011 Parish

Socio-Economic Index

EDI: Portuguese 2011 vers.
SU: 2011 Parish

3.14 Basque Country Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2005 – 31/12/2014
Total number of 0-49 years old cases: 3512
Patient ID: No
Date of Diagnosis: Yes
Date of Birth: No
Age: Yes
ICDO3 M: Yes
Subtype ER: No
Subtype PGR: No
Subtype HER2: No
Subtype KI67: No
Subtype FISH: No
X: No
Y: No
Reference: No
SU: Census Tract
Municipality Code: No
Municipality: No

Population

Age class: Yes
Year: 2011 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2011 Census Tract
.shx: 2011 Census Tract
.dbf: 2011 Census Tract

Socio-Economic Index

DE: local index, 2011 vers.
SU: 2011 Census Tract





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3.15 Castellon-Valencia Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2004 – 31/12/2014
Total number of 0-49 years old cases: 936
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: No
Age: Yes
ICDO3 M: Yes
Subtype ER: Yes
Subtype PGR: Yes
Subtype HER2: Yes
Subtype KI67: Yes
Subtype FISH: Yes
X: No
Y: No
Reference: No
SU: Census Tract
Municipality Code: No
Municipality: re-coded No

Population

Age class. Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Spanish 2001 version
SU: 2001 Census Tract

3.16 Girona Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2001 – 31/12/2010
Total number of 0-49 years old cases: 903
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: Yes
Age: Yes
ICDO3 M: Yes
Subtype ER: Yes
Subtype PGR: Yes
Subtype HER2: Yes
Subtype KI67: Yes
Subtype FISH: Yes
X: Yes
Y: Yes
Reference: No
SU: Census Tract
Municipality Code: Yes
Municipality: re-coded by WP4

Population

Age class. Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Spanish 2001 version
SU: 2001 Census Tract





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3.17 Granada Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2004 – 31/12/2013
Total number of 0-49 years old cases: 1253
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: Yes
Age: Yes
ICDO3 M: Yes
Subtype ER: No
Subtype PGR: No
Subtype HER2: No
Subtype KI67: No
Subtype FISH: No
X: Yes
Y: Yes
Reference: Yes
SU: Census Tract, computed by WP4
Municipality Code: No
Municipality: No

Population

Age class. Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Spanish 2001 version
SU: 2001 Census Tract

3.18 Murcia Cancer Registry

Cases

Period of diagnosed incidence: 01/01/1996 – 31/12/2012
Total number of 0-49 years old cases: 2813
Patient ID: Yes
Date of Diagnosis: Yes
Date of Birth: No
Age: Yes
ICDO3 M: Yes
Subtype ER: No
Subtype PGR: No
Subtype HER2: No
Subtype KI67: No
Subtype FISH: No
X: No
Y: No
Reference: No
SU: Census Tract
Municipality Code: Yes
Municipality: Yes

Population

Age class. Yes
Year: 2001 0-49 F Census
SU: Census Tract

Shapefile

.shp: 2001 Census Tract
.shx: 2001 Census Tract
.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Spanish 2001 version
SU: 2001 Census Tract





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3.19 Navarra Cancer Registry

Cases

Period of diagnosed incidence: 01/01/2004 – 31/12/2013

Total number of 0-49 years old cases: 1057

Patient ID: No

Date of Diagnosis: Yes

Date of Birth: No

Age: Yes

ICDO3 M: Yes

Subtype ER: No

Subtype PGR: No

Subtype HER2: No

Subtype KI67: No

Subtype FISH: No

X: No

Y: No

Reference: No

SU: Census Tract

Municipality Code: Yes

Municipality: No

Population

Age class: Yes

Year: 2001 0-49 F Census

SU: Census Tract

Shapefile

.shp: 2001 Census Tract

.shx: 2001 Census Tract

.dbf: 2001 Census Tract

Socio-Economic Index

EDI: Spanish 2001 version

SU: 2001 Census Tract





4. Characteristics of each database: modality 2

French, German, Polish and Slovenian CRs chose this option; therefore they didn't send the data but they will share the results of the analyses.

Table 2 reports a synthesis of the two main information about the available data in their databases for the WASABY Project.

Table 2 – Number of cases and covered incidence time period for the Modality 2 CRs.

Nation	Cancer Registry	Year of diagnosis	Number of cases
France	Bas-Rhin	2006-2013	1654
	Calvados	2006-2015	1285
	Cancers gynécologiques de Côte-d'Or	2006-2015	891
	Doubs et Territoire de Belfort	2006-2015	840
	Gironde	2008-2015	2308
	Haute Vienne	2009-2015	477
	Haut-Rhin	2006-2015	1253
	Hérault	2006-2015	2075
	Isère	2006-2015	2223
	Lille et sa région	2008-2015	1286
	Loire-Atlantique et Vendée	2006-2015	3621
	Manche	2006-2015	831
	Poitou-Charentes	2008-2015	2513
	Somme	2006-2015	1018
	Tarn	2006-2015	672
	Guadeloupe	2006-2015	n.a.
Martinique	2006-2015	n.a.	
Germany	Schleswig-Holstein	2001-2016	8013
Poland	Greater Poland	2007-2016	3358
	Kielce	2007-2016	915
	Silesia	2007-2016	3651
	Masovia	2007-2016	4323
	Podkarpackie	2007-2016	1392
Slovenia	Slovenia	2006-2015	2464

Guadeoupe and Martinica CRs were not able to confirm the number of cases.

5. Conclusion

At this time of the study, the aims tied to the composition of a relevant series of databases seems to be almost reached.

All the participating nations are well represented by their CRs and by the number of cases: 82475 young women (0-49 years old), affected by breast cancer incidence.

About the period of incidence, Table 3 resumes the period covered by every CR.

Currently, two issues should be still solved in this specific task:

- Lithuania has not yet been able to provide a reliable shapefile and a deprivation index to allow the spatial analysis;
- A valid Data Share Agreement has to be redacted between Northern Ireland Cancer Registry and Fondazione IRCCS “Istituto Nazionale dei Tumori”, in order to allow the usage of the data in this study.

Their solution should allow the perfect reaching of all the aims for this task.



Table 3 – Incidence period covered by every CR in the WASABY Project.

Nation	Cancer Registry	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
France	Bas-Rhin																							
	Calvados																							
	Cancers gyn. de Côte-d'Or																							
	Doubs et Territoire de Belfort																							
	Gironde																							
	Haute Vienne																							
	Haut-Rhin																							
	Hérault																							
	Isère																							
	Lille et sa région																							
	Loire-Atlantique et Vendée																							
	Manche																							
	Poitou-Charentes																							
	Somme																							
	Tarn																							
	Guadeloupe																							
Martinique																								
Germany	Schleswig-Holstein																							
Italy	Alto Adige																							
	Napoli																							
	Palermo																							
	Parma																							
	Ragusa																							
	Siracusa																							
	Trapani																							
	Trento																							
	Umbria																							
	Varese																							
Lithuania	Lithuania																							
Poland	Greater Poland																							
	Kielce																							
	Silesia																							
	Masovia																							
	Podkarpackie																							
Portugal	Central Portugal																							
	Northern Portugal																							
Slovenia	Slovenia																							
Spain	Basque Country																							
	Castellon-Valencia																							
	Girona																							
	Granada																							
	Murcia																							
	Navarra																							