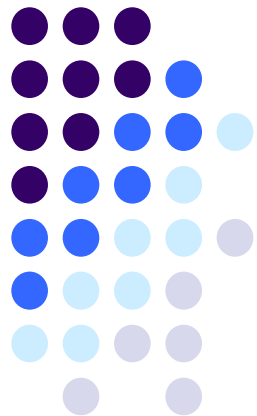
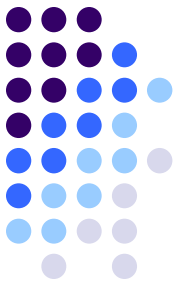

Differences in the Identification of New and Emerging Technologies: Analysis of the EuroScan Database

Authors:

Nora Ibargoyen-Roteta, Iñaki Gutiérrez-Ibarluzea, Gaizka Benguria-Arrate, Lorea Galnares-Cordero, **José Asua.**

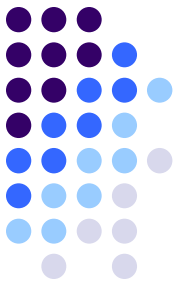


INTRODUCTION



- **EuroScan** collaboration: almost **10 years ago**
- **14 members** in May 2008
- **Database** with technologies identified since 2000
- Each **three months**:
 - ✓ **Statistics** on the **number** of **introduced** technologies (also by agency)
 - ✓ Added **information** on **most visited public information** on a technology
 - ✓ **Statistics of use** of the database

OBJECTIVE

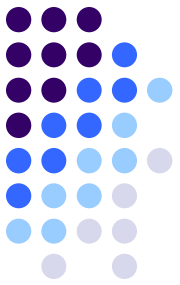


Main objective:

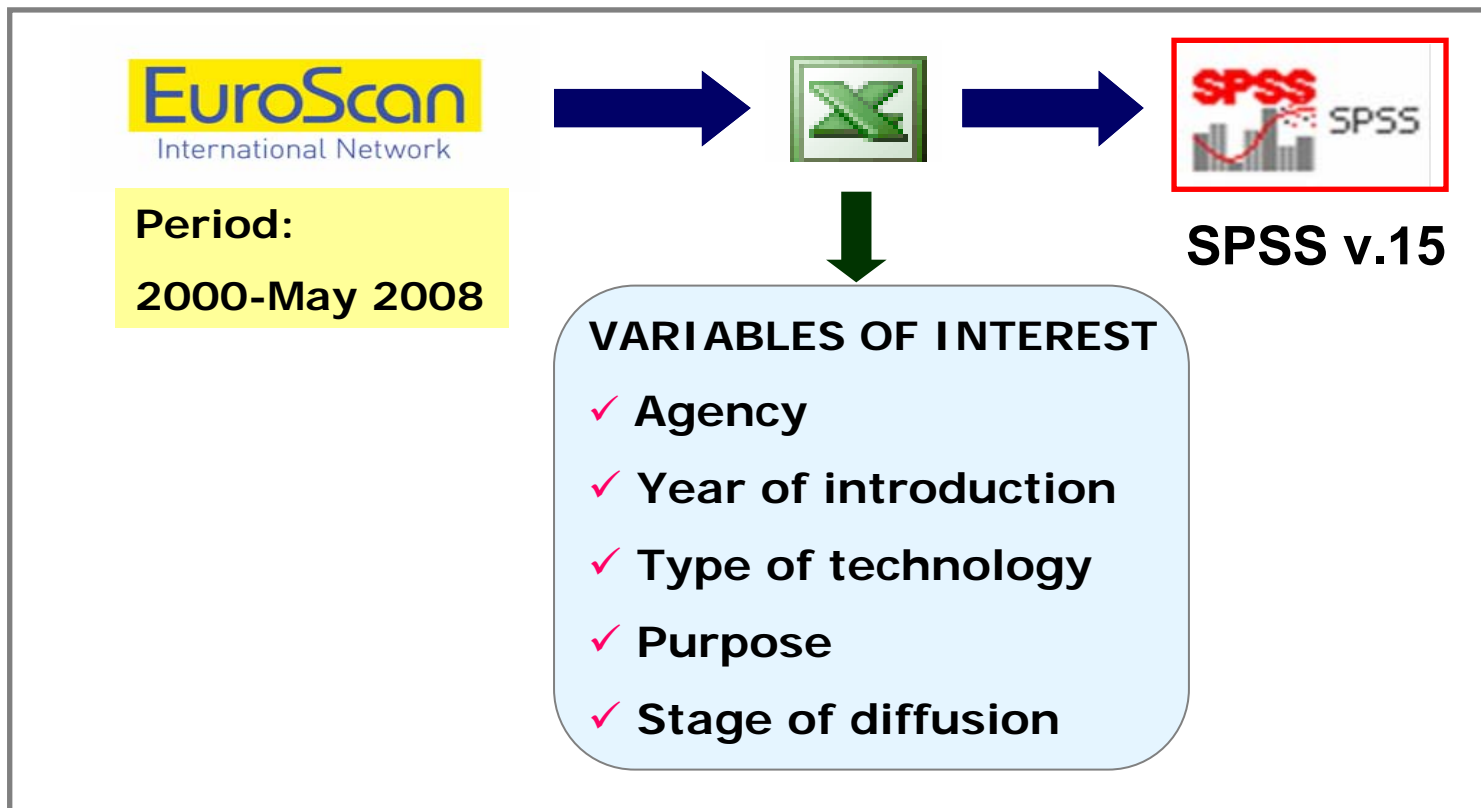
To analyse the EuroScan database:

- Describe and compare the **characteristics** of the included **technologies**
- Describe the **differences among agencies**

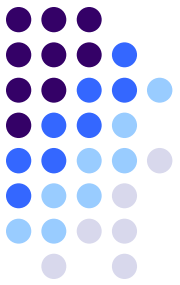
METHODOLOGY (I)



SPSS DATABASE CREATION



METHODOLOGY (II)

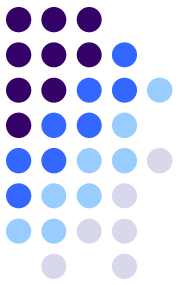


ANALYSIS OF DATA

- ✓ Year/Agency/Technology type/DiffussionStage/
Purpose
- ✓ Stage of diffusion depending on:
 - Technology type
 - Purpose

} → **Goodness
of fit tests**
- ✓ Differences among agencies depending on:
 - Type of technology
 - Stage of diffusion

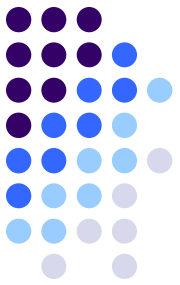
RESULTS (I)



- 1.129 technologies included in that period of time

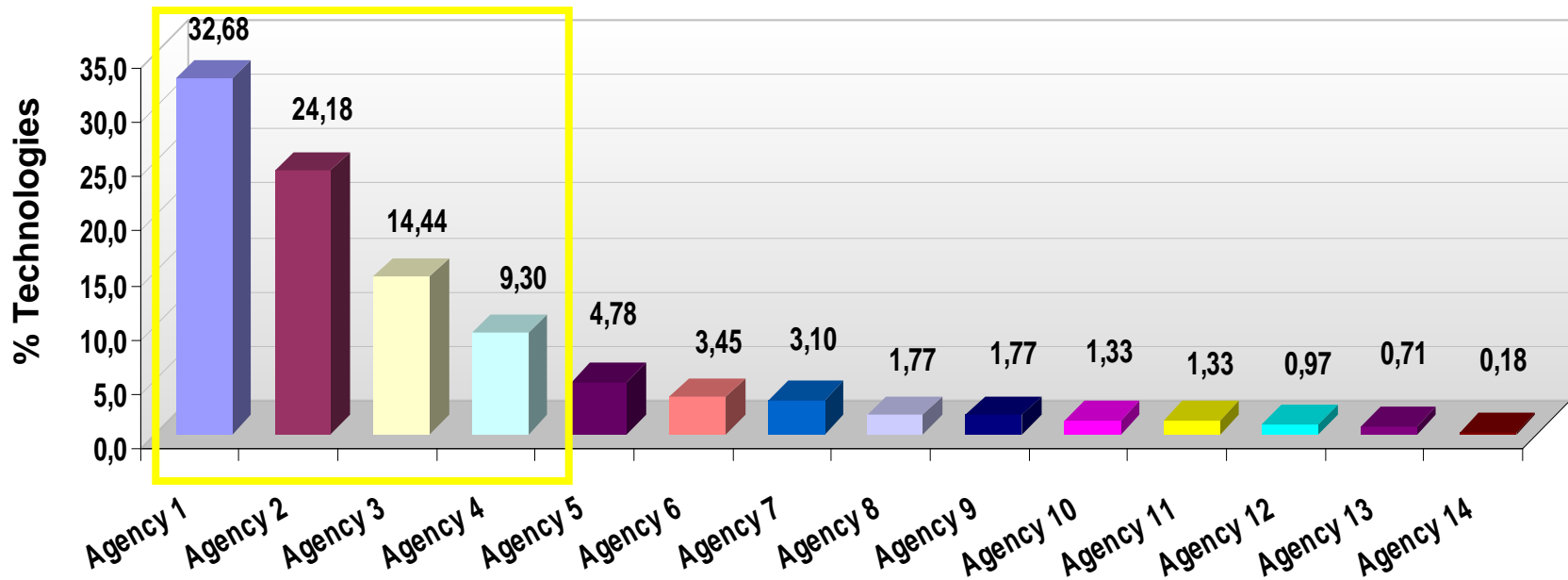
Technologies introduced by YEAR			
	n	%	Cumulated %
2000	6	0.53	0.53
2001	103	9.12	9.65
2002	131	11.60	21.26
2003	166	14.70	35.96
2004	84	7.44	43.40
2005	165	14.61	58.02
2006	190	16.83	74.84
2007	234	20.73	95.57
May 2008	50	4.43	100
Total	1,129	100	

RESULTS (II)



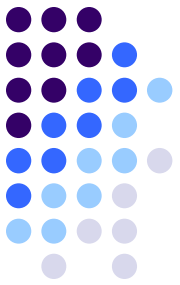
- 14 agencies introduced data in the studied period

% of technologies introduced by Agency



Four agencies introduced the 80% of total technologies

RESULTS (III)

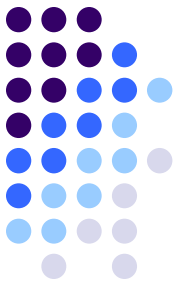


TYPE OF TECHNOLOGY		
	n	%
Device	225	19.93
Diagnostics	105	9.30
Drug	504	44.64
Procedure	132	11.69
Programme	28	2.48
Setting	1	0.09
Combination	50	4.43
Other	36	3.19
Missing	48	4.25
Total	1,129	100

20% are devices

Almost the 50% are drugs

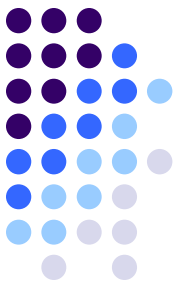
RESULTS (IV)



DIFFUSION STAGE		
	n	%
Investigational - phase I	1	0.09
Experimental - phase II	73	6.47
Investigational - phase III	369	32.68
Nearly established	231	20.46
Established	277	24.53
Other	107	9.48
Information not available	9	0.80
Missing	62	5.49
Total	1,129	100

80% identified among investigational phase and when the technology is established

RESULTS (V)

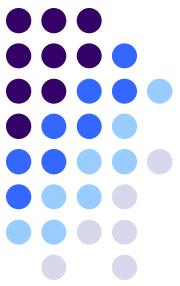


ASSIGNED PURPOSE		
	n	%
Additive and substitutive	199	17.63
Additive or complementary	312	27.64
Substitution technology	270	23.91
Other	39	3.45
Unknown/uncertain	33	2.93
Missing	276	24.45
Total	1,129	100

23.9% substitute existing ones

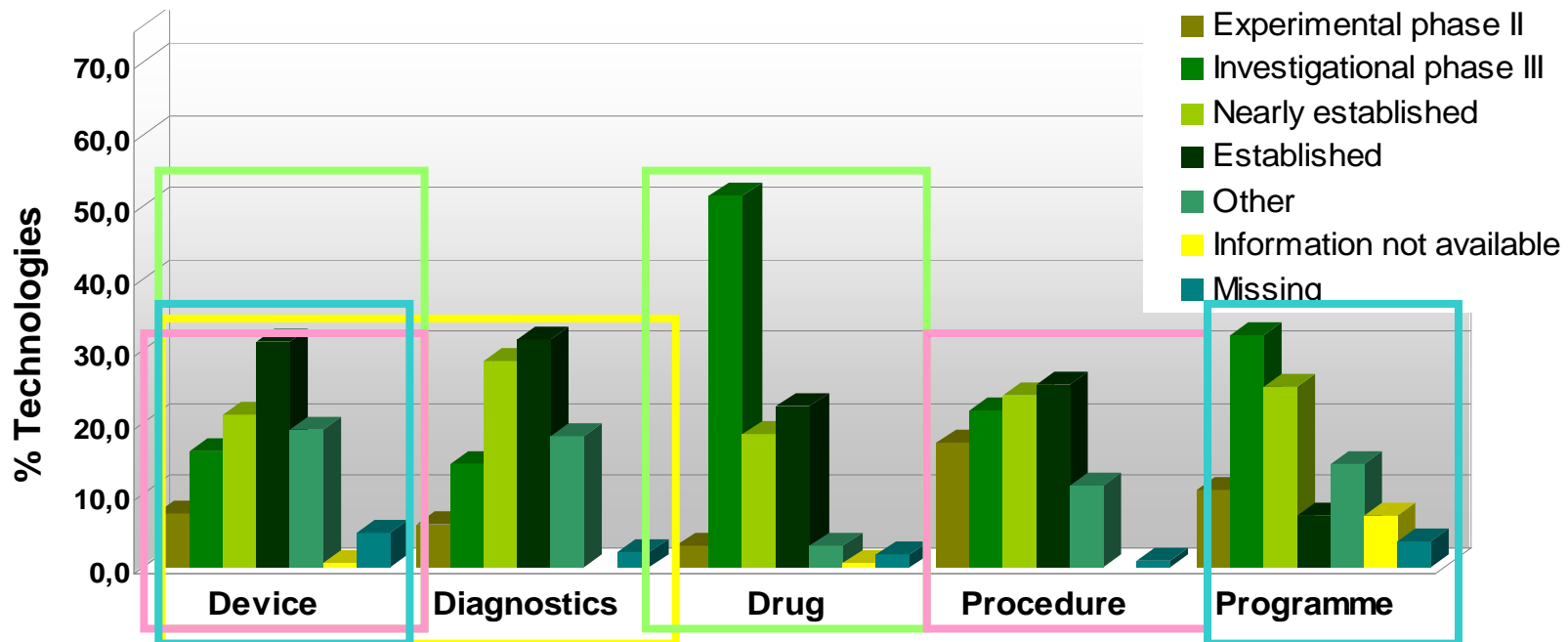
Didn't specify the purpose

RESULTS (VI)



- When are each type of technologies identified?

Diffusion stage profile for each type of technology



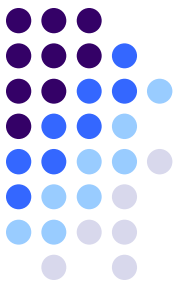
Devices VS Diagnostics: $p=0.543$

Devices VS Procedure: $p<0.001$

Devices VS Drugs: $p<0.001$

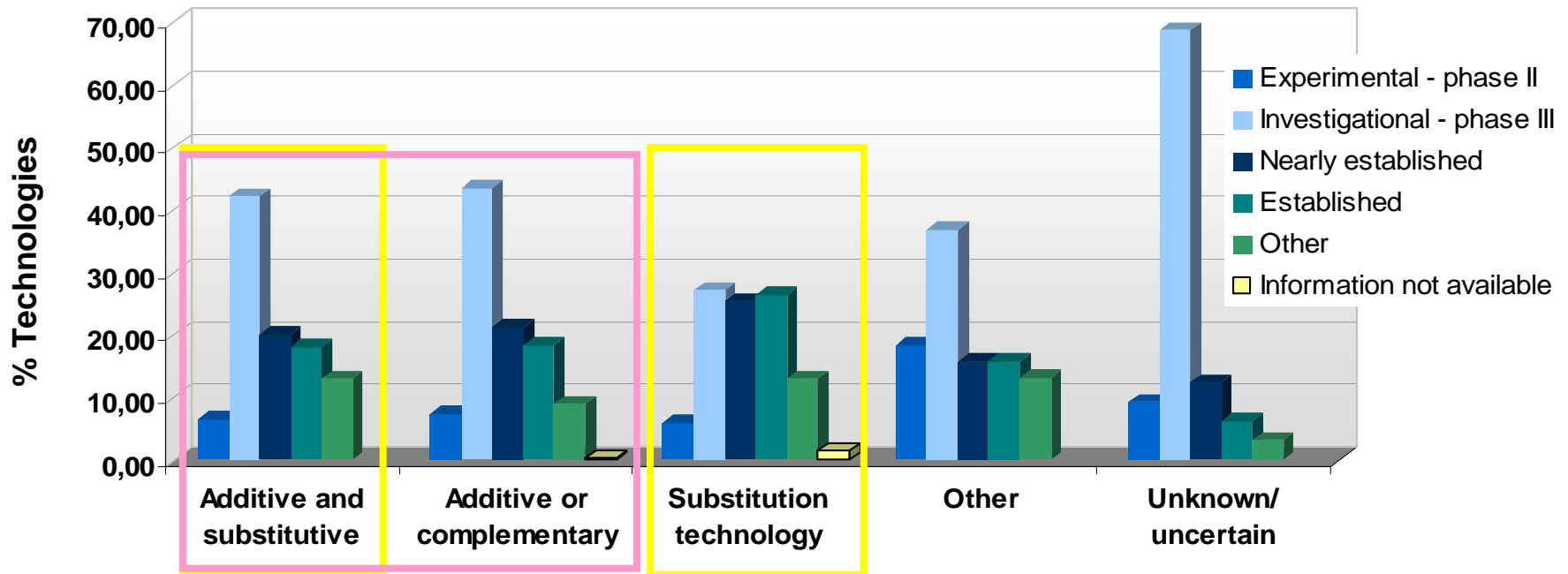
Devices VS Programme: $p<0.001$

RESULTS (VII)



- Are substitutive technologies identified earlier or later in comparison with other technologies?

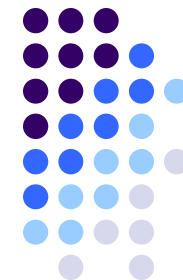
Diffusion stage profile depending on the assigned purpose



Additive and substitutive VS Additive and complementary: $p=0.599$

Additive and substitutive VS Substitutive: $p=0.091$

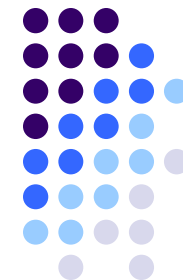
RESULTS (VIII)



- Differences among agencies depending on the stage of diffusion?

	STAGE OF DIFFUSION					Total n (%)
	Experimental-phase I-II n (%)	Investigational- phase III n (%)	Nearly established n (%)	Established n (%)	Other n (%)	
Agency 1	11 (3.0%)	255 (69.7%)	51 (13.9%)	16 (4.4%)	33 (9%)	366 (100%)
Agency 2	1 (0.4%)	16 (6,6%)	78 (32.2%)	142 (58.7%)	5 (2.1%)	242 (100%)
Agency 3	25 (15.3%)	26 (15.9%)	28 (17.9%)	22 (13.5%)	62 (38%)	163 (100%)
Agency 4	18 (17.1%)	33 (31.4%)	31 (29.5%)	17 (16.2%)	6 (5.7%)	105 (100%)
Agency 5	6 (11.1%)	9 (16.7%)	4 (7.4%)	30 (55.6%)	5 (9.3%)	54 (100%)
Agency 6	-	2 (11.8%)	7 (41.2%)	8 (47.1%)	-	17 (100%)
Agency 7	2 (5.9%)	7 (20.6%)	7 (20.6%)	18 (52.9%)	-	34 (100%)
Agency 8	2 (10%)	2 (10%)	2 (10%)	14 (70%)	-	20 (100%)
Agency 9	4 (21.0%)	8 (42.1%)	6 (31.6%)	1 (5.3%)	-	19 (100%)
Agency 10	2 (13.3%)	-	10 (66.7%)	2 (13.3%)	1 (6.7%)	15 (100%)
Agency 11	1 (8.3%)	3 (25%)	3 (25%)	2 (16.7%)	3 (25%)	12 (100%)
Agency 12	-	2 (20%)	2 (20%)	5 (50%)	1 (10%)	10 (100%)
Agency 13	2 (25%)	6 (75%)	-	-	-	8 (100%)
Agency 14	-	-	2 (100%)	-	-	2 (100%)

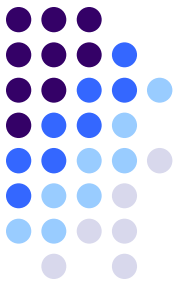
RESULTS (IX)



- Differences among agencies depending on the type of technology?

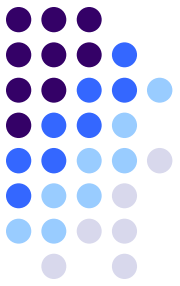
	TYPE OF TECHNOLOGY							Total n (%)
	Device n (%)	Diagnostics n (%)	Drug n (%)	Procedure n (%)	Programme n (%)	Setting n (%)	Other n (%)	
Agency 1	34 (9.3%)	28 (7.6%)	284 (77.4%)	11 (3%)	1 (0.3%)	-	9 (2.45%)	367 (100%)
Agency 2	58 (22.5%)	18 (7%)	137 (53.1%)	24 (9.3%)	-	-	21 (8.14%)	258 (100%)
Agency 3	73 (44.8%)	34 (20.9%)	1 (0.6%)	23 (14.1%)	10 (5.5%)	1 (0.61%)	22 (13.50%)	163 (100%)
Agency 4	15 (14.3%)	7 (6.7%)	24 (22.9%)	34 (32.4%)	14 (13.3%)	-	11 (10.48%)	105 (100%)
Agency 5	5 (9.3%)	3 (5.6%)	38 (70.4%)	3 (5.6%)	-	-	5 (9.26%)	54 (100%)
Agency 6	12 (60%)	3 (15%)	1 (5%)	4 (20%)	-	-	-	20 (100%)
Agency 7	17 (50%)	2 (5.9%)	-	7 (20.6%)	-	-	8 (23.53%)	34 (100%)
Agency 8	2 (10%)	5 (25%)	5 (25%)	6 (30%)	-	-	2 (10%)	20 (100%)
Agency 9	3 (15.8%)	1 (5.3%)	6 (31.6%)	7 (36.8%)	1 (5.3%)	-	1 (5.26%)	19 (100%)
Agency 10	7 (46.7%)	1 (5.3%)	-	7 (46.7%)	-	-	-	15 (100%)
Agency 11	2 (15.4%)	1 (6.7%)	6 (46.2%)	1 (7.7%)	-	-	3 (23.08%)	13 (100%)
Agency 12	1 (9.1%)	-	2 (18.2%)	5 (45.5%)	2 (18.2%)	-	1 (0.91%)	11 (100%)
Agency 13	2 (25%)	2 (25%)	-	-	1 (12.5%)	-	3 (37.5%)	8 (100%)
Agency 14	-	-	-	2 (100%)	-	-	-	2 (100%)

CONCLUSIONS



- First analysis of the EuroScan Database
- EuroScan provides invaluable information on new and emerging health technologies
- Principally drugs, followed by devices
- Great heterogeneity among agencies
- Drugs are identified earlier than devices or diagnostics
- More active strategies should be designed to provide an earlier identification, mainly for devices
- Substitutive technologies are identified later than other technologies

NEXT STEPS



- Descriptive analysis of the characteristics of substitutive technologies
- Comparative analysis
 - ✓ By technologies
 - ✓ By agencies

Differences in the identification process for new and emerging health technologies: Analysis of the EuroScan database

Nora Iburgoyen-Roteta, Iñaki Gutierrez-Ibarluzea, Gaizka Bengurla-Arrate, Lorea Galnares-Cordero, José Asua

Osteba, Basque Office for Health Technology Assessment

Objectives: The aim of this study was to analyze the EuroScan Database and to describe and compare the characteristics of the included technologies and participating agencies.

Methods: Data of interest were exported from the EuroScan Database to Excel and to SPSS. A descriptive analysis depending on the agency, type of technology, stage of diffusion, and technology purpose was conducted. A frequency distribution analysis of the diffusion stage for different technology types and assigned purposes was made with the EpiCalc 2000 statistical calculator. A p value of less than .05 was considered to be statistically significant.

Results: Four agencies introduced the great majority of the technologies (81 percent), with drugs representing the 46.26 percent of the total, followed by devices (21.21 percent). The purpose of 24.45 percent of the identified technologies was not specified, and 34.58 percent of them were identified at the investigational or phase III stage. The frequency distribution of diffusion stage at identification was found to be similar for devices and diagnostics ($p = .543$), whereas drugs were identified earlier than devices ($p < .001$). Some agencies were found to focus their work on drugs, whereas others focused mainly on devices. Interagency differences were also observed with regard to the stage of diffusion at which technologies were identified.

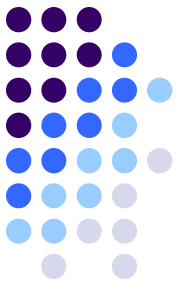
Conclusions: This is the first analysis of one of the most important databases on new and emerging health technologies. Our study suggests that more active strategies should be designed to provide an earlier identification, mainly in the case of devices.

Keywords: Descriptive analysis, New and emerging health technologies, EuroScan

The term “emerging health technologies” (ET) refers to those techniques or procedures used in clinical practice that are just before being accepted or adopted into the healthcare

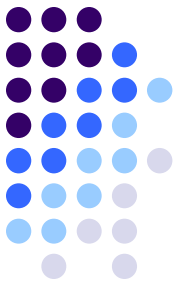
including social and commercial demand and the enthusiasm of healthcare professionals for a recently developed technology. Occasionally, these factors, together with the lack of

*Results published
in International
Journal for
Technology
Assessment in
Health Care*



This document has been developed within the collaborative framework stated in the Quality Plan for the National Health System established by the Ministry of Health and Social Policy, under the collaborative agreement signed between the Institute of Health Carlos III, an autonomous Ministry of Science and Innovation body, and Osteba, the Basque Office for Health Technology Assessment of the Basque Country.

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