Realisaties van embryo onderzoek in België

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Universitair Ziekenhuis Gent

kennis / ervaring / zorg


DON'T USE ME FOR SPARE PARTS
BAN EMBRYO RESEARCH
embryoresearch.org
Public Information Meetings
Tue, 30th Sep, 4pm, Wynns Hotel, Abbey St, Dn 1
Mon, 2nd Oct, 8pm, Imperial Hotel, Cork


PICK ON SOMEONE YOUR OWN SIZE.
NO TO EMBRYO RESEARCH AND CLONING.

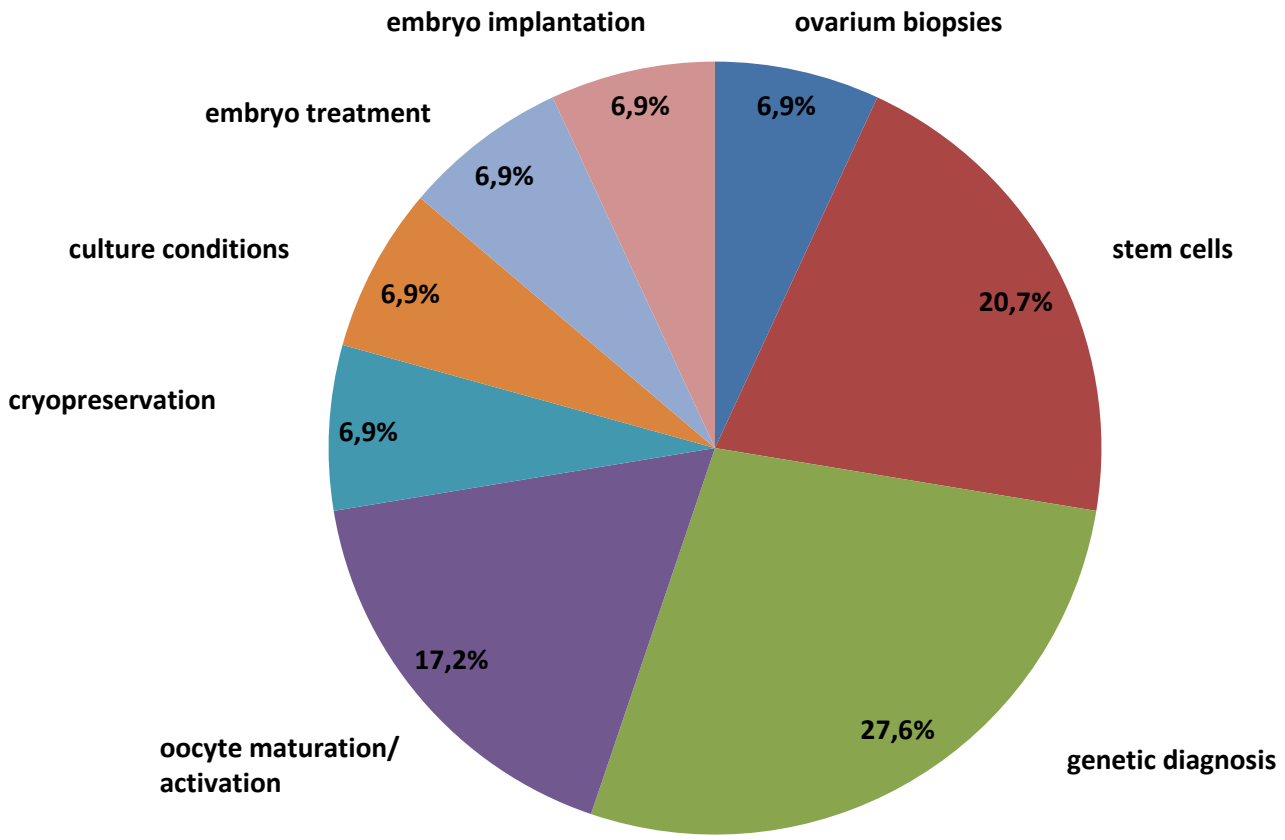

5 years in Liquid Nitrogen, then it's Helping Science, or the Dustbin...
Good: I've always been Pro-Choice.
M1389
BIRCH

- Belgium: research on embryos: law since 11 May 2003
- Federal Commission for medical and scientific research on Embryo's *in vitro* (FCE) established and functional since 6 juni 2006

Projects 2003 - 2006

- Information was collected from all IVF centres regarding research carried out on embryo's in vitro between 2003 – 2006
- No advice on these research projects by FCE

Broad areas of research carried out for projects 2003 – 2006 (n= 29)



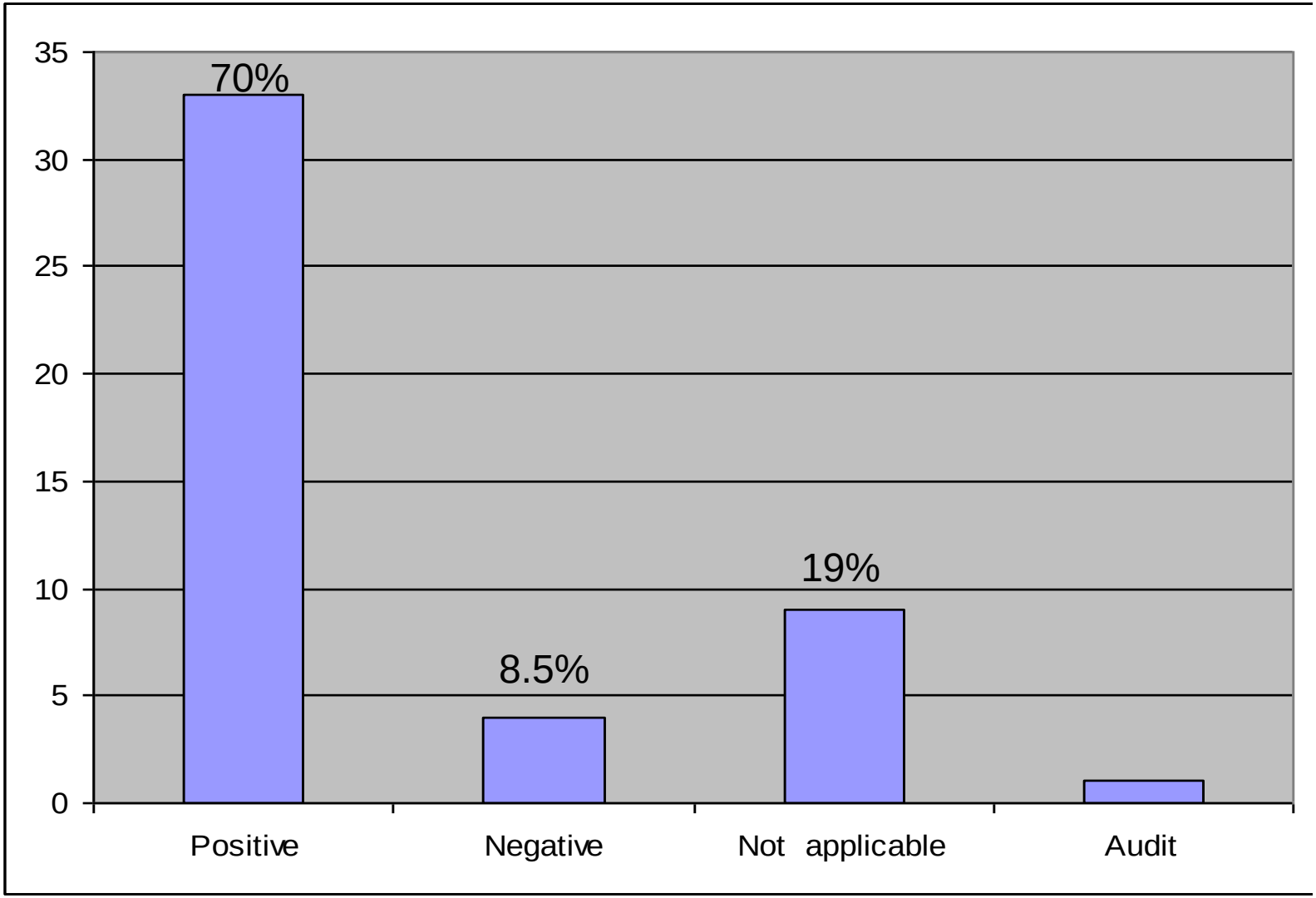
Projects 2006 - 2012

- Between 2006 – 2012 a total of 47 projects were submitted and discussed
- 3/47: continuations
- Submitted proposals mainly from University centres:
  - UZB: 15
  - UZG: 11
  - UZL: 13
  - ULB: 5
  - UZA: 3
  - ULG: 1

Remarks: - 1 study multicentric (3)

- 1 application from non-University IVF centre

47 projects submitted 2006-2012



Negative evaluation

- 4 projects:
  - Lack of scientific motivation (2)
  - Inappropriate IC (1)
  - Lack of local EC approval/non-university setting (1)

  Remark: only 1 was resubmitted and approved

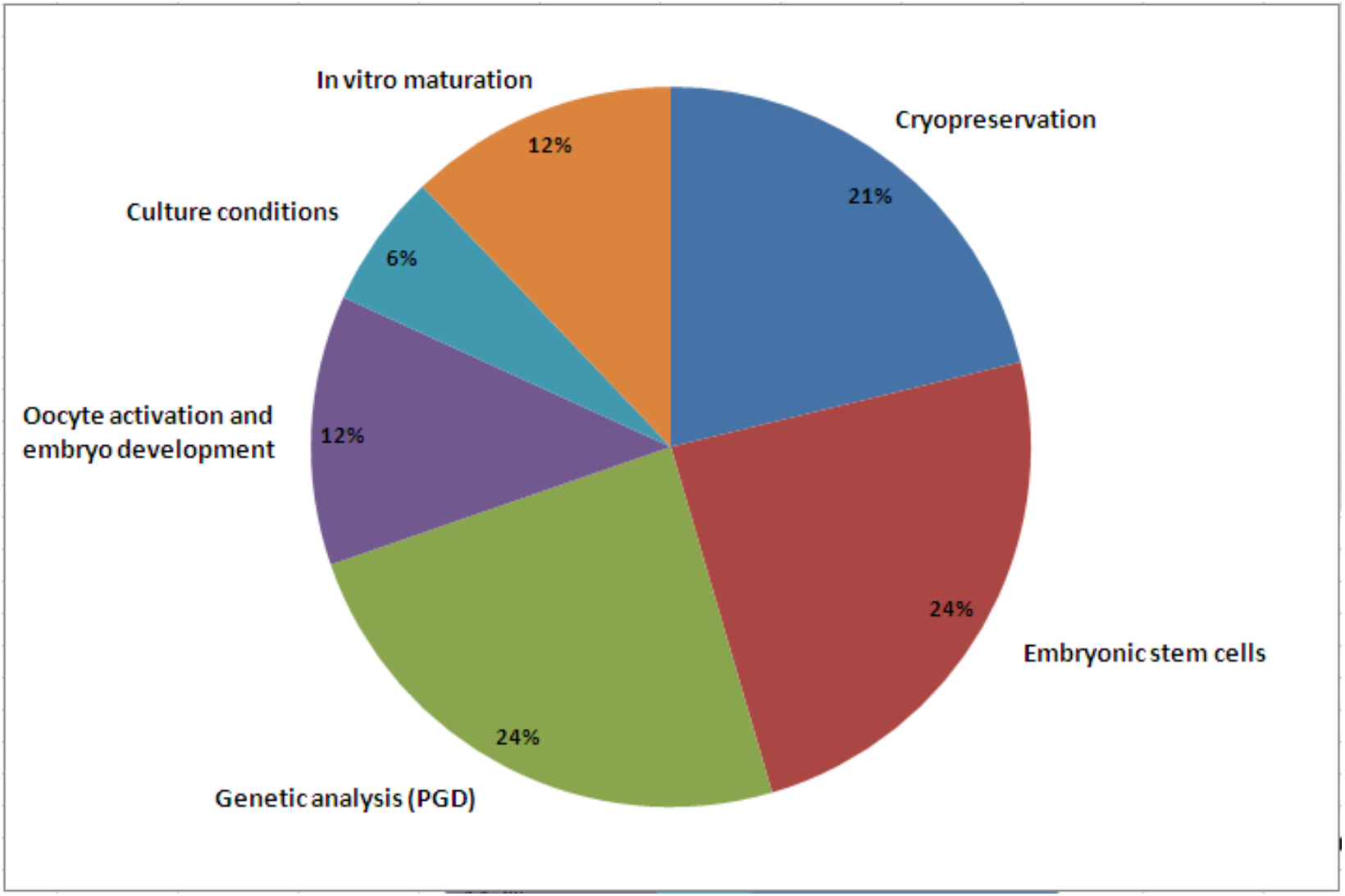
- Audit: no local EC approval/study started

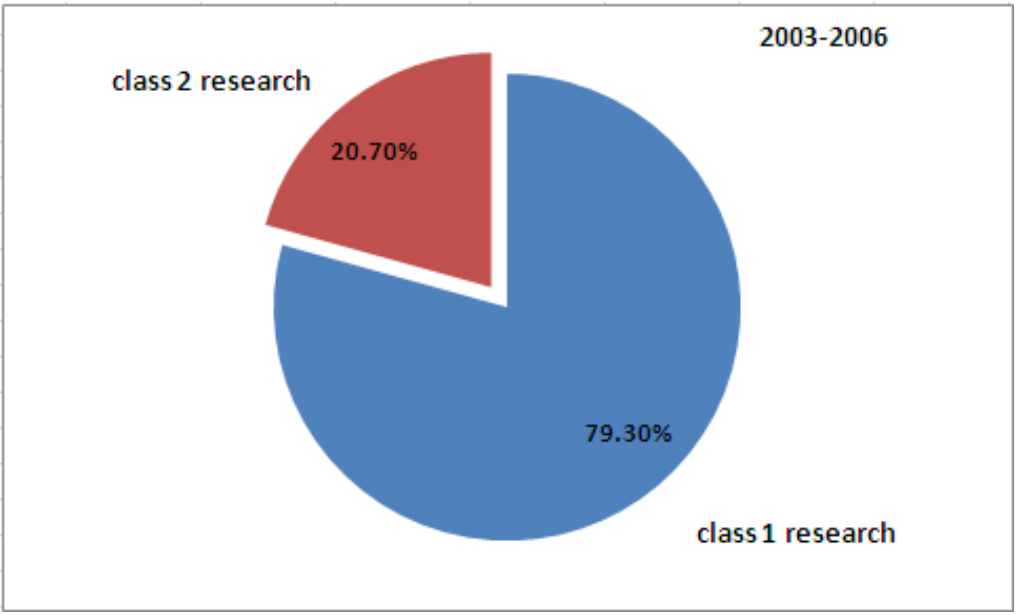
Embryo Law: not applicable

- 9 projects:
  - Using established and published protocols according to ESHRE guidelines
  - For example:
    - Slow freezing vs. vitrification
    - Day 2 vs. day 5 transfer
    - Comparing culture media

    Remark: Endpoint always pregnancies

Positive approval: 2006 – 2012 (n= 33)

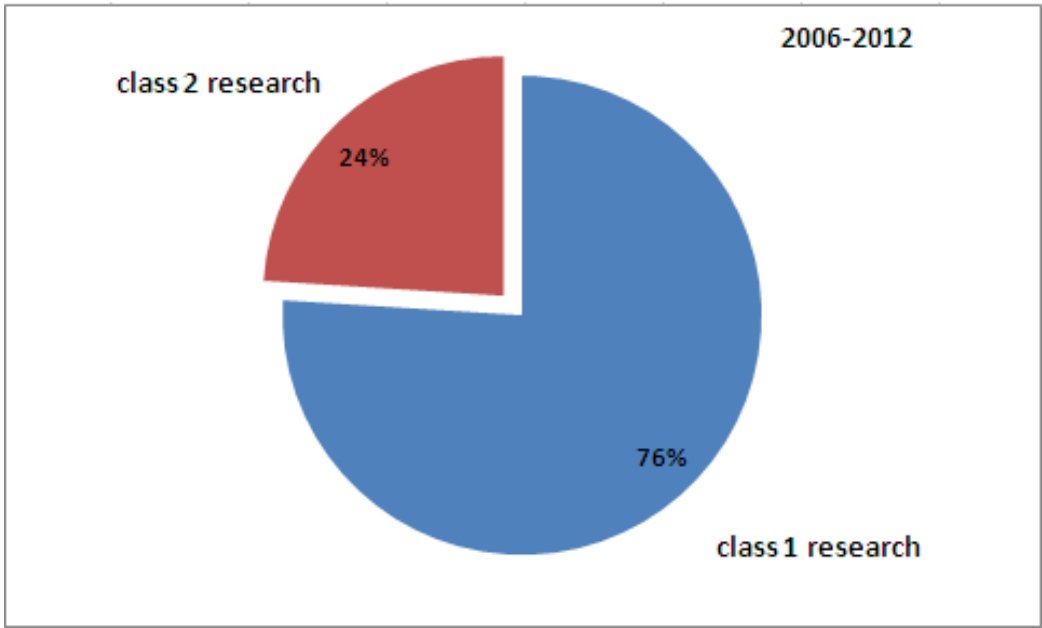




Cell Stem Cell, 2011:

-Class 1: human development

-Class 2: embryonic stem cells



Type of embryos

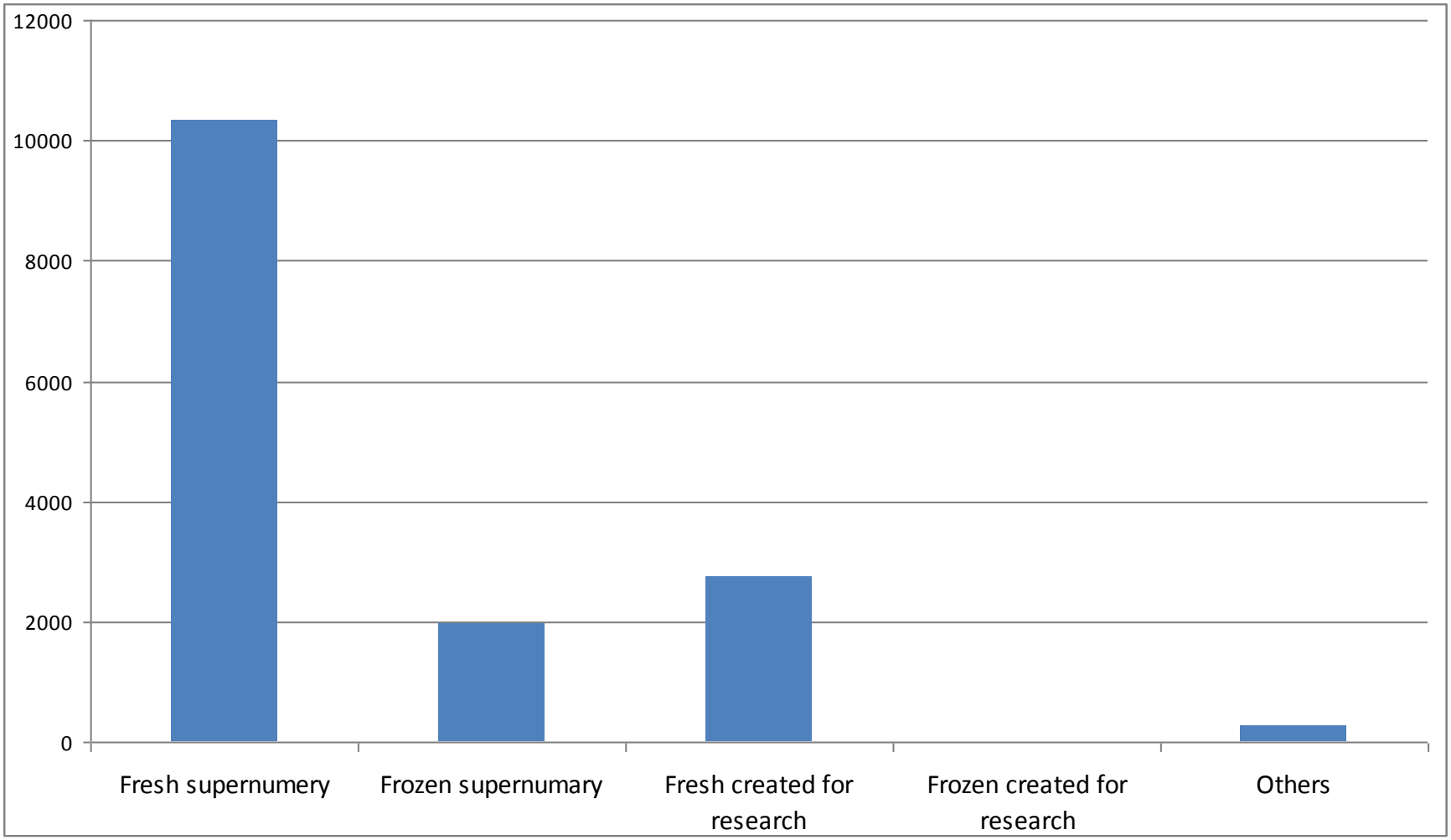
- 2006-2007: mostly no estimation of embryos to be used
- 2008: estimation necessary
- 2009: estimation necessary (2 categories: created vs. supernumerary)
- 2010: estimation necessary according to 4 categories:

Catégorie d'embryons *Categorie van embryo's*	*1ère année* *1ste jaar*	*2ième année* *2de jaar*	*3ième année* *3de jaar*	*4ième année* *4de jaar*
Embryons frais créés pour la recherche *Verse embryo's gecreëerde voor het onderzoek*	**Enkele** **(5 per gen)**			
Embryons congelés créés pour la recherche ***Ingevroren** Embryo's gecreëerde voor het onderzoek*				
Embryons frais surnuméraires *Verse en **boventallige** embryo's*				
Embryons congelés surnuméraires ***Ingevroren** en **boventallige** Embryo's*	**100**	**100**	**100**	**100**
Autres Andere				

Type of applied embryos

- Fresh supernumerary: inferior quality: not for embryo transfer or freezing
- Frozen supernumerary: good quality: childwish completed
- Created embryos: for specific research goals allowed

Research projects 2006 – 2012: type & number of embryos applied



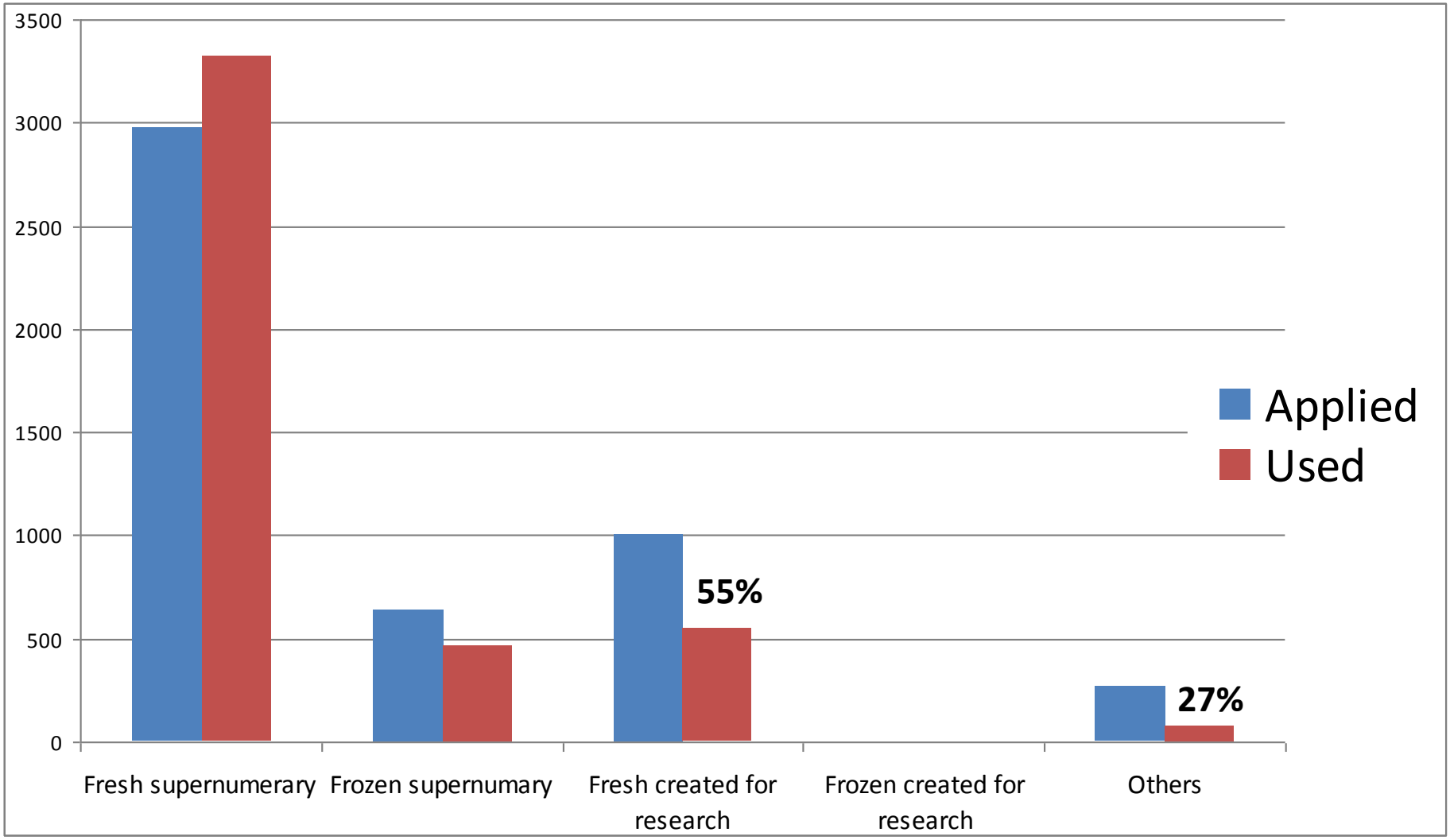
Type of applied embryos

	Belgium situation (2006-2012)	HFEA (2005-2006)
Fresh supernumerary	68%	70.0%
Frozen supernumerary	13%	25.0%
Fresh created	18%	5.0%

Type of embryos

	Fresh Supernumerary (n) (% of total)	Frozen Supernumerary (n) (% of total)	Created (n) (% of total)	Others (n) (% of total)	% of total embryos
ESC	**6000 (58)**	**1139 (58)**	340 (12)	0 (0)	**49%**
Culture Conditions	1580 (15)	0 (0)	0(0)	0 (0)	10%
IVM	0 (0)	0 (0)	**680 (25)**	0 (0)	4%
Genetic Analysis	1635 (16)	380 (19)	200 (7)	0 (0)	15%
Activation/ embryo dev.	430 (4)	230 (12)	**1000 (37)**	0 (0)	11%
Cryo	690 (7)	210 (11)	522 (19)	**266 (100)**	11%

Research projects 2006 – 2012: applied vs. effectively used (n=13)



Type of embryos

- Worldwide availability of embryos / willingness to donate for research: not easy to map
- USA (2003): 400.000 embryos frozen:

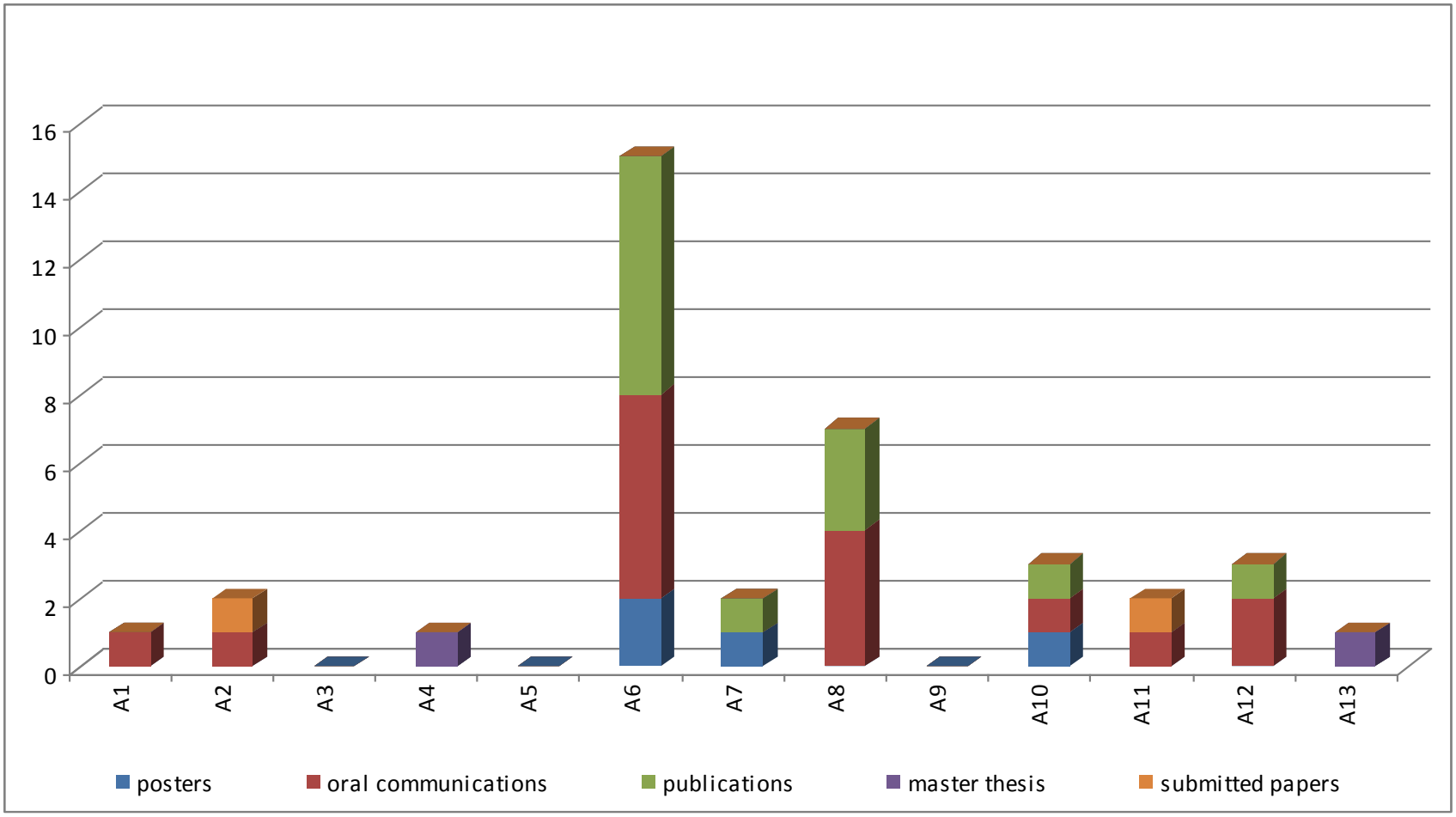
  only 11.000 designated for research (3%)
- Belgium:30,043 embryo's frozen

  788 designated for research (26.2%)

Belgium

- Veerle Provoost:

Research projects 2006 – 2012 scientific work follow-up (n=13)



nature biotechnology

Tracking the progression of the human inner cell mass during embryonic stem cell derivation

Thomas O'Leary[1], Björn Heindryckx[1], Sylvie Lierman[1], David van Bruggen[2], Jelle J Goeman[3], Mado Vandewoestyne[4], Dieter Deforce[4], Susana M Chuva de Sousa Lopes[2,5] & Petra De Sutter[1,5]

nature biotechnology

Recurrent chromosomal abnormalities in human embryonic stem cells

Claudia Spits[1], Ileana Mateizel[1], Mieke Geens[1], Afroditi Mertzanidou[1], Catherine Staessen[2], Yves Vandeskelde[2], Josiane Van der Elst[1,3], Inge Liebaers[1,2] & Karen Sermon[1]

Conclusions

- FCE only decides over embryo research related to 'experimental & investigational procedures'
- High approval rate
- Obligated approval from FCE did not change focus of research subjects
- Types of embryos:
  - Mostly fresh supernumerary embryos
  - Less frozen supernumerary embryos (reasons?)
  - More created embryos (reasons?)
  - Overestimation of some categories

~60% for ESC research

Conclusions

- Big differences in scientific output (still a lot ongoing….)
- Better follow-up necessary of scientific output:
  - Longer (publications take time)
  - Check content of the papers (related to proposal?)
  - Discussion warranted in the FCE about the final report
  - Give feedback to reseachers?