

ACTUALITES EN EPIDEMIOLOGIE PERINATALE, SUD-REUNION

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JOROP 5 St Leu 6 avril 2017

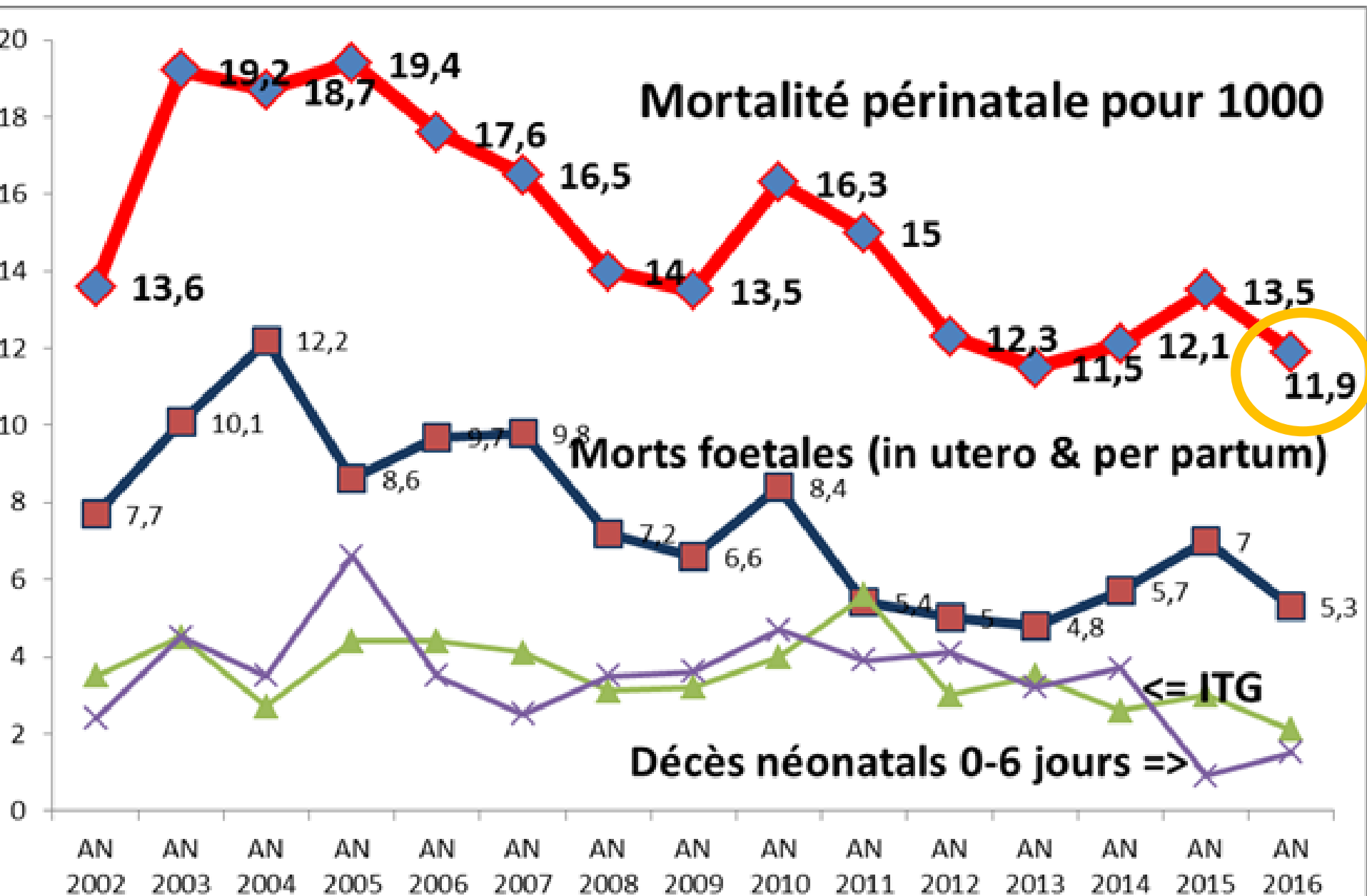
Base de données épidémiologique Sud-Réunion, 2001-2017.

(40% des naissances de l'île)

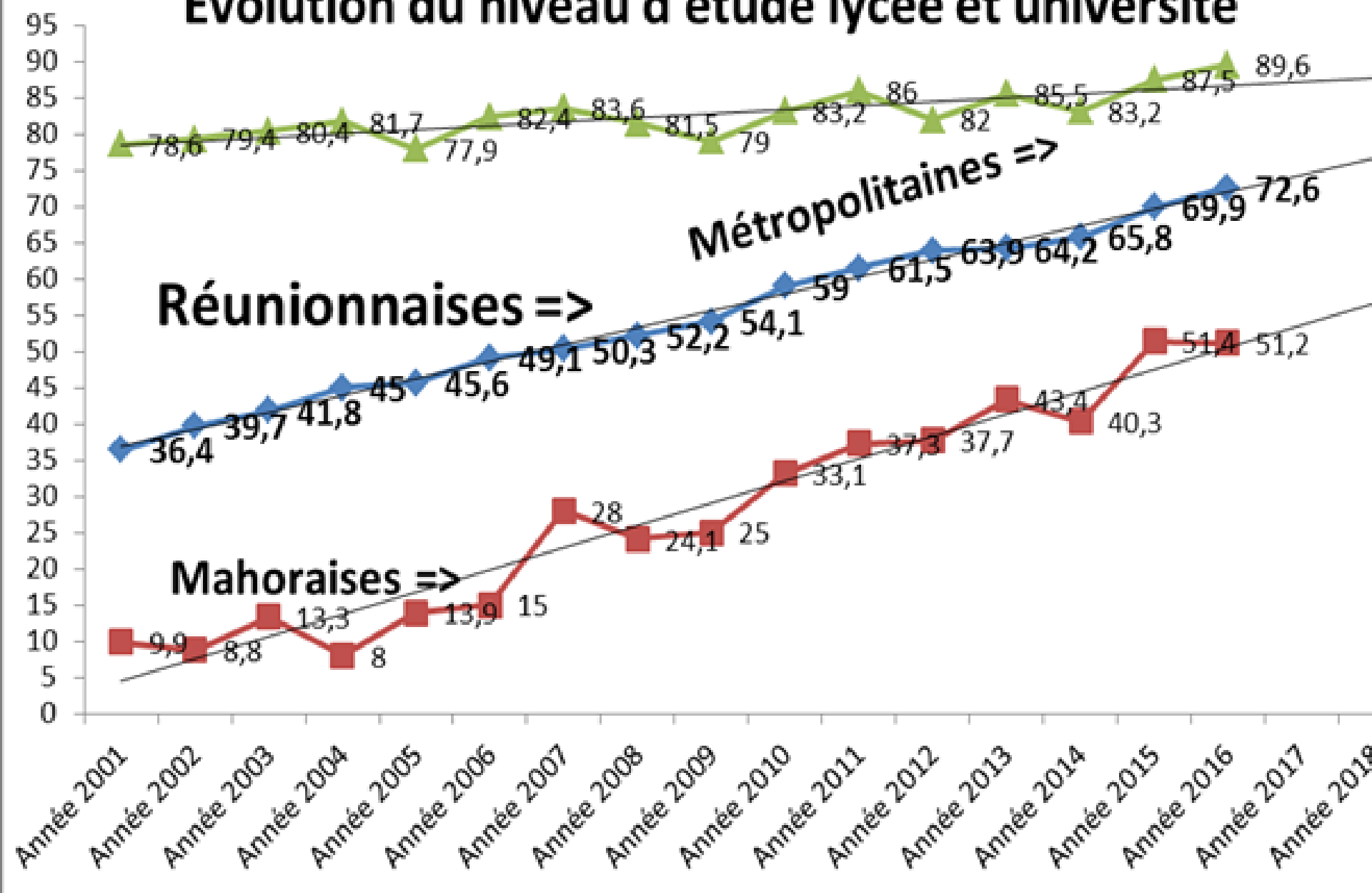
83 500 grossesses

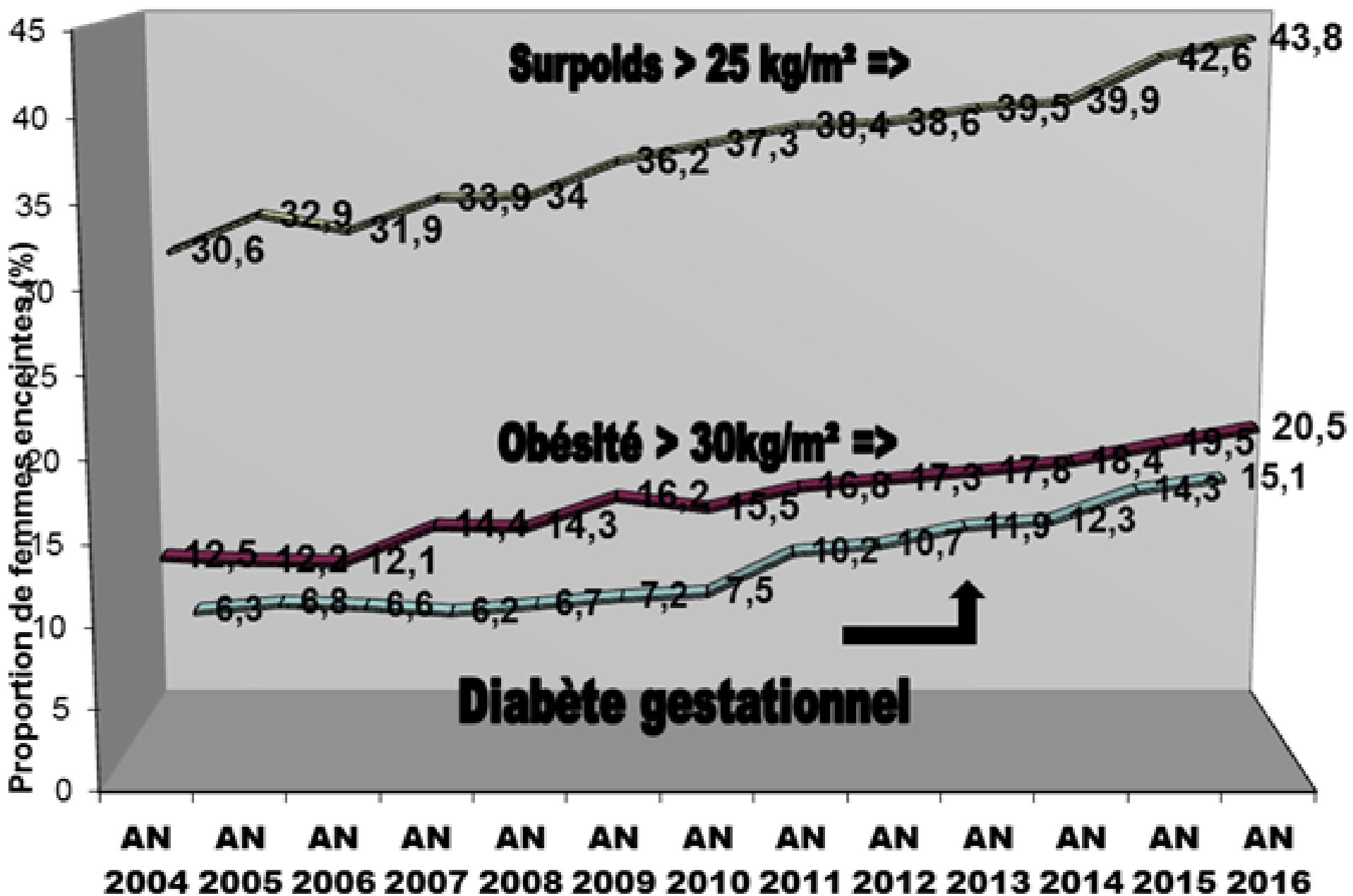
- 2001 maternité(s) CHU Sud
(Saint-Pierre, Saint Louis)
- 2004 Clinique Durieux
- **QUALITATIF**
 - Base de données d'une population
 - 100% médicale (sage-femmes, médecins),
y compris la saisie informatique

(Métropole 9,2 p 1000 en 2013)

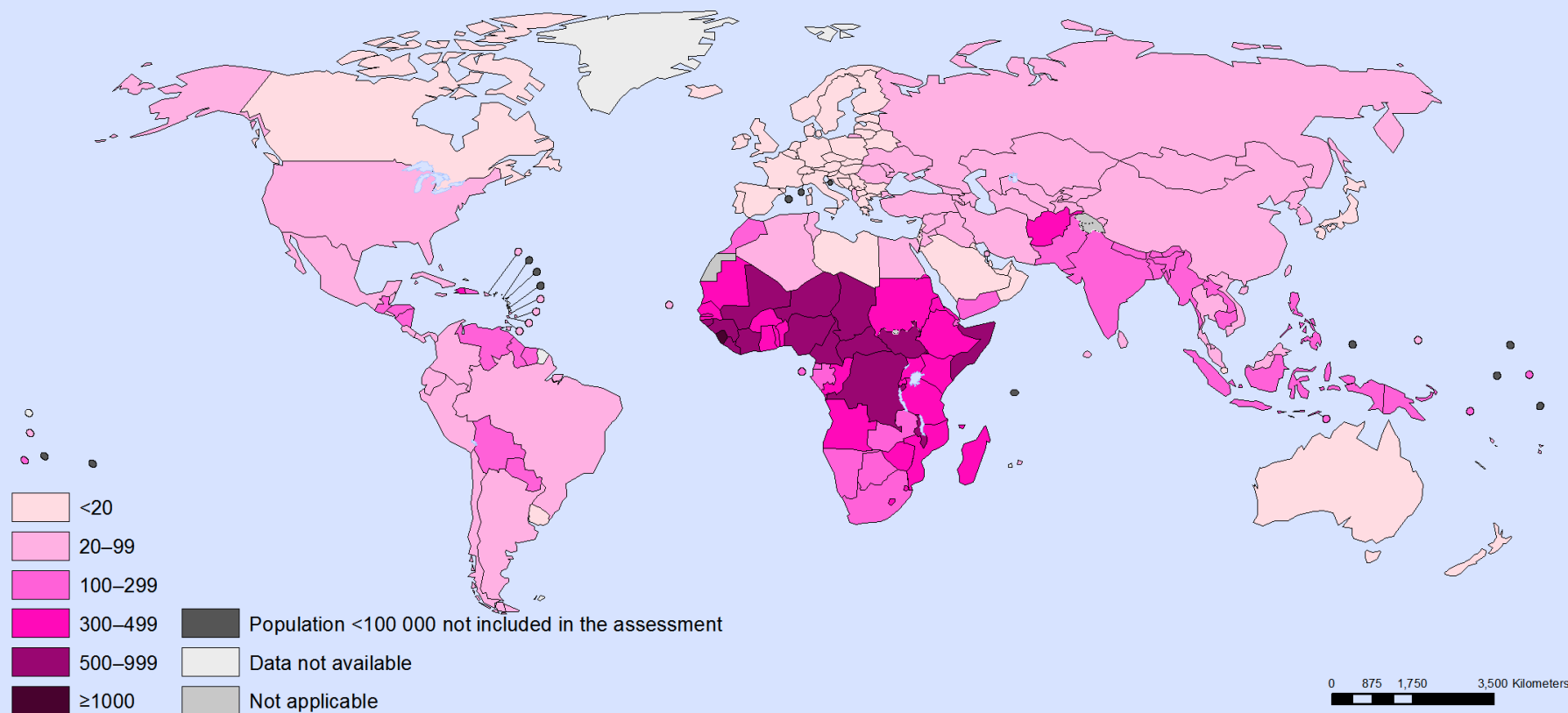


Evolution du niveau d'étude lycée et université





Maternal mortality ratio (per 100 000 live births), 2013



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Health Statistics and
Information Systems (HSI)
World Health Organization



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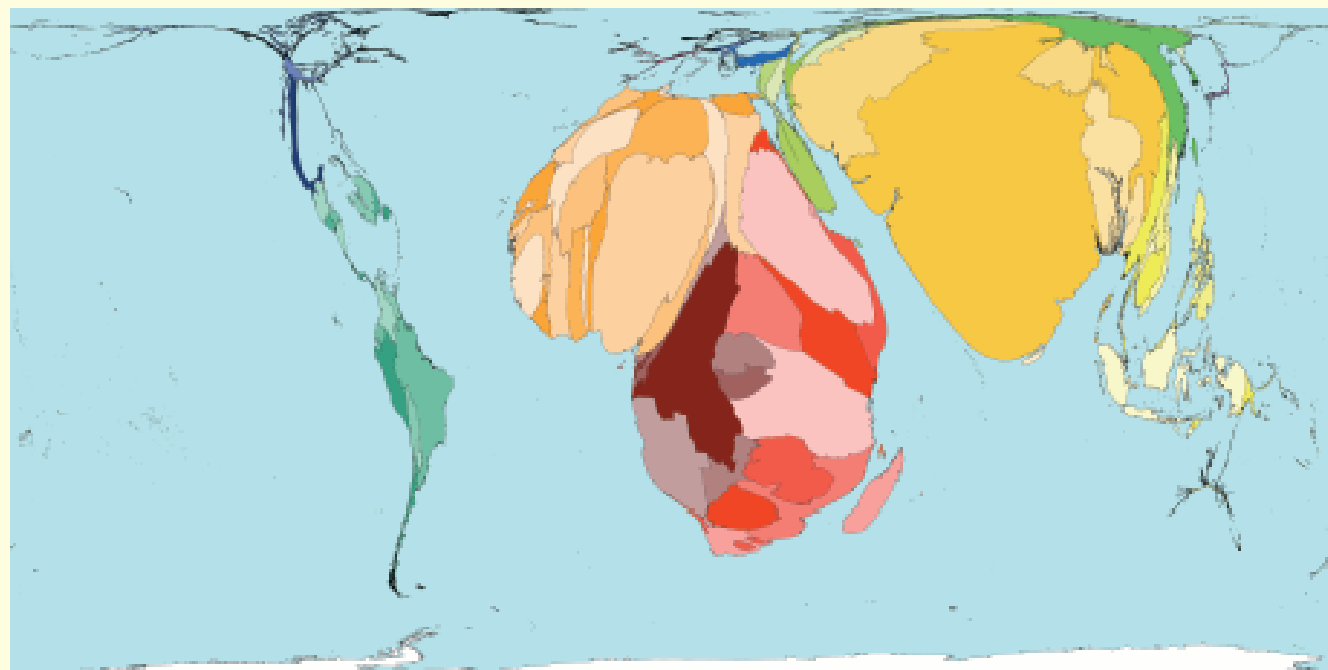
Maternal Mortality



The Leverhulme Trust



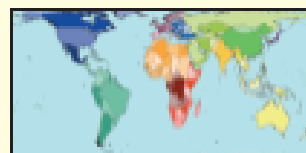
Produced by the SAS group (Sheffield) and Mark Newman (Michigan)



In the year 2000, more than 533 thousand women died due to pregnancy-related causes. The map shows that most of these maternal deaths were in Southern Asian and African territories. The fewest maternal deaths were in Western Europe and Japan.

The highest rate of maternal deaths was in Sierra Leone, where 2 mothers die per 100 births. At the other extreme, Malta and Iceland reported no maternal deaths in 2000. The world average is 401 maternal deaths for every 100,000 births.

Territory size shows the proportion of deaths of women worldwide while pregnant or within 6 weeks of pregnancy and partly due to it, that occur there.



Land area

Technical notes

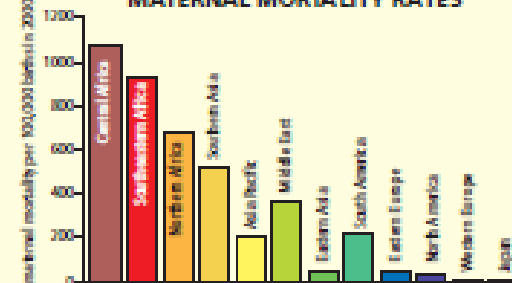
- Data are from the United Nations Development Programme's 2004 Human Development Report.
- *4 territories reported 1100 maternal mortalities per 100,000 births. When equal, territories are ordered by highest total births. Excluded from the chart is Guinea-Bissau.
- See website for further information.

MOST AND LEAST MATERNAL MORTALITY

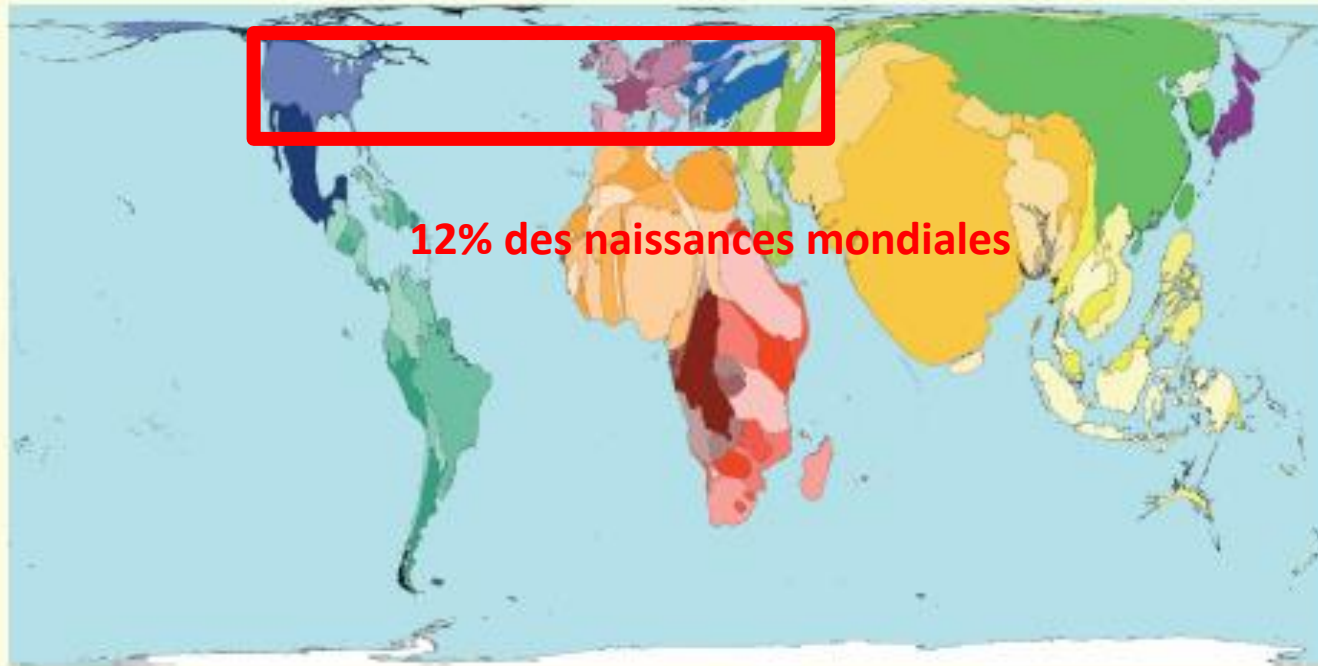
Rank	Territory	Value	Rank	Territory	Value
1	Sierra Leone	2000	190	Kuwait	5
2	Afghanistan	1900	190	Portugal	5
3	Malawi	1800	190	Denmark	5
4	Angola	1700	190	Ireland	5
5	Niger	1600	195	Spain	4
6	United Republic of Tanzania	1500	195	Austria	4
7	Rwanda	1400	197	Slovakia	3
8	Mali	1200	198	Sweden	2
9	Somalia	1100	199	Malta	0
9	Chad	1100	199	Iceland	0

maternal deaths, while pregnant or within 6 weeks after pregnancy per 100,000 births in 2000*

MATERNAL MORTALITY RATES



Total Births



133 million babies were born in the year 2000. In territories with the fewest births per person, more people are dying than are being born. As with all population statistics, even this vital one, figures are rough estimates.

More children are born each year in Africa than are born in the Americas, all of Europe and Japan put together. Worldwide, more than a third of a million new people will be born on your birthday this year.

This map shows the proportion of the world's total births for each territory.



Land area

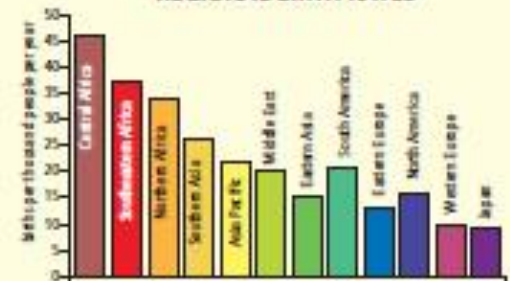
Technical notes
 • Principal data source: World Health Organisation, 2005, World Health Report
 • Birth data is from 2000.
 • See website for further information.

HIGHEST AND LOWEST BIRTH RATES

Rank	Territory	Value	Rank	Territory	Value
1	Niger	52	191	Germany	9
2	Angola	50	192	Italy	9
3	Guinea-Bissau	49	193	Lithuania	9
4	Somalia	49	194	Belarus	9
5	Democratic Republic of Congo	48	195	Russian Federation	9
6	Uganda	48	196	Czech Republic	9
7	Mali	47	197	Ukraine	9
8	Sierra Leone	47	198	Slovenia	9
9	Burkina Faso	46	199	Latvia	9
10	Chad	46	200	Bulgaria	9

births per 1000 people per year

REGIONAL BIRTH RATES

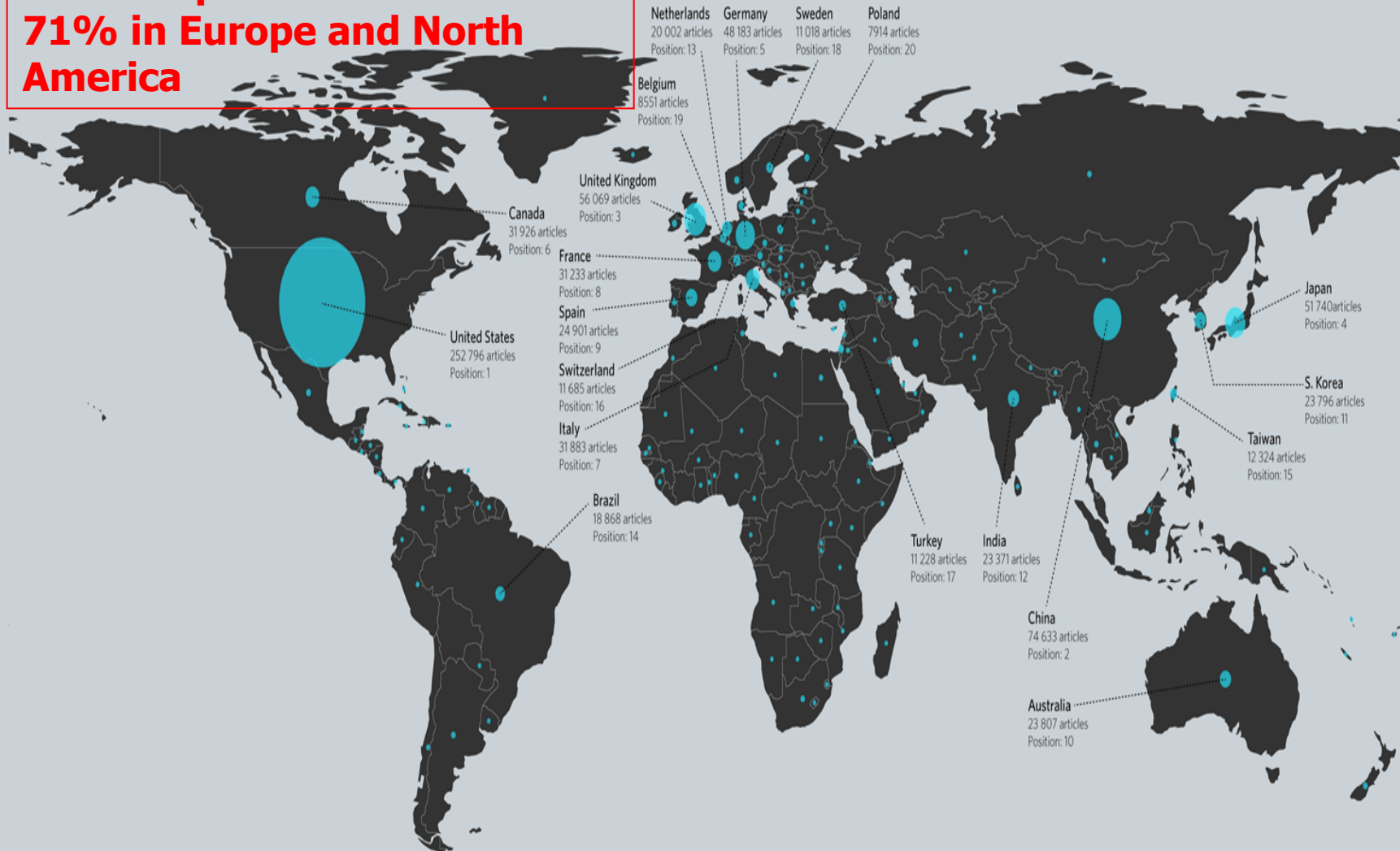


"The birth of a baby is an occasion for weaving hopeful dreams about the future." Aung San Suu Kyi, 1997

PubMed Publications in 2011

Top 20 countries

986 427 publications in 2011
71% in Europe and North America



Science Research



The University of Sheffield
Produced by the SASI group (Sheffield) and Mark Newman (Michigan)



The Leverhulme Trust



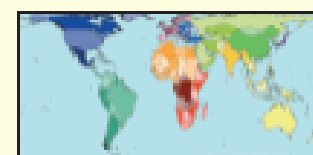
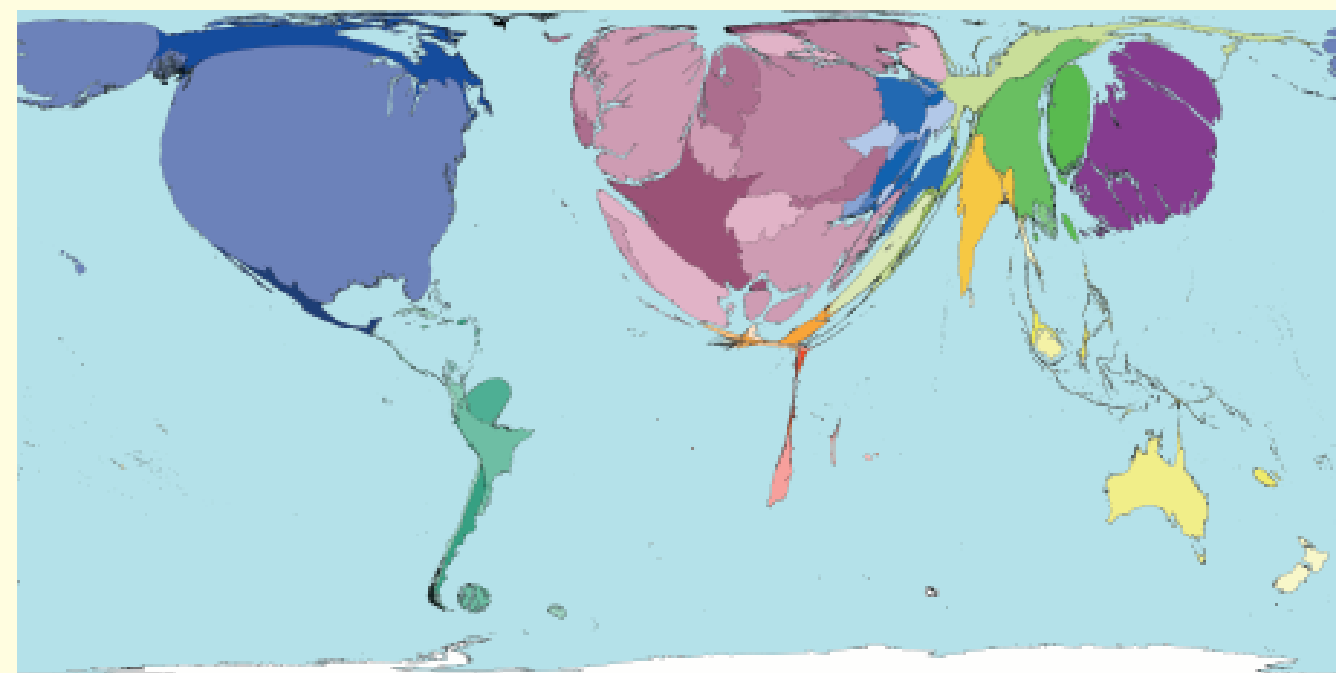
Sheffield Hallam University

Scientific papers cover physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering, technology, and earth and space sciences.

The number of scientific papers published by researchers in the United States was more than three times as many as were published by the second highest-publishing population, Japan.

There is more scientific research, or publication of results, in richer territories. This locational bias is such that roughly three times more scientific papers per person living there are published in Western Europe, North America, and Japan, than in any other region.

Territory size shows the proportion of all scientific papers published in 2001 written by authors living there.



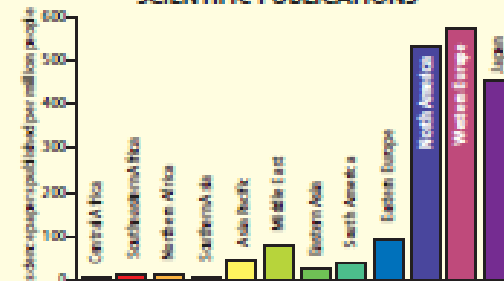
Land area

MOST PROLIFIC PUBLICATION OF SCIENTIFIC PAPERS

Rank	Territory	Value	Rank	Territory	Value
1	Sweden	1159	11	Norway	723
2	Switzerland	1126	12	United States	690
3	Israel	1030	13	Singapore	620
4	Finland	980	14	Belgium	581
5	Denmark	924	15	Iceland	580
6	United Kingdom	806	23	Austria	559
7	Netherlands	783	26	Germany	529
8	New Zealand	764	27	France	524
9	Australia	758	28	Japan	450
10	Canada	723	29	Slovenia	438

scientific papers published per million people in 2001*

SCIENTIFIC PUBLICATIONS

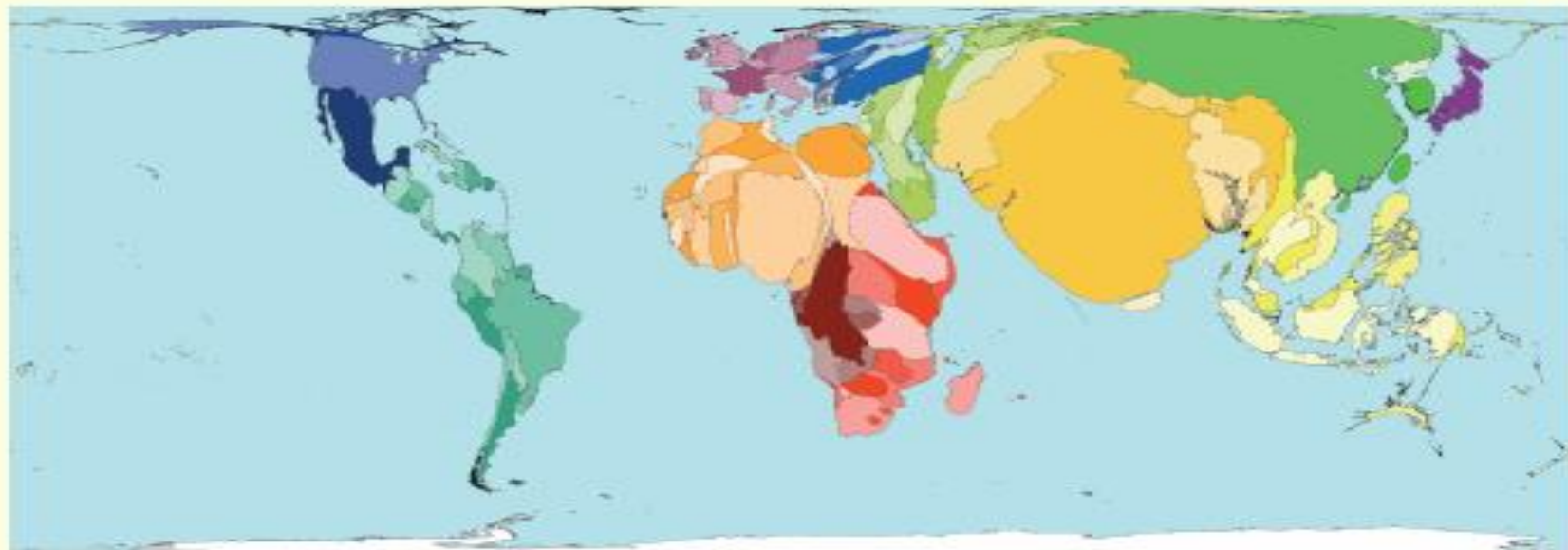


“Scientific research is as much the product of the society that enables it, as of the individuals who author it.”

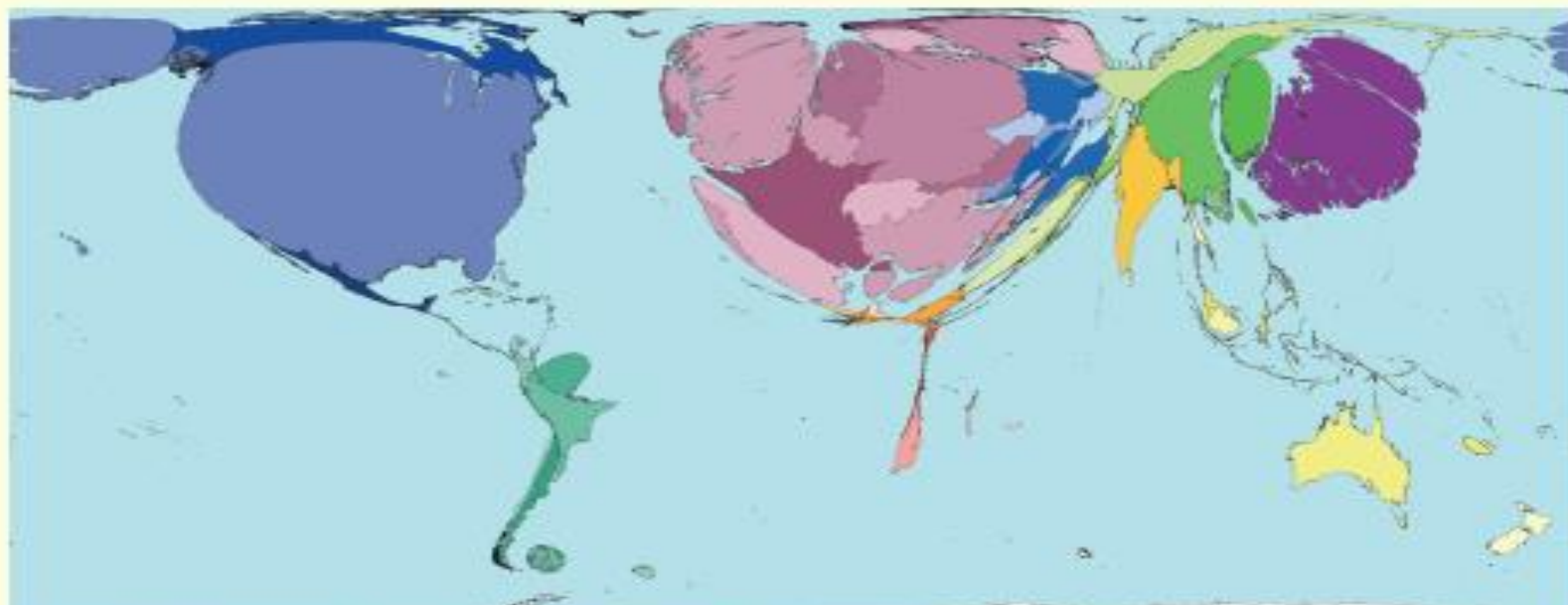
David Dorling, 2006

Map 205

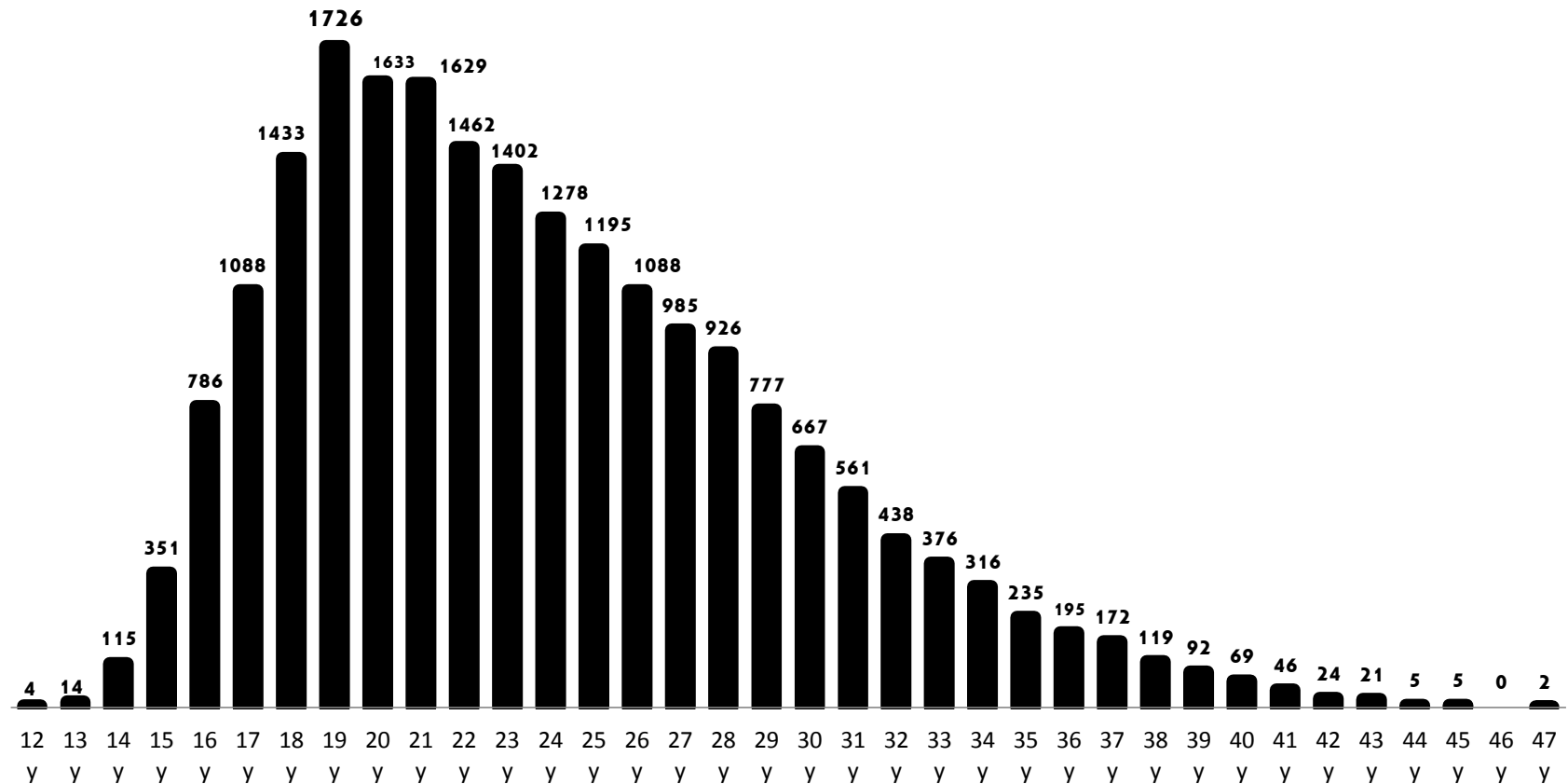
Total Births



Science Research



Primipares seulement 22 862 femmes 2001-2015



Teenage Mothers



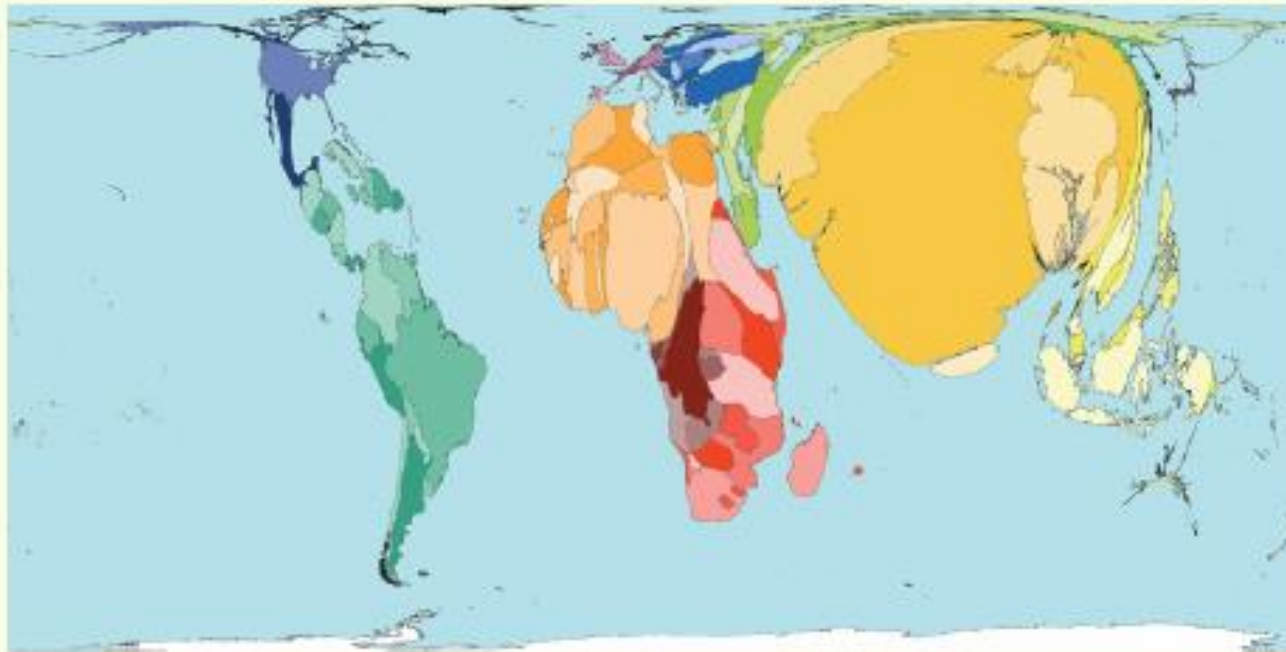
The University of Sheffield



The Conversation Project



Produced by the SAS group (Sheffield) and Mark Newman (Michigan)



A teenage mother, as mapped here, is a girl / woman aged between 15 and 19 years old who has at least one child. A map of teenage fathers might look similar to this.

A third of all the teenage mothers in the world live in India. There are three times more teenage mothers living in Southern Asia than live in any other region. The fewest recorded teenage mothers live in Japan.

Being a young parent is normal in some parts of the world, whilst in other parts teenage parenthood is a rarity. Where it is a rarity mothers tend to be considerably older - but internationally comparable data on older mothers does not yet exist.

Territory size shows the proportion of all teenage (15-19 year old) mothers that live there.



Land area

Technical notes

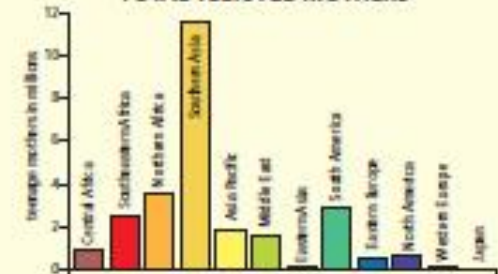
- Data are from the World Bank's World Development Indicators 2005, and the United Nations Fund for Children - Innocenti Research Centre Report Card.
- Teenage mothers are aged 15-19.
- *Ratios less than 1 in 10,000 were not ranked; this includes China, Taiwan, the Republic of Korea, Hong Kong, Mongolia and DPR Korea.
- See websites for further information.

MOST AND FEWEST TEENAGE MOTHERS

Rank	Territory	Value	Rank	Territory	Value
1	Niger	162	185	Denmark	2.62
2	Mali	150	186	Finland	2.61
3	Mozambique	149	187	France	2.58
4	Chad	145	188	Belgium	2.54
5	Guinea	138	189	Netherlands	1.99
6	Madagascar	134	190	Switzerland	1.93
7	Central African Republic	133	191	Spain	1.92
8	Bangladesh	130	192	Sweden	1.91
9	Malawi	122	193	Italy	1.88
10	Gabon	121	194	Japan	1.26

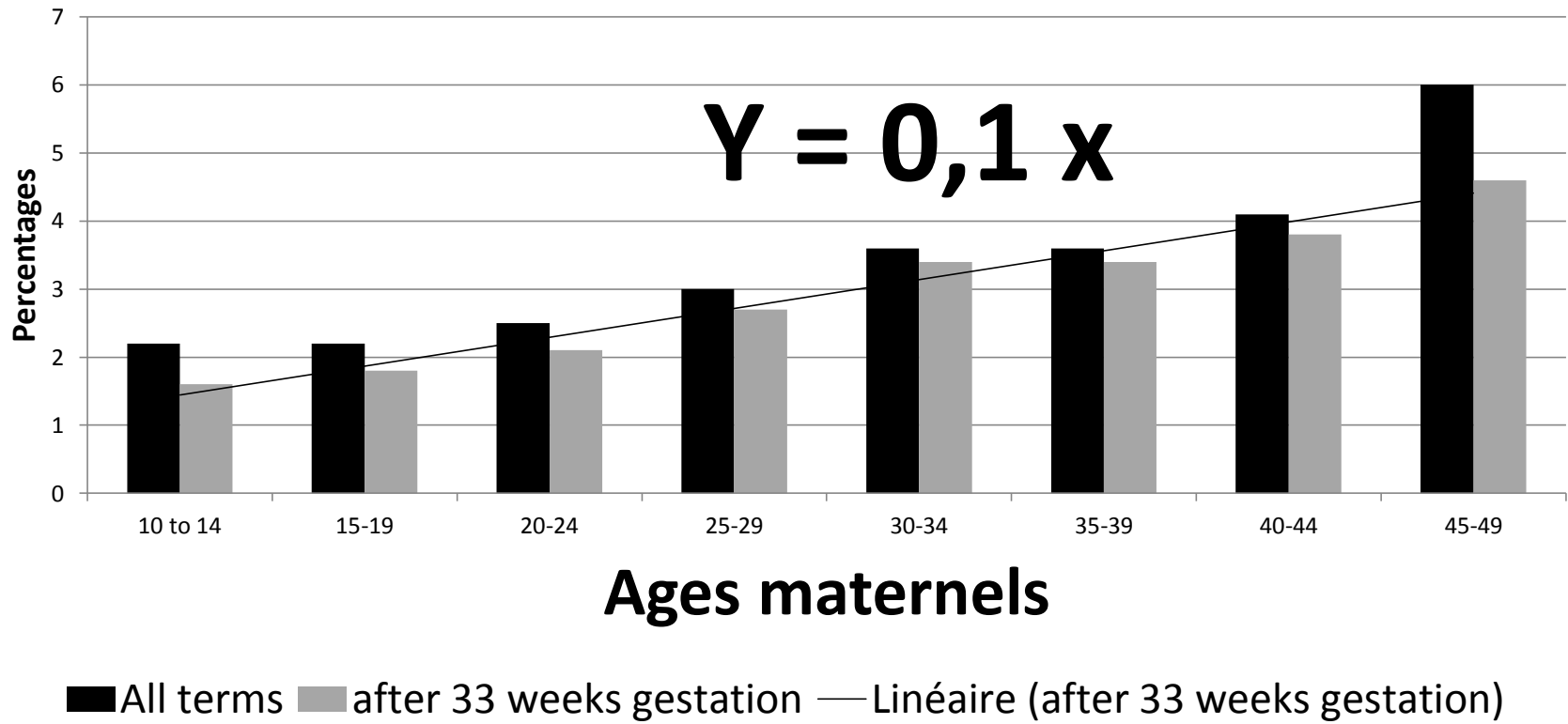
number of teenage mothers per 10,000 people*

TOTAL TEENAGE MOTHERS



$$Y = 0,1 X$$

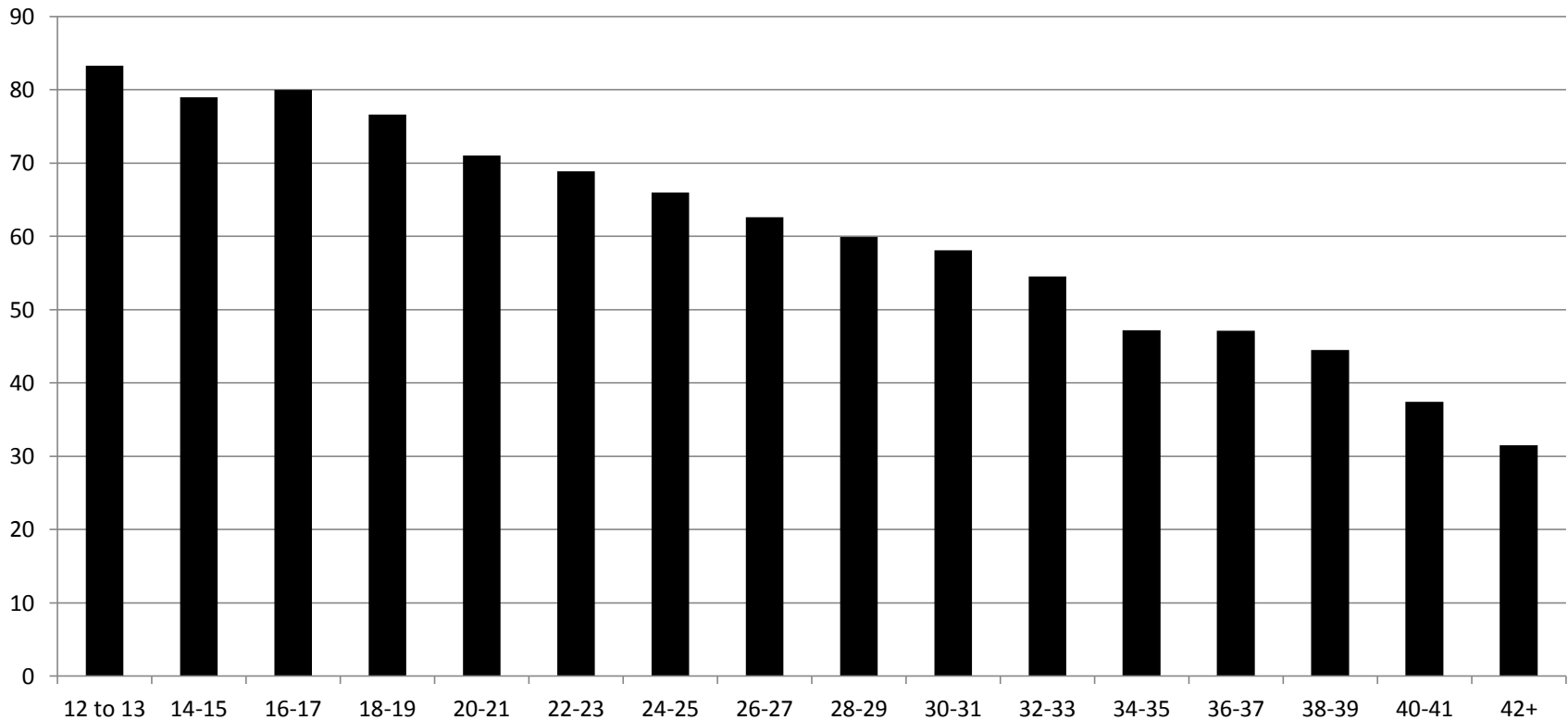
Incidence des présentations du siège par catégorie d'âges maternels



Primipares seulement 22 862 femmes

Incidence d'accouchements sans intervention médicale

vaginal deliveries by maternal ages without any medical intervention (%)

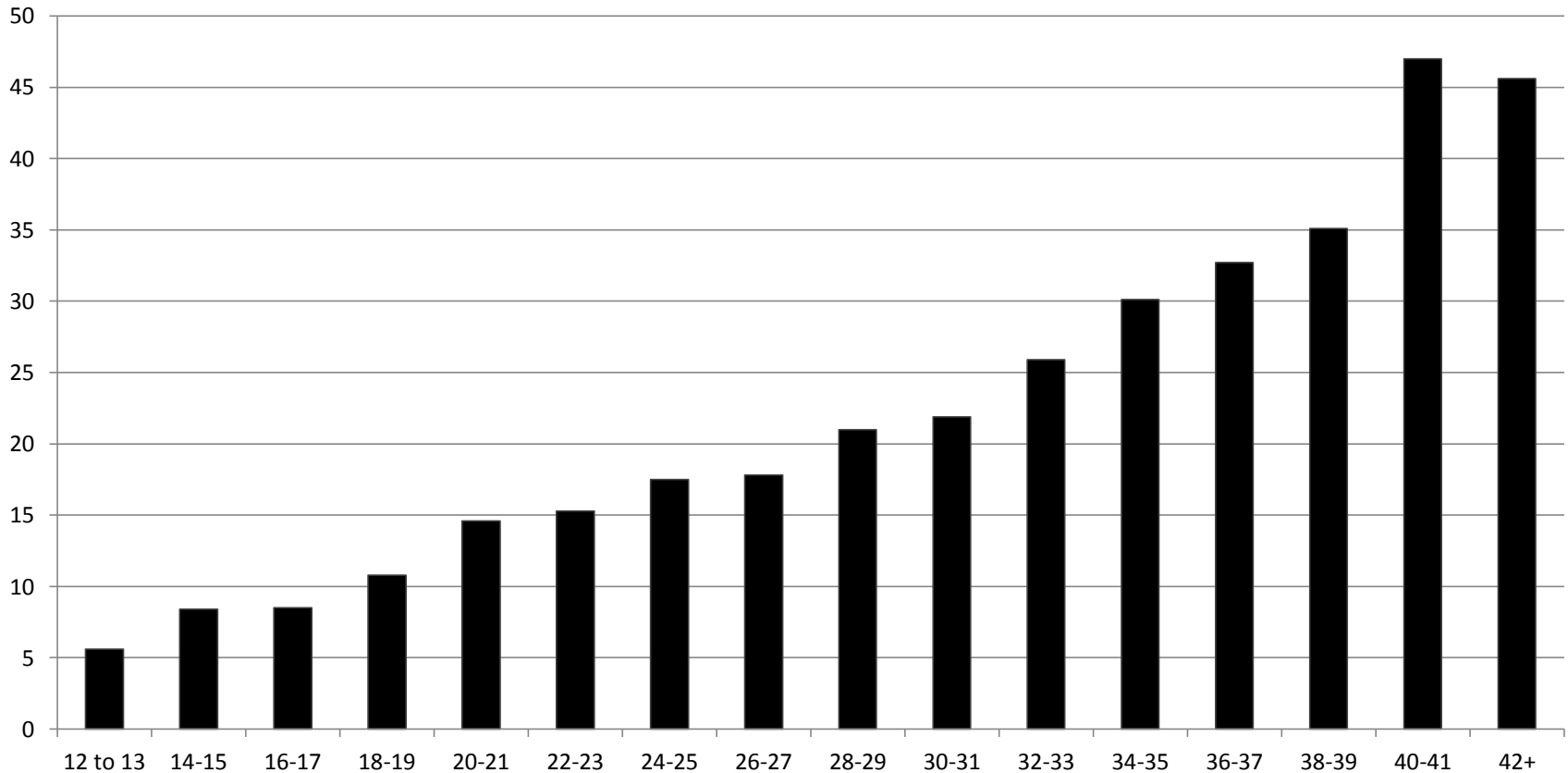


Primipares seulement 22 862 femmes

Incidence d'accouchements AVEC

intervention médicale: césariennes

Cesarean section rate (%)



2009 Données USA, 7,8 millions de naissances

Matern Child Health J 2015;19(6):1202-1211

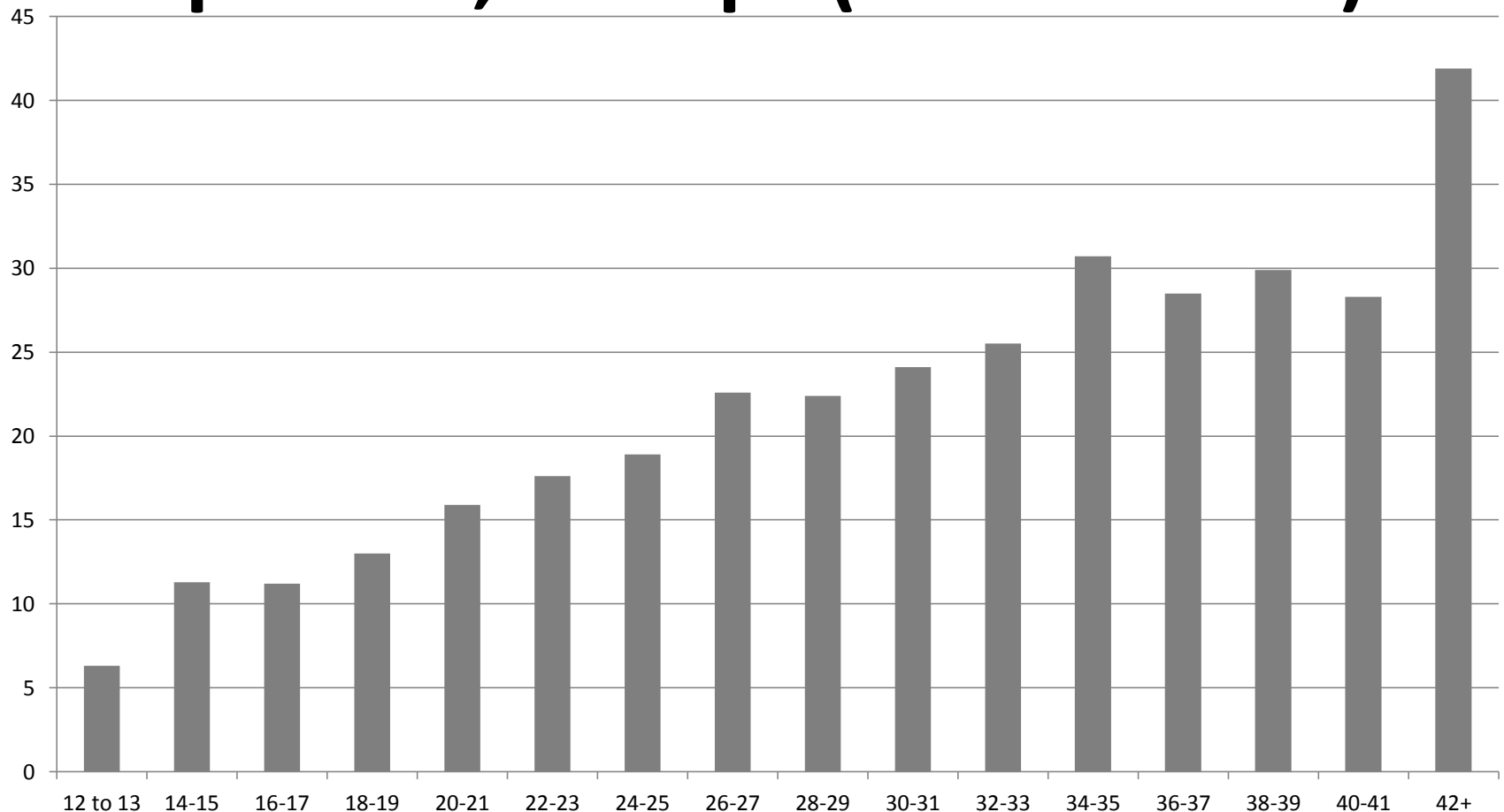
Maternal age and risk of labor and delivery complications

Patricia A. Cavazos-Rehg, Ph.D.^a, Melissa J. Krauss, M.P.H.^a, Edward L. Spitznagel, Ph.D.^b, Kerry Bommarito, M.P.H.^c, Tessa Madden, M.D.^d, Margaret A. Olsen, Ph.D., M.P.H.^{c,e}, Harini Subramaniam, M.S.^c, Jeffrey F. Peipert, M.D., Ph.D.^d, and Laura Jean Bierut, M.D.^a

Deliveries	Maternal Age Group													
	11–14 years old		15–19 years Old		20–24 years old		25–29 year olds		30–34 years old		35–39 years olds		≥40 years old	
	4,734		411,455		994,494		1,147,222		954,421		481,990		114,889	
Type of delivery	Number ^a	Rate ^b	Number ^a	Rate ^b	Number ^a	Rate ^b	Number ^a	Rate ^b	Number ^a	Rate ^b	Number ^a	Rate ^b	Number ^a	Rate ^b
Cesarean	1,034	218.4	97,263	236.3	289,649	291.3	373,297	325.4	352,501	369.3	208,921	433.5	57,563	501.0

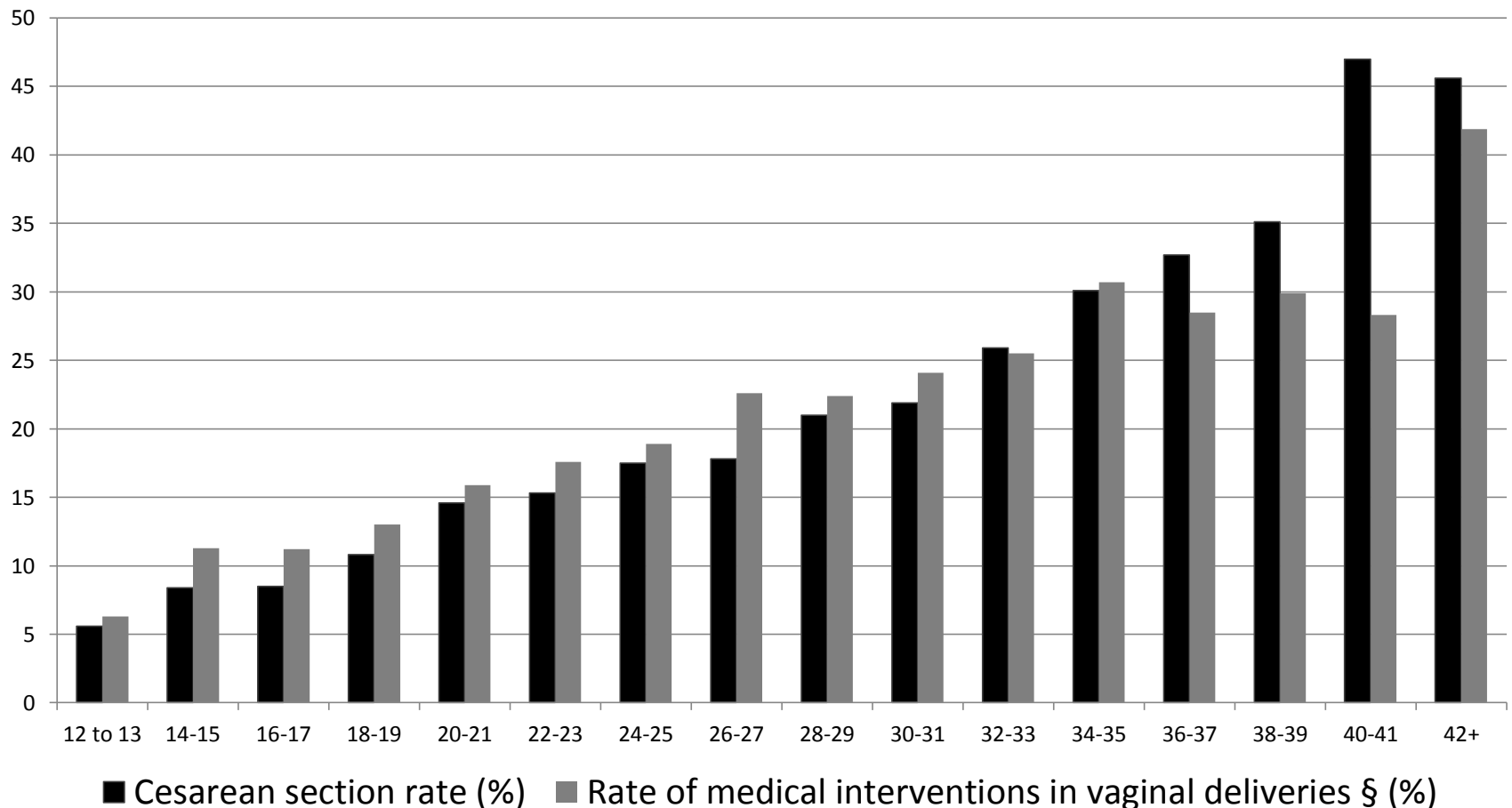
Primipares seulement 22 862 femmes

Incidence d'accouchements AVEC intervention médicale: ventouses, spatules, forceps (voies basses)



Primipares seulement 22 862 femmes

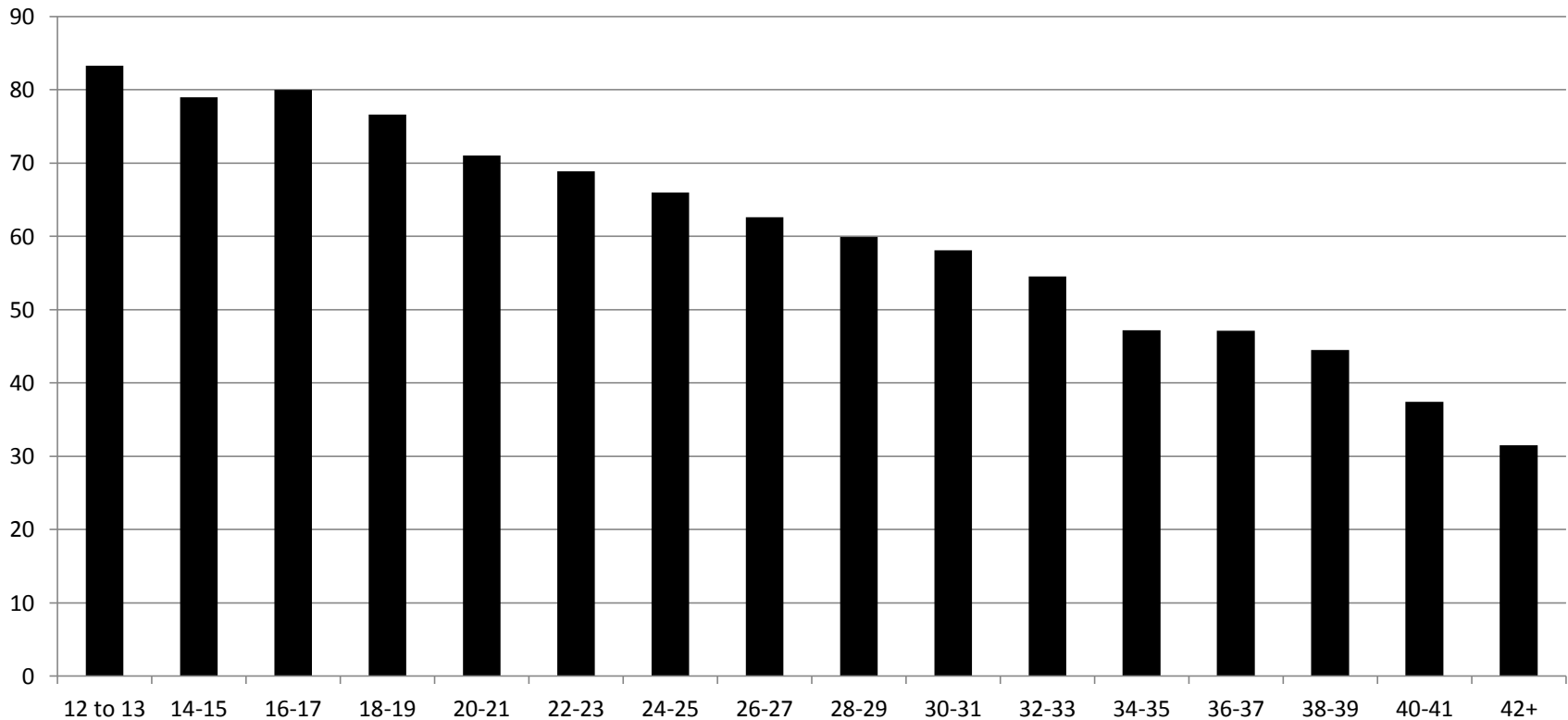
Incidence d'accouchements AVEC intervention médicale



Primipares seulement 22 862 femmes

Incidence d'accouchements sans intervention médicale

vaginal deliveries by maternal ages without any medical intervention (%)



Primipares seulement 22 862 femmes

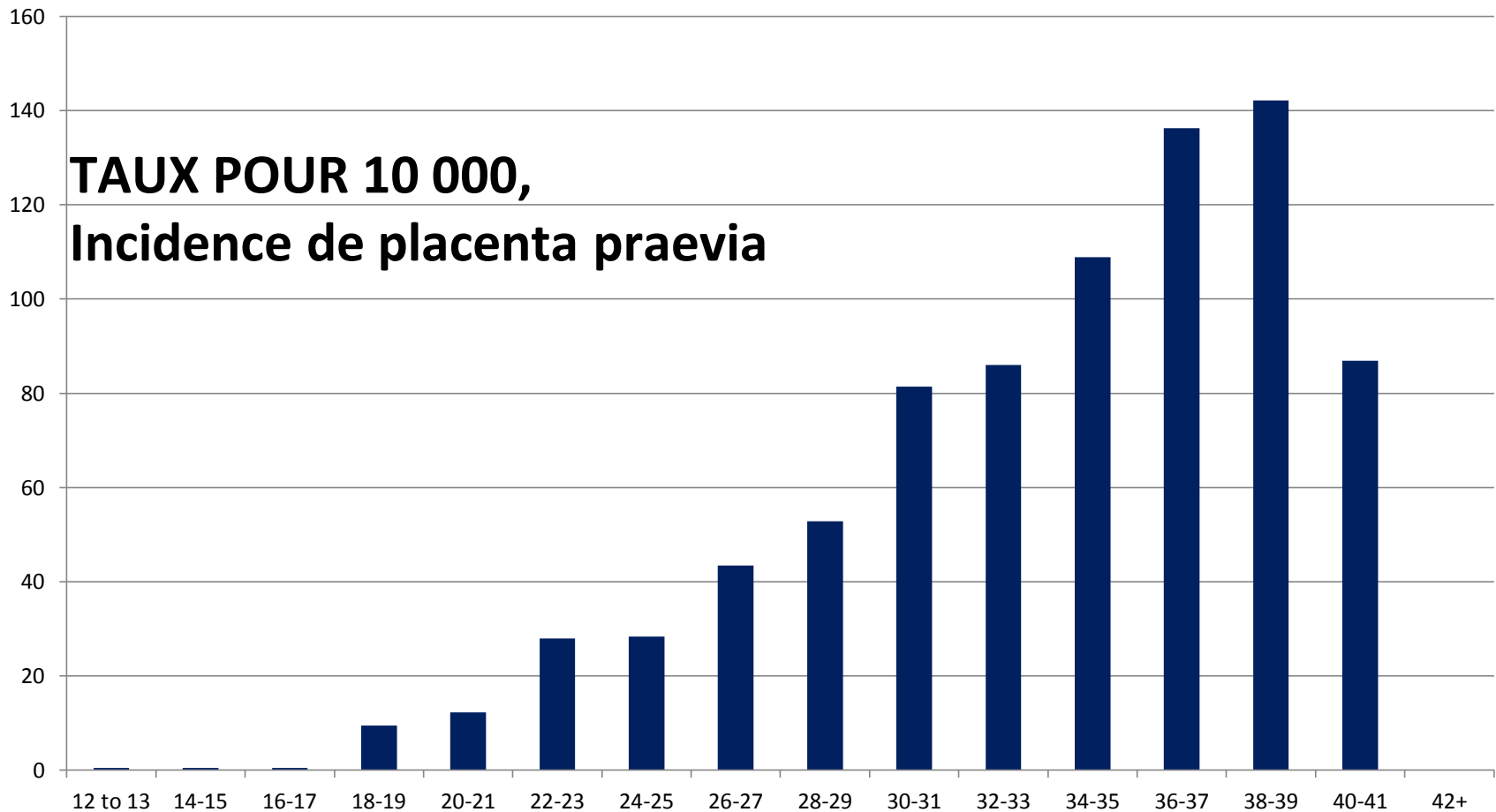
Incidence d'accouchements

3 lois linéaires en fonction de l'âge

- **Sièges ($y = 0,1 x$)**
- **Nécessité d'extraction instrumentale (VB)**
- **Incidence des césariennes**

Primipares seulement 22 862 femmes

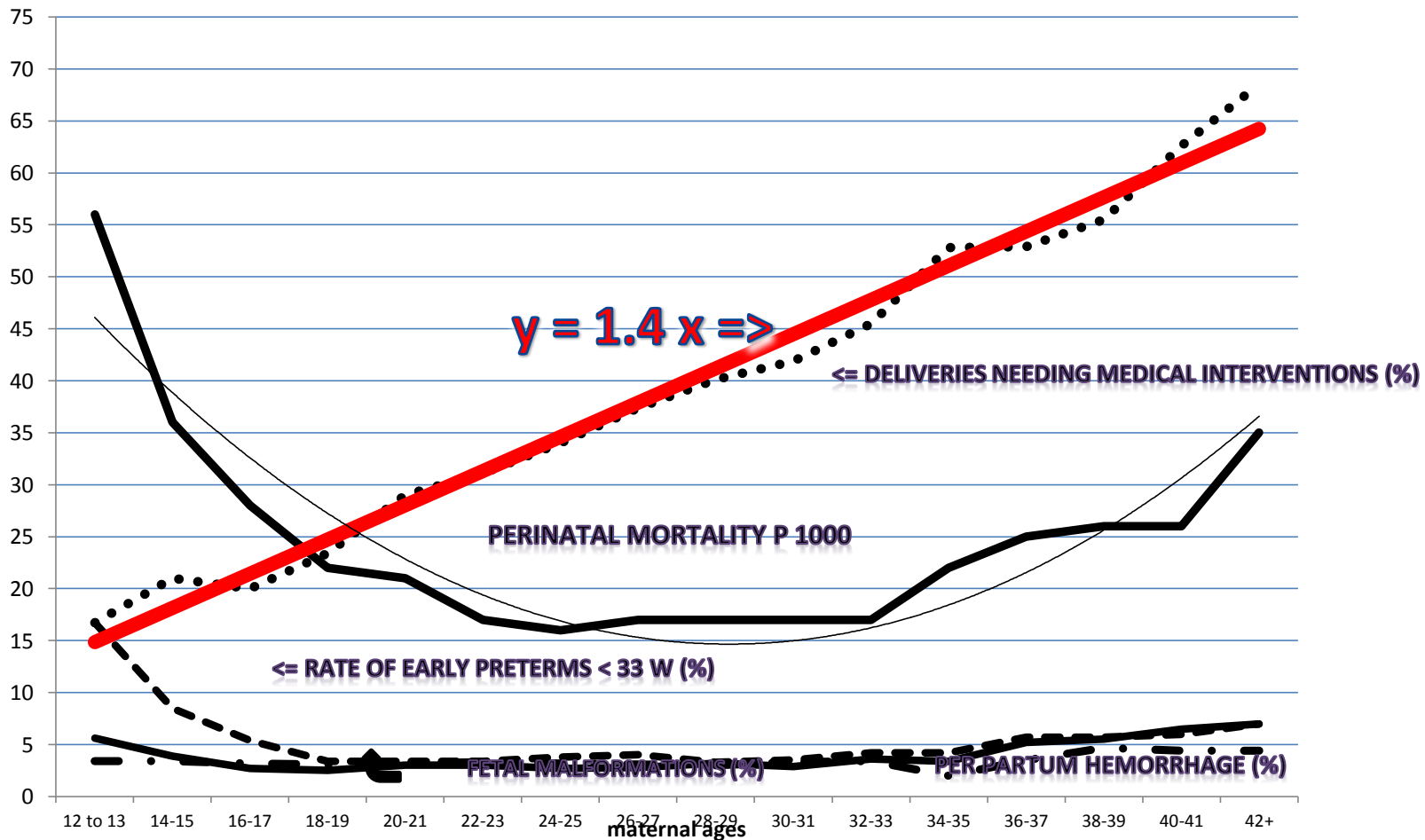
4 ème loi linéaire en fonction de l'âge



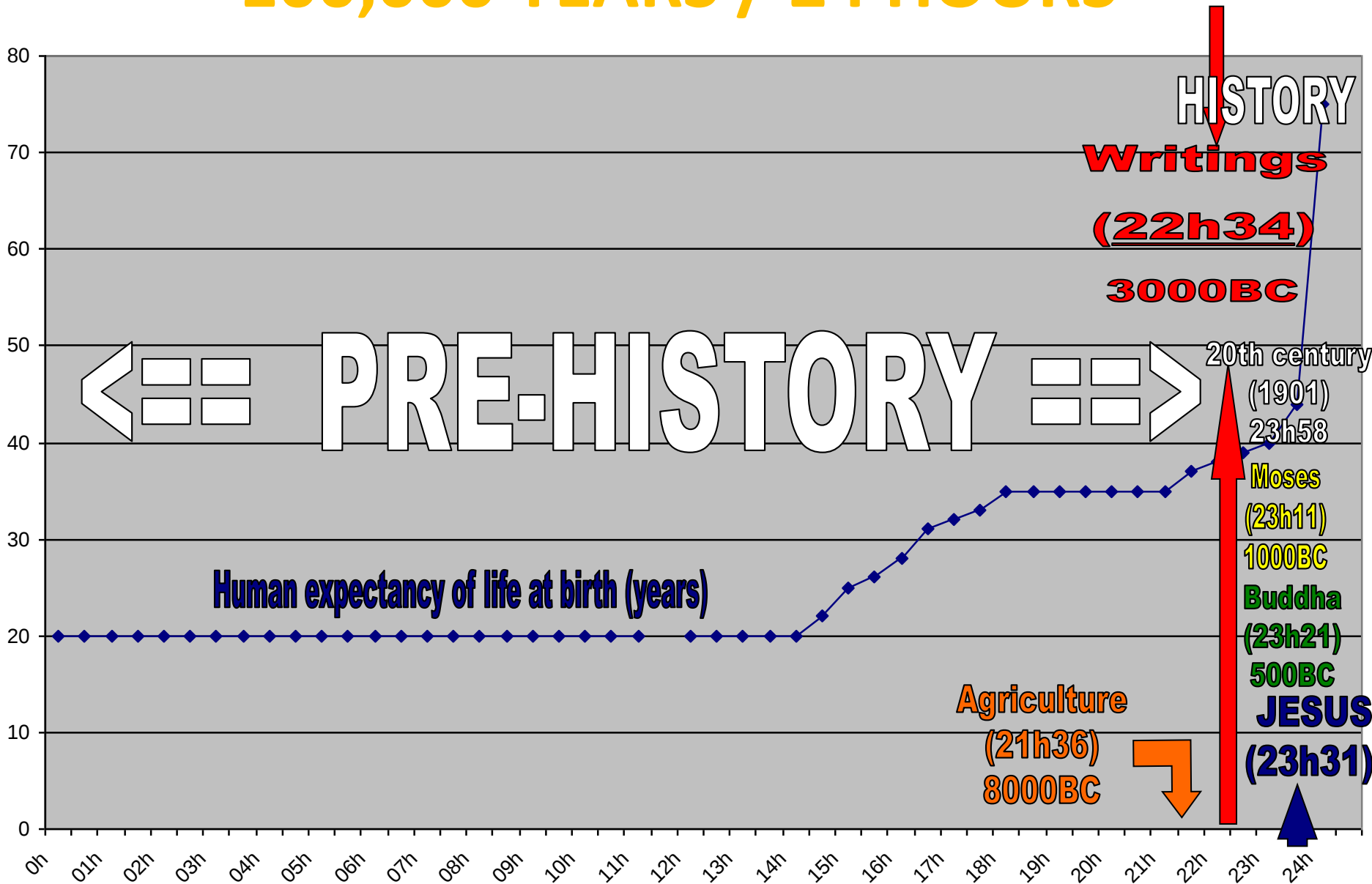
Maternal ages	12 to 13 N= 20	14 to 15 N= 485	16 to 17 N= 1984	18 to 19 N= 3376	20 to 21 N= 3487	22 to 23 N= 3076	24 to 25 N= 2663	26 to 27 N= 2263	28 to 29 N= 1854	30 to 31 N= 1329
Cesarean section All women N= 22,862(%)	2 (10.0)	41 (8.5)	166 (8.4)	366 (10.8)	510 (14.6)	473 (15.4)	459 (17.2)	409 (18.1)	391 (21.1)	295 (22.2)
Spontaneous vaginal deliveries All women N= 22,862 (%)	16 (80.0)	384 (79.2)	1582 (79.8)	2577 (76.3)	2466 (70.7)	2115 (68.8)	1759 (66.1)	1409 (62.3)	1109 (59.8)	769 (57.9)
Rate of Medical intervention in Vaginal deliv. (%) N= 18,729	1/17 (5.9)	47/431 (10.9)	206/1789 (11.5)	394/2971 (13.3)	477/2943 (16.2)	452/2567 (17.6)	414/2173 (19.1)	416/1825 (22.8)	319/1428 (22.3)	244/1013 (24.1)
Cesarean section Obese women (30 kg/m²+) N= 2448(%)	0 (0)	1/14 (7.1)	23/105 (21.9)	54/289 (18.7)	92/387 (23.8)	91/417 (21.8)	95/346 (27.5)	76/285 (26.7)	68/207 (32.9)	47/143 (32.9)
Cesarean section Heavy babies (3500g +) N= 3972 (%)	0/2 (0)	4/64 (6.3)	34/311 (10.9)	69/504 (13.7)	116/615 (18.9)	121/582 (20.8)	117/497 (23.5)	97/407 (23.8)	86/337 (25.5)	62/246 (25.2)
C-sectionfor placenta praevia (p 10.000)	0 (0)	0 (0)	0 (0)	3 (8.8)	5 (14,3)	9 (29.2)	8 (30.0)	9 (39.8)	9 (48.5)	12 (90.2)
Spontaneous breech (%) presentations	0 (0)	13 (2.7)	41 (2.1)	79 (2.3)	90 (2.6)	91 (3.0)	81 (3.0)	74 (3.3)	87 (4.7)	69 (5.2)

Maternal ages	32 to 33 N= 884	34 to 35 N= 596	36 to 37 N= 391	38 to 39 N= 223	40 to 41 N= 123	42+ N= 68	TOTAL 22,862	Chi² for linear trend	P value
Cesarean section All women N= 22,822 (%)	226 (25.6)	179 (30.0)	127 (32.5)	75 (33.6)	57 (46.3)	26 (44.1)	3806 (16.7)	578	< 0.0001
Spontaneous vaginal deliveries All women (%) N= 22,822	476 (53.8)	284 (47.7)	186 (47.6)	103 (46.2)	46 (37.4)	24 (35.3)	15,305 (67.1)	774	< 0.0001
Rate of Medical intervention in Vaginal deliv. (%) N= 18,719 ♂	174/650 (26.8)	123/407 (30.2)	73/259 (28.2)	42/145 (29.0)	17/63 (27.0)	14/38 (36.8)	3413/18719 (18.2)	289	< 0.0001
Cesarean section Obese women N= 2448 (%)	34/93 (36.6)	26/64 (40.6)	17/40 (42.5)	13/31 (41.9)	14/18 (77.8)	6/8 (75.0)	658/2448 (26.9)	96	< 0.0001
Cesarean section Heavy babies (3500g +) N= 3972 (%)	44/154 (28.6)	38/110 (34.5)	32/76 (42.1)	16/44 (36.4)	12/17 (70.6)	4/6 (66.6)	852/3972 (21.5)	112	< 0.0001
C-sectionfor placenta praevia (p 10.000)	7 (79.2)	6 (100.6)	5 (127.9)	3 (134.5)	2 (166.2)	0 (0)	78 (34.1)	45.25	< 0.0001
Spontaneous breach presentation. (%)	37 (4.2)	31 (5.2)	19 (4.9)	10 (4.5)	7 (5.7)	4 (5.9)	733 (3.2)	52.8	< 0.0001

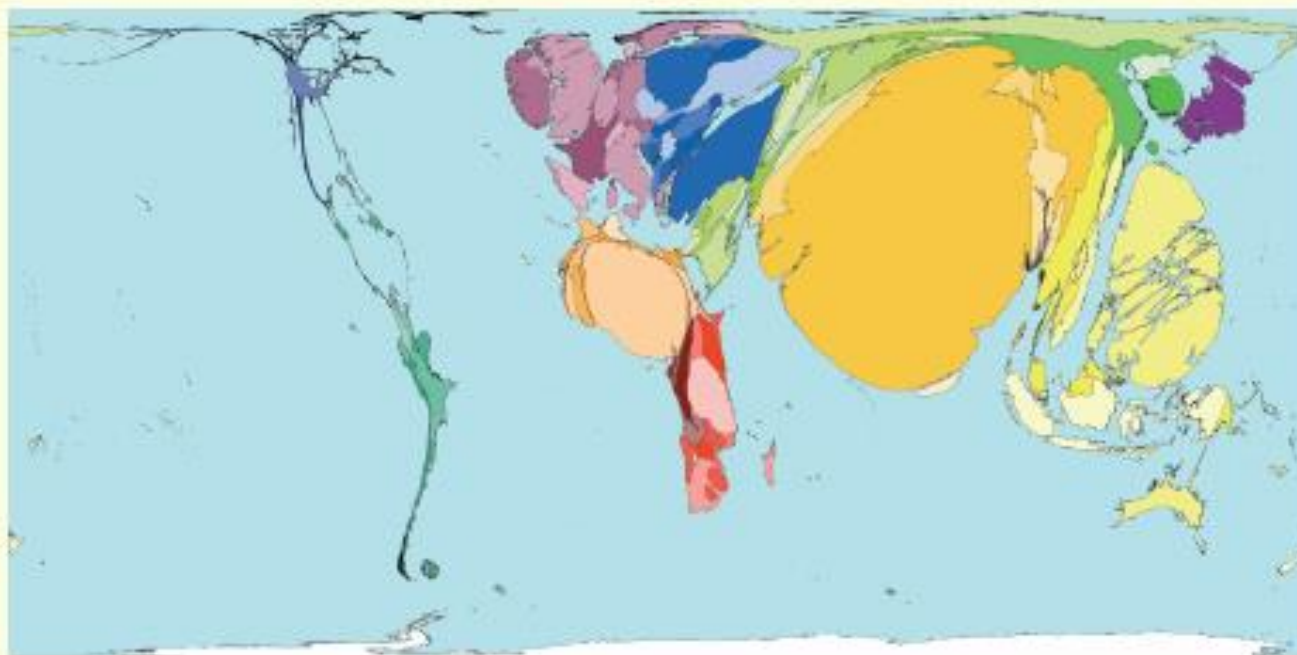
Résultante: $Y = 0,4 x$



100,000 YEARS / 24 HOURS



Midwives Working



Midwives assist births. India is the territory with the most midwives working there, estimated to be almost half a million. The Philippines has the second highest number of midwives living and working there. Many territories in South and North America have a small number of midwives.

The number of midwives per person is highest in two sets of islands: Ireland and the Seychelles. It is lowest in Togo and Burundi.

Some territories have few midwives because they have not (and sometimes cannot) adopted this custom, others prefer births to be attended by doctors. The value of midwives has only recently been realised in North America.

Territory size shows the proportion of all midwives that work in that territory.



Land area

Technical notes
• Data are mainly from the World Health Organisation's 2006 World Health Report
• See website for further information

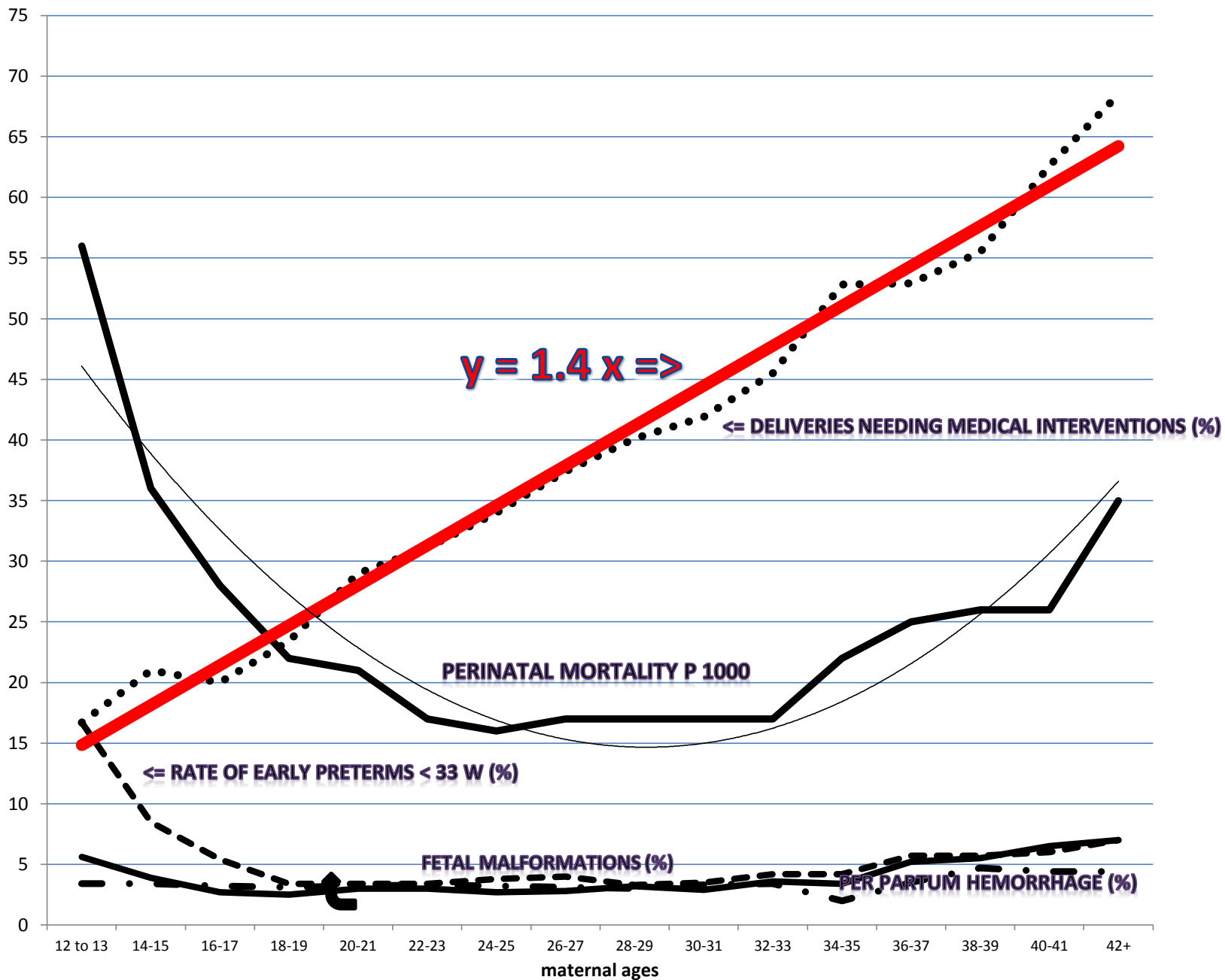
MOST AND FEWEST MIDWIVES WORKING

Rank	Territory	Value	Rank	Territory	Value
1	Ireland	427	191	Yemen	1.2
2	Seychelles	395	192	Bolivia	1.1
3	Swaziland	207	193	Ethiopia	0.9
4	Maldives	185	194	Guinea	0.7
5	Philippines	179	195	Rwanda	0.6
6	Brunei Darussalam	121	196	Costa Rica	0.6
7	Azerbaijan	117	197	Oman	0.5
8	Namibia	117	198	Cameroon	0.5
9	Niue	95	199	Burundi	0.2
10	Tuvalu	91	200	Togo	0.1

midwives working per 100 000 people, in 2004 or most recent

MIDWIVES WORKING





SYLLOGISMES

- Tous les hommes sont mortels
 - or Socrate est un homme
 - DONC, Socrate est mortel
- Des lois biologiques sont décrites à la Réunion
 - or les réunionnaises sont des femmes
 - Donc ces lois sont universelles

Linear association between maternal pre-pregnancy body mass index and risk of caesarean section in term deliveries

G Barau,^a P-Y Robillard,^b TC Hulsey,^c F Dedeker,^d A Laffite,^a P Gérardin,^b E Kauffmann^a

BJOG 2006;113:1173-77

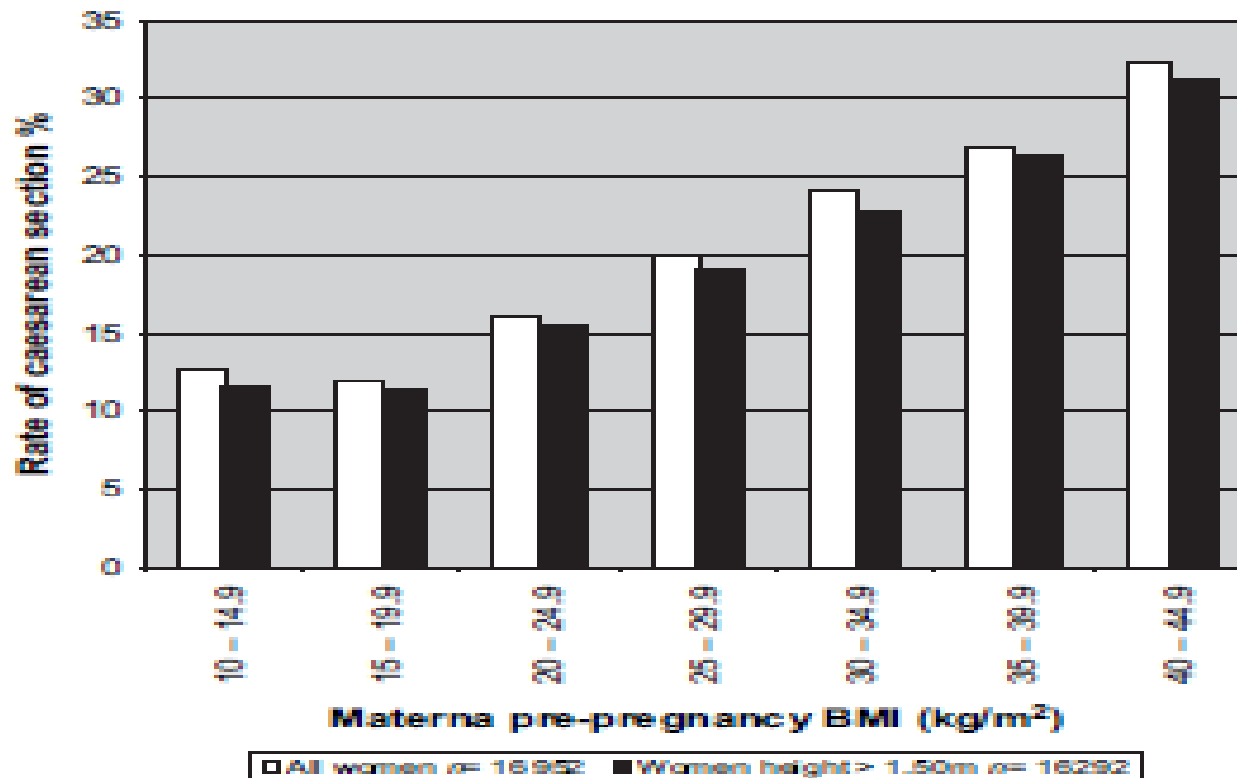


Figure 1. Caesarean section rate and pre-pregnancy maternal BMI.

DOMAINES D'EXPERTISE PERINATALE

- Les grossesses des femmes jeunes (adolescentes comprises, 2931 dont 286 ados multipares!)
- L'obésité (≥ 30 kg/m²: 10 456), 30-34: 6479, 35-39: 2686, 40-44: 920, ≥ 45 : 371) et le diabète gestationnel (6578)
 - Prise en charge
 - Le problème de la prise de poids pendant la grossesse
- L'infection materno-fœtale (X 3 à 4)
- Les grandes multipares (5 enfants et plus)
 - > 5543 en 2016 (!!)
- L'étude des MFIU sur 16 ans (563)
- La prééclampsie (1586)

Conférence mercredi 19 avril, 14h Salle ORION

DUREE DE GESTATION EN FONCTION DES DIFFERENTES ETHNIES

DONNEES DE GUADELOUPE ET DE LA REUNION GROSSESSES MONOFOETALES

///////////////// /////////////////	Européennes (métropole) Réunion N= 3416	Réunionaises (toutes ethnies confondues) N= 39965	Mahoraises & Comoriennes N= 2439	Madagascar N= 655	Maurice (toutes ethnies confondues) N= 382	Noirs antillais (& haïtiens) N= 5906	Indiens antillais (Tamouls) N=527
Terme* (semaines aménorrhée)	38,6 ± 2,4 N= 3416	38,2 ± 2,6 N= 39965	38,1 ± 2,7 N= 2204	38,1 ± 2,9	37,8 ± 2,7 N= 382	38,0 ± 2,6 N= 5906	38,4 ± 1,9 N=527
Terme « théorique **	39,2 ± 2,4 N= 1218	38,7 ± 2,5 N= 14951	38,6 ± 2,8 N= 723	38,7 ± 2,7 N= 252	38,5 ± 2,2 N= 149	38,2 ± 2,7 N= 4878	38,6 ± 2,8 N= 353
Durée gestation en jours**	274 ± 17,2 N= 1218	271 ± 18,4 N=14951	270 ± 19,7 N= 723	270 ± 18,9 N= 252	270 ± 15,4 N= 149	267 ± 18,9 N= 3673	270 ± 15 N= 466
Signes cliniques de post maturité	7,8% N= 3376	11% N= 39 400	21,7% N= 2425	13,7% N= 644	7,2% N= 375	29,8% N= 5734	28,4% n= 522
Pourcentage de liquides teintés ou méconiaux	14,6%	14,9%	24,6%	21,5%	11,5%		
		- 3 jours	- 4 jours	- 4 jours	- 4 jours	- 7 jours	- 4 jours

40+6

41+4

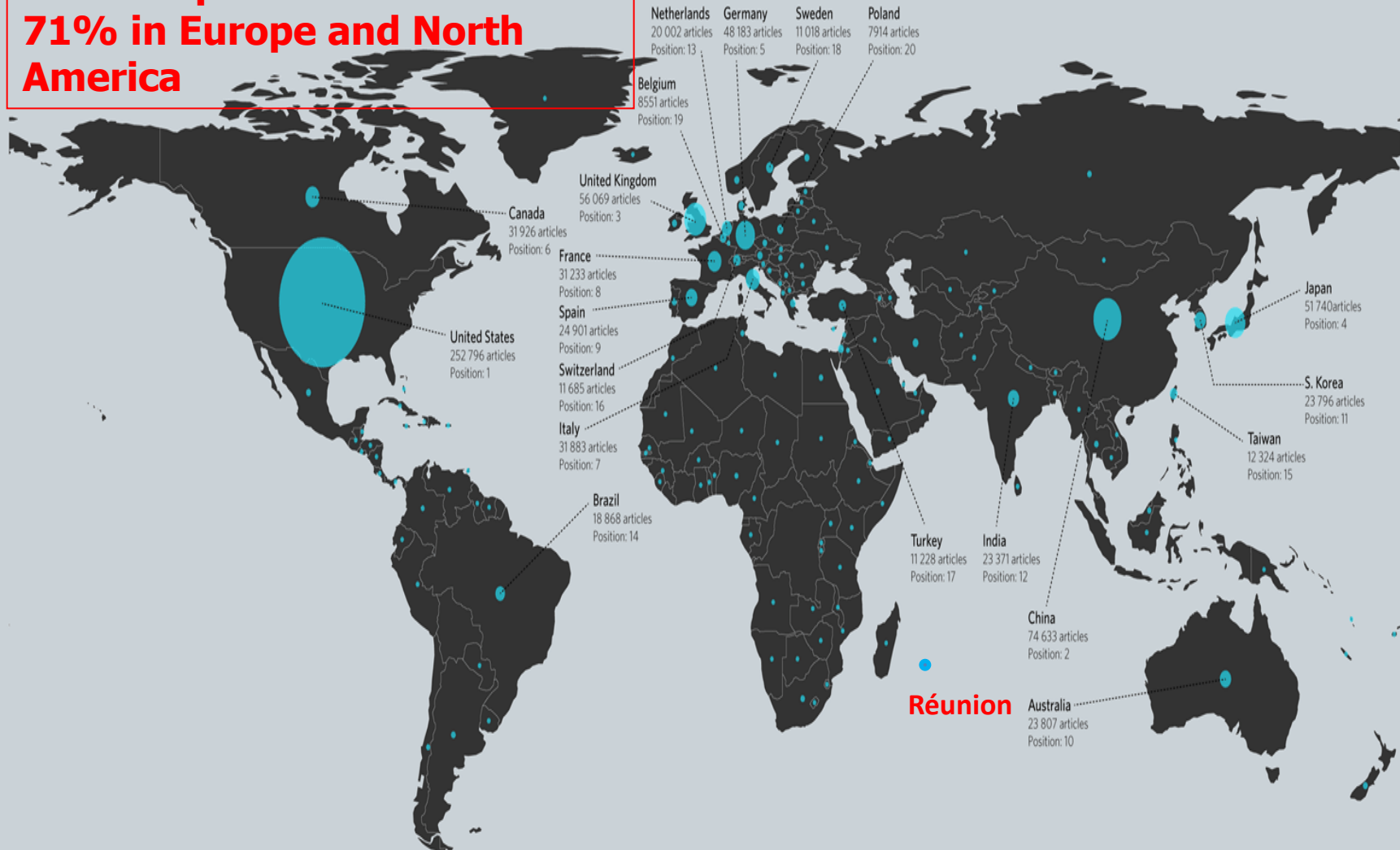




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Early Neo-Natal Mortality

