Strålskyddsstiftelsen
Swedish Radiation Protection Foundation

European Commission
Health & Consumers
Directorate C: Public Health
Unit C2 – Health Information/ Secretariat of the Scientific Committee
Office: HTC 03/073 L-2920 Luxembourg
SANCO---C2---SCENIHR@ec.europa.eu

April 16, 2014

Comments on the SCENIHR preliminary opinion on 'Potential health effects of exposure to electromagnetic fields (EMF) approved at the 4th plenary of 12 December 2013

We hereby submit the comments from the Swedish Radiation Protection Foundation, a non-profit organization with the aim of informing and protecting citizens from health hazards of EMF.

Our comment focus mainly on the content of the SCENIHR 2013 report on "Health Effects from RF- fields (chapter 3.5)

Summary

This section of the SCENIHR preliminary opinion provide false, inaccurate, misleading and biased information about available research and results from both epidemiological studies on neoplastic diseases (cancer) and studies on other health risks. There is even evidence of scientific fraud or misconduct. We hereby expose why:

A. Fraudulent and misleading presentation of what studies on brain tumour risks in children, adolescents and adults show;
B. Omission of critical new studies providing evidence of increased risks of malignant brain tumours from mobile phone use;
C. Omission of critical statistical data over increasing trends in brain tumour incidence in some countries;
D. Omission and biased presentation of studies showing increased cancer risks from base stations;
E. Serious omissions of results of studies showing negative effects and health risks from RF-EMF radiation: 144 of 211 new neurological studies show neurological effects (68%) and 90% of 105 studies show neurological effects of low frequency EMF. These data show that neurological effects from RF-EMF are clearly established, and not the contrary as proposed by the SCENIHR report. Also damage to DNA from RF-radiation is reported in 65% of (74 of 114 studies) and in 83% (49 of 59 studies) during the 2006/2007 to 2014 period and many of them are overlooked by the SCENIHR report. They also show that damage to DNA is sufficiently established as a cause of RF-EMF also in contrast to what is proposed in the SCENIHR preliminary opinion.

The preliminary opinion needs to be totally revised and submitted to a new group of experts that are prone to and capable of presenting an objective and accurate report of the results from the research on health risks from high frequency radiation from wireless technology and techniques emitting low frequency radiation. The available preliminary opinion of SCENIHR is a disservice and a betrayal to the people of the European Union.

Strålskyddsstiftelsen
Swedish Radiation Protection Foundation

1. Studies of brain tumour risks from mobile phone use in children show increased risks not the opposite (as claimed on page 67 and 61)

Page 61, quote SCENIHR:
"The only available study on mobile phone use and brain tumours in children and adolescents is the Cefalo study (Aydin et al., 2011a). "

Comment: This is not the only study available: Hardell et al. 2009 analysed the risk for malignant brain tumours for those cases that started to use the phone as teenagers. The risk was substantially higher than for adults, quote from abstract: "*Overall highest OR for mobile phone use was found in subjects with first use at age <20 years, OR=5.0, 95% CI 1.5-16"*[1]

Page 61 quote SCENIHR
"Regular use (again at least one call per week over a period of 6 months or more) showed a statistically non-significantly increased OR of 1.36 (CI 0.92-2.02), but there was no trend by either time since first use, cumulative number of calls, or cumulative call time….

Comment: This is a biased statement and that should be known by the authors of this SCENIHR section since external expert Joachim Schuz is also author and coworker of the Cefalo study. This result could also be described as showing **a consistent increased risk for malignant brain tumours in children that had used a mobile phone. Nearly all calculated OR:s are above 1.0 (100% of calculated OR:s above 1.0 in table 2, page 5; 90% above 1.0 in table 3 page 6 and 83% of calculated OR:s in table 4 page 7).**

At the contrary to what the SCENIHR authors claim **the Cefalo study also showed increasing risk by increasing cumulative duration of subscriptions and cumulative duration of calls, withs OR:s increasing from 1.34 tor 1.45, to 1.58 (duration of subscriptions) and 1.33,to 1.44, to 1.55 (duration of calls):**

[1] Hardell et Carlberg 2009: Mobile phones, cordless phones and the risk for brain tumours. http://www.ncbi.nlm.nih.gov/pubmed/19513546

Table 2. Odds ratios (OR) and 95% confidence intervals (CI) of brain tumors associated with mobile phone use*

Variable	Case patients, No.	Control subjects, No.	OR (95% CI)	P_{trend}†
Regular use‡				
No§	158	317	1.0 (referent)	
Yes	194	329	1.36 (0.92 to 2.02)	
Time since first use, y				.37
Never regular user	158	317	1.0 (referent)	
≤3.3	95	165	1.35 (0.89 to 2.04)	
3.3–5.0	53	83	1.47 (0.87 to 2.49)	
>5.0	46	81	1.26 (0.70 to 2.28)	
Cumulative duration of subscriptions, y§				.14
Never regular user	158	317	1.0 (referent)	
≤2.7	94	163	1.34 (0.89 to 2.01)	
2.8–4.0	45	78	1.45 (0.83 to 2.54)	
>4.0	52	81	1.58 (0.86 to 2.91)	
Cumulative duration of calls, h§				.42
Never regular user	158	317	1.0 (referent)	
≤35	94	162	1.33 (0.89 to 2.01)	
36–144	48	81	1.44 (0.85 to 2.44)	
>144	49	81	1.55 (0.86 to 2.82)	
Cumulative number of calls§				.58
Never regular user	158	317	1.0 (referent)	
≤936	94	163	1.34 (0.89 to 2.02)	
937–2638	50	80	1.47 (0.86 to 2.51)	
>2638	47	79	1.42 (0.79 to 2.53)	

* Mobile phone use was defined as regular use, time since first use, cumulative duration of subscriptions, cumulative duration of calls, and cumulative number of calls.

† *P* values for tests of trend were calculated by means of a two-sided Wald test for regression models in which exposure was included as continuous variable, and all subjects in a category were assigned the median value of their corresponding category.

‡ "Regular use" was defined as use of a mobile phone at least once per week for a period of 6 months or more.

§ Six observations were dropped from the analysis because four participants had missing exposure data.

Page 61 quote SCENIHR:
"*For a subsample of participants it was possible to obtain traffic records from mobile phone operators: while the OR significantly increased in the time since first use category of longest latency of >2.8 years (2.15; CI 1.07 to 4.29), there was no trend by cumulative call time with ORs being 1.24, 1.95 and 1.38 (none statistically significantly elevated)*"

Comment: Also the statement is biased. A more objective description would be that ***the study showed a statistically significant 115% increased risk in children with longest time since first subscription with an increasing trend with cumulative duration of subscription and time since first subscription.*** The results also indicated increasing trend with increased duration of calls.

The low number of cases with the highest duration of calls (9 cases with cumulative duration of calls more than 27 hours and 11 with cumulative duration of calls 12-27 hours) leads to broad confidence intervals and statistically non-significant results in these categories, which prevents the conclusions drawn by the SCENIHR authors. **This is another example of an unacceptable bias that one not statistically significant result (more than 27 hours of cumulative duration of calls with OR 1.38) is used to put into question a statistically significant finding of a 115% increased risk for malignant brain tumours in children that had used mobile phones with a latency of more than 2.8 years.**

Table 4. Comparison of analyses with operator-recorded and self-reported mobile phone use

Variable	Operator recorded use: Case patients n	Operator recorded use: Control subjects n	OR (95% CI)	P_{trend}*	Self-reported use in collective with available operator data: Case patients n	Self-reported use in collective with available operator data: Control subjects n	OR (95% CI)	P_{trend}*	Self-reported use in collective without available operator data: Case patients n	Self-reported use in collective without available operator data: Control subjects n	OR (95% CI)	P_{trend}*
Time since first subscription, y				.001				.25				.22
Never regular user†	134	259	1.0 (referent)		127	245	1.0 (referent)		154	305	1.0 (referent)	
≤1.8	19	51	0.78 (0.43 to 1.40)		33	62	1.09 (0.65 to 1.84)		59	103	1.17 (0.79 to 1.74)	
1.8–2.8	19	25	1.71 (0.85 to 3.44)		17	25	1.47 (0.69 to 3.14)		30	57	1.15 (0.67 to 1.97)	
>2.8	24	25	2.15 (1.07 to 4.29)		19	28	1.51 (0.68 to 3.35)		36	54	1.47 (0.81 to 2.67)	
Cumulative duration of subscriptions, y				.15				.62				.18
Never regular user†	133	259	1.0 (referent)		125	239	1.0 (referent)		155	311	1.0 (referent)	
≤1.8	13	26	1.14 (0.55 to 2.37)		21	36	1.24 (0.66 to 2.33)		73	128	1.19 (0.82 to 1.72)	
1.9–3.3	10	13	1.73 (0.71 to 4.20)		8	15	1.17 (0.44 to 3.13)		37	67	1.23 (0.74 to 2.05)	
>3.3	11	13	1.84 (0.74 to 4.58)		12	21	1.19 (0.47 to 3.03)		40	61	1.46 (0.83 to 2.55)	
Cumulative duration of calls, h				.36				.85				.47
Never regular user†	133	259	1.0 (referent)		125	239	1.0 (referent)		155	311	1.0 (referent)	
≤11	14	26	1.24 (0.61 to 2.55)		23	34	1.50 (0.79 to 2.83)		71	130	1.14 (0.79 to 1.65)	
12–27	11	13	1.95 (0.81 to 4.73)		7	21	0.70 (0.27 to 1.81)		41	61	1.48 (0.89 to 2.47)	
>27	9	13	1.38 (0.53 to 3.61)		11	17	1.27 (0.46 to 3.49)		38	65	1.36 (0.77 to 2.40)	
Cumulative number of calls				.60				.74				.57
Never regular user†	133	259	1.0 (referent)		125	239	1.0 (referent)		155	311	1.0 (referent)	
≤573	16	26	1.43 (0.71 to 2.88)		21	32	1.51 (0.78 to 2.92)		73	132	1.15 (0.79 to 1.66)	
574–1292	11	13	1.79 (0.74 to 4.29)		8	21	0.71 (0.28 to 1.79)		42	61	1.51 (0.91 to 2.51)	
>1292	7	13	1.08 (0.38 to 3.06)		12	19	1.34 (0.53 to 3.35)		35	63	1.24 (0.71 to 2.16)	

* *P* values for tests of trend were calculated by means of a two-sided Wald test for regression models in which exposure was included as continuous variable, and all subjects in a category were assigned the median value of their corresponding category.

† Reference category (among never regular users, 123 cases and 233 control subjects reported to have no subscription and were included as references in all analyses).

Page 61 SCENIHR quote:

"Every use of cordless phones showed no increased OR (1.09; CI 0.81-1.45), not even in the group of highest cumulative use."

Comment: **This quote is scientific fraud. There is no other word for it**. **The Cefalo study only asked the children about their use of cordless phone "during the first 3 years" the child used it. It is only the first three years of use that was analysed. Nothing else. Not "every use". Not "even in the highest cumulative use". The questions posed to the participating children were restricted to "only the first three years of use" of a cordless phone.** Again this is known by one of the authors of the SCENIHR report, Joachim Schüz from IARC. He was coauthor and co-designer of the Cefalo questionnaire. The restriction to the first 3 years of use is **only mentioned in the third footnote** of Table 6 on page 9 of the published Cefalo paper presenting the results on cordless phone use:

Table 6. Odds ratios (ORs) and 95% confidence intervals (CIs) of brain tumors associated with other radio frequency electromagnetic field exposure sources*

Variable	Case patients No.	Control subjects No.	OR (95% CI)	P_{trend}*
Ever use of baby monitors† near the head				
No	335	611	1.0 (referent)	
Yes	17	35	0.96 (0.50 to 1.86)	
Ever use of cordless phones				
No	110	216	1.0 (referent)	
Yes	242	430	1.09 (0.81 to 1.45)	
Cumulative duration of calls with cordless phones, h‡				.20
Never user of cordless phones	102	189	1.0 (referent	
≤23	70	135	0.98 (0.65 to 1.46)	
24–70	39	60	1.15 (0.71 to 1.87)	
>70	25	38	1.18 (0.65 to 2.14)	
Missing	116	224	0.94 (0.67 to 1.32)	
Cumulative number of calls with cordless phones‡,§				.20
Never user of cordless phones	102	189	1.0 (referent)	
≤235	61	116	1.01 (0.66 to 1.53)	
236–704	48	79	1.07 (0.68 to 1.69)	
>704	27	39	1.21 (0.68 to 2.15)	
Missing	114	223	0.94 (0.67 to 1.31)	

* *P* values for tests of trend were calculated by means of a two-sided Wald test for regression models in which exposure was included as continuous variable, and all subjects in a category were assigned the median value of their corresponding category.

† Wireless baby monitor or alarm to remotely listen to sounds made by an infant.

‡ In the first 3 years of use.

§ The 75th and 90th percentiles served as cutoffs because of broad categories.

There is no scientific valid reason to restrict the exposure to cordless phones in children 7 to 19 years old to only the first three years of use. The only explanation is a deliberate effort to manipulate the results towards showing no increased risks. If the exposure to radiation from cordless phones is not added to the exposure from mobile phones, the possibility to observe increased risks for brain tumours is minimized.

Cordless phones expose the user to similar radiation levels as cell phones particularly when used in areas with high mobile phone base station coverage. Also at the time of the study period, cordless phones were cheaper to use than mobile phones and were used more hours by children than mobile phones as shown by the Hardell group in 2007. The use of cordless phones increased substantially by age:

"The average use increased with age as for use of mobile phones, but clearly there were more regular users of DECT (= 5 min per day) than of mobile phones."[2]

Consequently the restriction to "the first three years of use" of the exposure to the cordless phones among children and adolescents aged 7-19 years described as "every use" by the SCENIHR authors, likely imply an exclusion of the highest exposed group of children and adolescents to cordless phones radiation! Furthermore the Hardell group, the only research group that has investigated brain tumour risks from all cordless phone use, has consistently shown similar increased risks from both mobile phones and cordless phones. Quote:
"The results for cordless phone use were OR=1.7, 95% CI=1.1-2.9, and, for latency of 15-20 years, the OR=2.1, 95% CI=1.2-3.8."[3]

2. The majority of studies on brain tumour risks in relation to mobile phone use among adults show consistently increased risks – not the contrary as suggested by the SCENIHR authors

In 2013 the Hardell group published three case-control studies that are the first in the world to study risks with mobile phone use for more than 20 years, one on acoustic neuroma in July[4], one on meningioma in July[5] and one on glioma in September[6]. However these three studies are not included in the SCENIHR report. This is an unacceptable and unfounded omission since there was plenty of time to include them by the publication of the SCENIHR paper five months later (February 2014).

The Hardell studies showed statistically significant increased risks from use of both mobile and cordless phones for malignant brain tumour as well as increased risks for

[2] Söderqvist et al. 2007: Ownership and use of wireless telephones: a population-based study of Swedish children aged 7–14 years http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1905911/

[3] Hardell et al.: Case-control study of the association between malignant brain tumors diagnosed 2007-2009 and mobile and cordless phone use. *Int J Oncol.* 2013;43:1833-1845. Epub 2013 Sep 24

[4] Hardell et al.: Pooled analysis of case-control studies on acoustic neuroma diagnosed 1997-2003 and 2007-2009 and use of mobile and cordless phones. *Int J Oncol.* 2013;43:1036-1044. Epub 2013 Jul 22.

[5] Carlberg M, Söderqvist F, Hansson Mild K, Hardell L. Meningioma patients diagnosed 2007-2009 and the association with use of mobile and cordless phones: a case--control study. *Environmental Health*. 2013; 12: 60.

[6] Hardell et al.: Case-control study of the association between malignant brain tumors diagnosed 2007-2009 and mobile and cordless phone use. *Int J Oncol.* 2013;43:1833-1845. Epub 2013 Sep 24

tumour on the acoustic nerve. The risk increased with increased use and latency time. Quote from the results on malignant brain tumours:

"The odds ratio (OR) for mobile phone use of the analogue type was 1.8, 95% confidence interval (CI)=1.04-3.3, increasing with >25 years of latency (time since first exposure) to an OR=3.3, 95% CI=1.6-6.9. Digital 2G mobile phone use rendered an OR=1.6, 95% CI=0.996-2.7, increasing with latency >15-20 years to an OR=2.1, 95% CI=1.2-3.6. The results for cordless phone use were OR=1.7, 95% CI=1.1-2.9, and, for latency of 15-20 years, the OR=2.1, 95% CI=1.2-3.8. Few participants had used a cordless phone for >20-25 years."

No consistent pattern of increased risk was found for meningioma. Thus, different results for different tumour types in the same study strengthen the validity of the findings.

In 2010 the Interphone study on glioma risks in relation to mobile phone use was published. The study showed increased risks consistently in the exposure group where the risks were most likely to be detected first: in the highest exposure group, the persons that had used the mobile phone for more than 1640 hours (30 min a day over 10 years or roughly 1 hour a day over 4 years). To use a mobile phone for 30 min – 1 hour a day is a normal usage in the EU-countries today, even by children and adolescents. Therefore it is misleading to present the increased risk as only attributable to "heavy users" as by the SCENIHR authors.

Interphone also excluded all DECT/cordless phone users, which led to an underestimation of the observed risks. This omission of a major exposure is the most likely explanation to the reduced risks for brain tumours for those who had used the mobile phone only a little or as a "regular user", defined by the Interphone as a person who had used the mobile phone at least once a week during at least 6 months. This exclusion of the cordless phone usage is not mentioned at all by the SCENIHR authors.

The Danish cohort study was coauthored, as Cefalo and Interphone, by SCENIHR external expert Joachim Schüz, IARC. Again this study is flawed toward finding no increased risks **with the exclusion of the heaviest exposure group that is extraordinary: namely the 200 000 corporate users of mobile phones.** As an example in 1999 a corporate user in Sweden on average used a mobile phone for outgoing conversations **six times more than a private user (statistical data from Swedish Post and Telecommunications Authority PTS)** [7] **This 200 000 of the obviously heaviest exposed mobile phone subscribers ended up in the non-exposed comparison group. The six times heavier 200 000 users represent 50% of the 400 000 private subscribers included in the study. In addition, the Danish cohort only included private subscribers of mobile phones until 1995.** Before 1995 the difference in usage between a corporate user and a private user can be expected to be even larger because the rates were higher before 1995 compared to 1999.

These flaws turn this study to a non-informative report on brain tumour and other health risks from mobile phone use.

[7] PTS: Svensk Telemarknad 2003. Page 69 and 72. Available online https://www.pts.se/sv/Dokument/Rapporter/Telefoni/2004/Svensk-telemarknad-2003---PTS-ER-200424/

The same critique applies to the UK cohort study on mobile phone users by Benson *et al* published in 2013. Use of mobile phones was assessed in about 65 % of a cohort of women established for other purpose during 1996-2001. Only baseline data collected at one time between 1999-2005 were used with the questions: 'About how often do you use a mobile phone?' (never, less than once a day, every day); and 'For how long have you used one?' (total years of use). Thus, the results on brain tumour risk are not informative. It should be remarked that one of the members in the Expert group, Joachim Schűz is, once again, co-author of this study.

In spite of the well known and non-informative aspects of the Danish cohort the authors of SCENIHR 2013 claim on page 63 quote:

"This is confirmed by the Danish cohort study that rules out risks that would affect large segments of the population"

Comment: The Danish cohort confirms nothing as it is uninformative on the risks from mobile phone use. The study is generally acknowledged as uninformative. One such example is IARC working group that evaluated research on cancer risks in May 2011.

On the contrary, the Danish cohort is contradicted by the increasing incidence of brain tumours in Denmark over the last 10 years, as reported by the Danish Cancer Register's last report (2012): The incidence of tumours in brain and central nervous systems per 100 000 inhabitants **increased by 41.2% in men and 46.1% in women between 2003 and 2012.**[8] This worrisome steep increase supports the increased risk as shown by the Hardell group, the Interphone study and the Cefalo study.

Also Norway and Finland to a lesser extent though, show increased incidence trends in brain tumours over the last 10 years. The only exception is Sweden where the number of brain tumours reported to the cancer registry is known to be underreported. Since Sweden is the largest country among the Nordic, the incidence trends in Sweden have a considerable influence when data for all Nordic countries are put together.

The claim by the SCENIHR report on page 62 is therefore also not substantiated by the statistical data available from Nordcan:

"The simulation study in the Nordic countries virtually rules out a doubling in risk even after 15 + years since first mobile phone use as well as 50% risk increase after 10 + years"

Comment: That is not what the statistical data from the Nordic countries show when analysed separately on a country basis:

[8] Statens Serum Institut: Cancerregisteret 2012 page 8
http://www.ssi.dk/Sundhedsdataogit/Registre/~/media/Indhold/DK%20-%20dansk/Sundhedsdata%20og%20it/NSF/Registre/Cancerregisteret/Cancerregisteret%202012.ashx

Toggle Arithmetic/Logarithmic scale

Year	Denmark ,Male	Denmark ,Female	Finland ,Male	Finland ,Female	Norway ,Male	Norway ,Female
1992	24.82	25.86	20.68	23.94	22.04	21.50
1993	25.08	26.09	20.96	24.73	21.41	21.95
1994	25.86	26.83	20.77	24.86	22.59	22.35
1995	26.52	27.15	20.54	25.75	21.94	22.93
1996	27.66	28.75	20.36	26.41	21.68	23.34
1997	27.94	29.05	20.50	27.54	23.33	25.17
1998	28.77	30.00	20.55	27.45	23.85	26.28
1999	28.79	29.99	20.80	28.81	24.01	27.54
2000	28.40	30.15	21.59	28.77	24.95	29.38
2001	27.65	28.92	21.98	29.67	25.60	30.76
2002	28.30	30.09	21.46	29.47	25.53	32.60
2003	28.13	31.16	21.99	29.76	26.43	34.96
2004	29.39	32.57	21.87	30.09	26.71	36.60
2005	30.19	34.37	21.68	30.54	27.42	37.82
2006	31.33	37.37	21.52	29.82	27.18	38.58
2007	32.48	38.47	21.69	29.98	27.26	38.14
2008	34.62	39.71	21.48	30.03	26.95	36.57
2009	35.07	40.37	21.28	29.61	27.22	34.10

Rates have been smoothed using 5 years average

Source: Nordcan, Brain Central Nervous System incidence per 100 000 inhabitants age 30-79, 1990-2011, averaged over 5 years.[9]

These data show that in the age groups relevant for the Danish cohort and the Interphone there is an increasing incidence in all three Nordic countries of brain tumours and tumours in CNS. The only exception is Sweden.

3. Studies on cancer from mobile phone base stations show to a majority increased risks, which is not mentioned in the SCENIHR report.

On page 66 the SCENIHR report discusses risks for cancer in general from mobile phone use and base station exposure. Again the presentation of the evidence is severely biased toward the no-risk attitude and fails to be objective:

Quote page 67:
"The totality of evidence of epidemiological studies weighs against cancer risks from baste stations and broadcast antennas"

Comment: The majority of studies on cancer risks from mobile phone base stations and from radio/TV- broadcast antennas show increased risks from cancer. In 2012 Khurana et al. published a review of all available studies on base stations and health outcomes, quote:

"We identified a total of 10 epidemiological studies that assessed for putative health effects of mobile phone base stations. Seven of these studies explored the association between base station proximity and neurobehavioral effects and three investigated cancer. We found that eight of the 10 studies reported increased prevalence of adverse

[9] http://www-dep.iarc.fr/NORDCAN/English/frame.asp

neurobehavioral symptoms or cancer in populations living at distances < 500 meters from base stations."[10]

In 2011 a Brazilian study showed increased deaths in cancer within 500 m from base stations compared to people living further away. [11] This study is ignored in the preliminary opinion.

Instead the authors of the report rely on a non-informative study on childhood cancer and base stations (Elliott et al. 2010). This study is non-informative as to the risk of childhood cancer risks from exposure to mobile phone base stations due to:

1. The study is based only on calculated exposure from base stations where the mother lived during pregnancy based on data from mobile phone operators (with huge economic interests in not showing any health risks from base station exposure) and the address where the mother lived when pregnant. That implies huge probable errors in actual exposure during pregnancy, particularly in the cities where actual measurements of radiation have found little correlation between calculated and actual exposure.
2. The highest calculated exposure group was too low to expect increased cancer risks: above 0.017 mW/ m^2 and 600 meters from a base station. In other studies cancer risks have been observed in homes with 3-400 m from base stations in small towns. In large cities the distance where cancer risks would be expected to be found in epidemiological studies is expected to be lower because other building block radiation. The calculated highest exposure category is also too low to expect to find increased cancer risks in a study like this.
3. Valid information about where the child lived after it was born (the study is based on the address where the child's mother lived during pregnancy) i e the first years of life is unavailable. Therefore the study fails to address its own main objective: to study exposure during the first years of life and cancer risks in children.

None of these deficiencies are mentioned by the authors of the SCENIHR preliminary opinion. Instead the authors raise criticism against a Taiwanese study that showed increased risks in childhood cancer, which again exemplifies the lack of objectivity by the authors.

Furthermore repeated studies on broadcast antennas (radio/TV) show increased risks for cancer which, again, is in contradiction with the preliminary opinion.

[10] Khurana et al. 2010: Epidemiological evidence for a health risk from mobile phone base stations.

[11] Dode et al. 2011: Mortality by neoplasia and cellular telephone base stations in the Belo Horizonte municipality, Minas Gerais state, Brazil. http://www.ncbi.nlm.nih.gov/pubmed/21741680

4. Serious omissions or misquotations of results of many critical positive studies on other health risks from RF and EMF-radiation SCENIHR, page 68 and forth

We refer to the Bioinitative Working Group submission to SCENIHR dated April 16, 2014 which we fully support. In summary this section of the preliminary opinion is, again, inadequate and misleading:

1. A significant number of studies on neurological effects that show clear health risks are overlooked. New neurological RFR studies report effects in 68% of studies on radiofrequency radiation. These studies should be included in the SCENIHR Final Opinion. A significant number of studies of extremely low frequency radiation effects are reported to cause nervous system effects (in 90% of the 105 studies).
2. A significant number of studies that show DNA-damage to cells are overlooked. Genetic effects from radiofrequency radiation are reported in 65% (or 74 of 114 studies) and 83% (or 49 of 59 studies) of extremely-low frequency studies.
3. The SCENIHR preliminary opinion is neglecting the mechanistic data on non-thermal effects of microwaves. As reported in multiple studies these effects depend on a variety of biological and physical parameters including polarization, frequency and environmental EMF. Well-conducted positive studies cannot be negated by poorly conducted negative studies.
4. The SCENIHR conclusions on reproduction and development are possible only by omitting key data, ignoring the conclusions of the authors and dismantling the significance of the De Iuliis et al results by misreporting it. Critical evidence is misquoted and then relied upon by SCENIHR to dismiss the essential point. Repeatedly and nearly consistently the studies have shown clear reproductive effects to the contrary to what the SCENIHR report claims.

Conclusion

The Preliminary Opinion of SCENIHR gives a false and even fraudulent presentation of research results and statistical data. Critical data are abundantly omitted or ignored. Studies and results showing health risks from radiofrequency and low frequency radiation are misrepresented. Studies showing no risks with severe limitations and errors are instead presented without any relevant criticism.

In conclusion the report should be revised and submitted to a new group of experts that are prone to and capable of presenting an objective and accurate report of what the science has shown about health risks from high frequency radiation from wireless technology and techniques emitting low frequency radiation. The available preliminary opinion of SCENIHR is a disservice and a betrayal to the people of the European Union.

Mona Nilsson, Chairman

Swedish Radiation Protection Foundation