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United States District Court

District of Oregon

Portland Division

AHM, by and through
her Guardian *ad litem* and father,
David Mark Morrison**,** and
David Mark Morrison, individually,

v.

Portland Public Schools,

Defendant.

Civil Action No. 3:11-cv-00739-MO

Declaration of
L. Lloyd Morgan
Addendum G – Poster –
How Many Brain Tumors

IF CELPHONE USE IS A RISK FOR BRAIN TUMORS,

WHEN AND HOW MANY CELPHONE-INDUCED BRAIN TUMORS MAY OCCUR?

L. Lloyd Morgan

Brain Tumor Risk: Case-Control Studies to Date

- Early Studies [1-5]
  - No significant risk found
  - Cellphone use too short to expect tumor
- Interphone Studies [6]
  - Finds use of a cellphone *protects* the user from a brain tumor
    - 11 design flaws
      - 8 flaws underestimate risk
- Swedish Studies
  - Risk when cellphones or cordless phone use for 10+ years
  - Findings consistent wireless phone use is a risk for brain tumors
    - The higher the cumulative hours of use, the higher the risk [7]
    - The longer the time since first use, the higher the risk [7]
    - The higher the radiated power, the higher the risk [8]
    - The higher the exposure (ipsilateral use), the higher the risk [9,10]
    - The younger the user, the higher the risk [11]

Conclusion

- Wireless (cellphones and cordless phones) are a risk for brain tumors

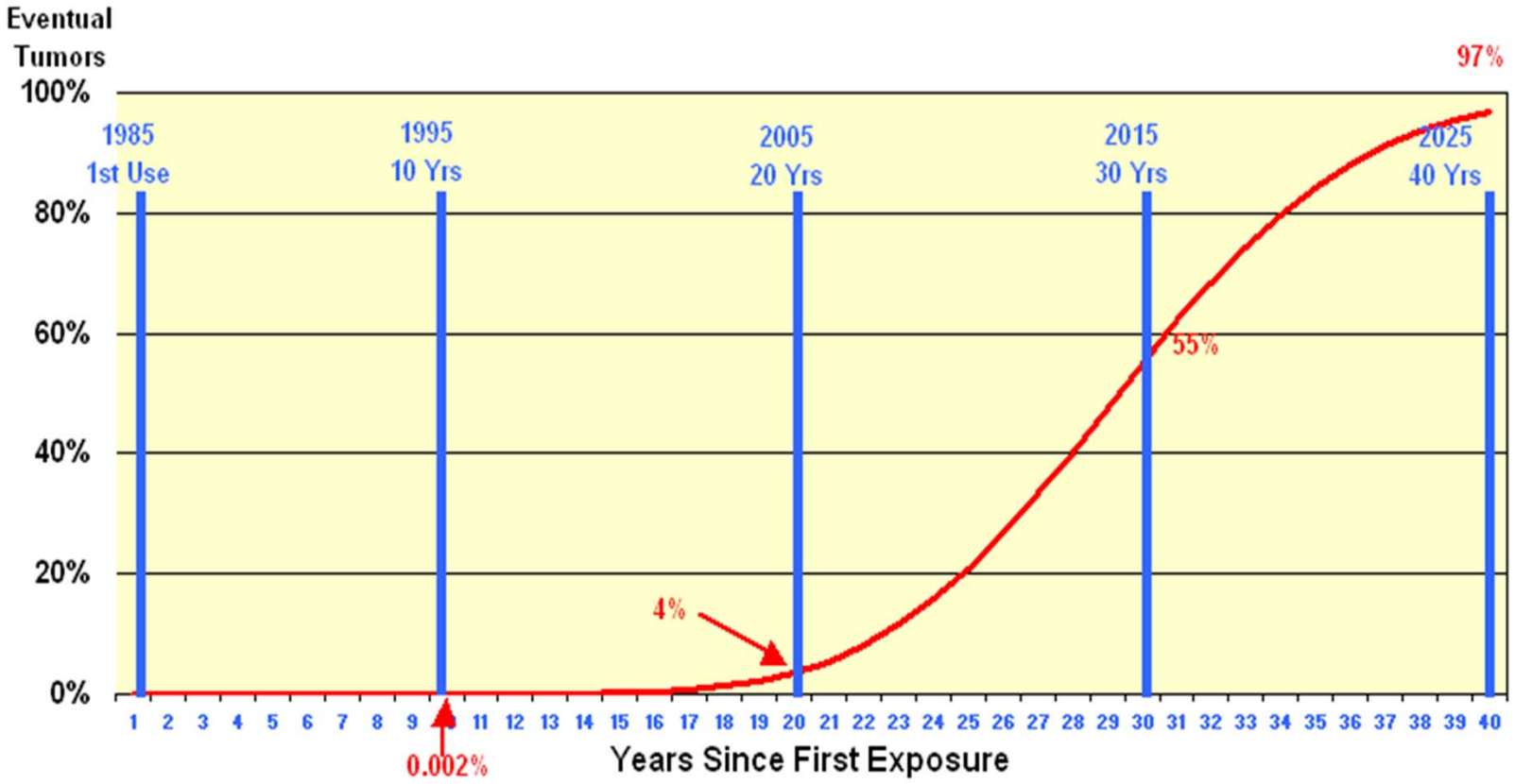
What factors are important in predicting the number of cellphone-induced brain tumors?

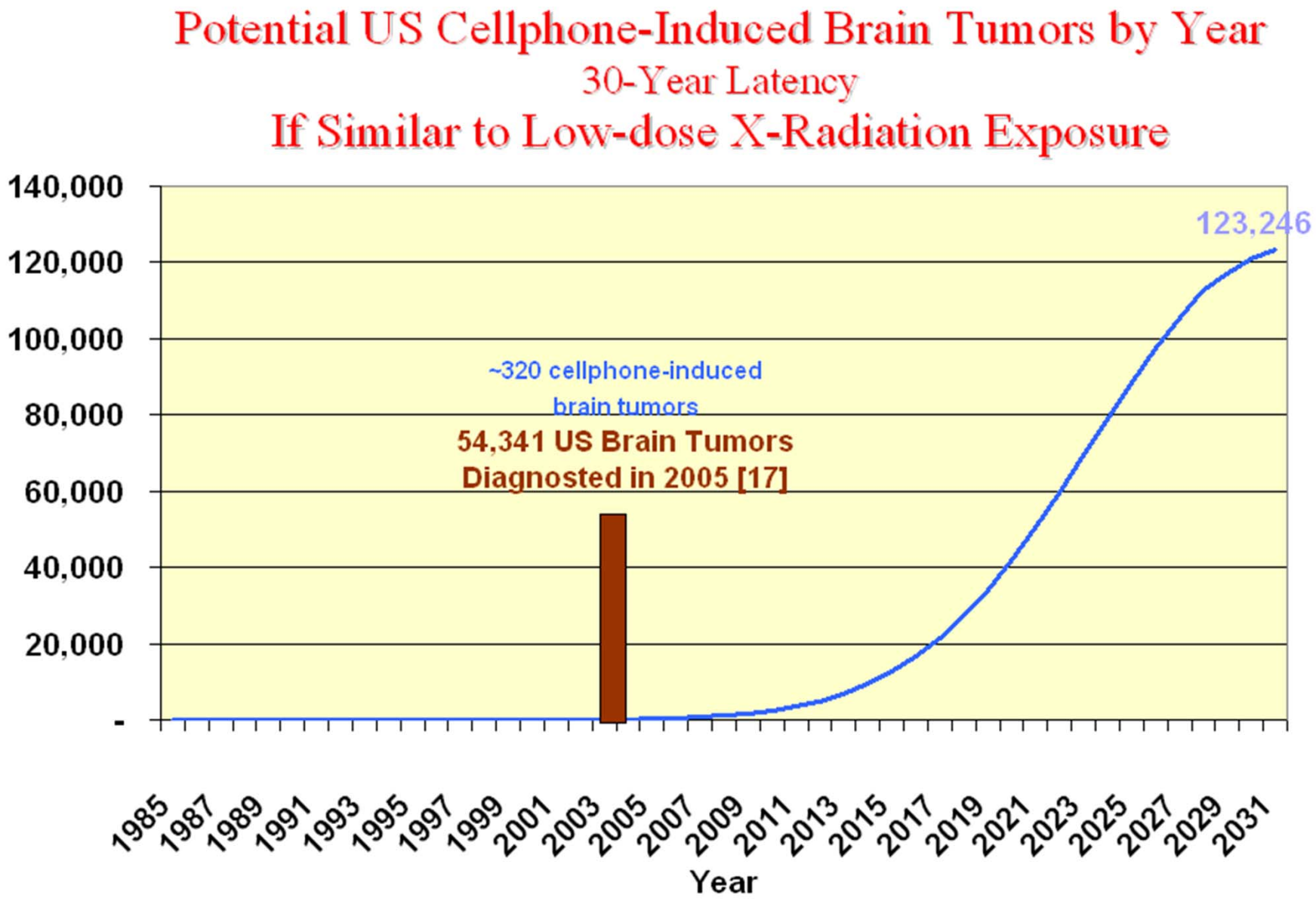
- Latency time & percentage who will *eventually* be diagnosed with a tumor
  - Ionizing radiation exposure and brain tumors
    - 30 years & 0.9% [12]
  - Tobacco smoking and lung cancer
    - 30 years & 10% [13]
  - Asbestos exposure and mesothelioma
    - 30 years [14] & 28% [15]

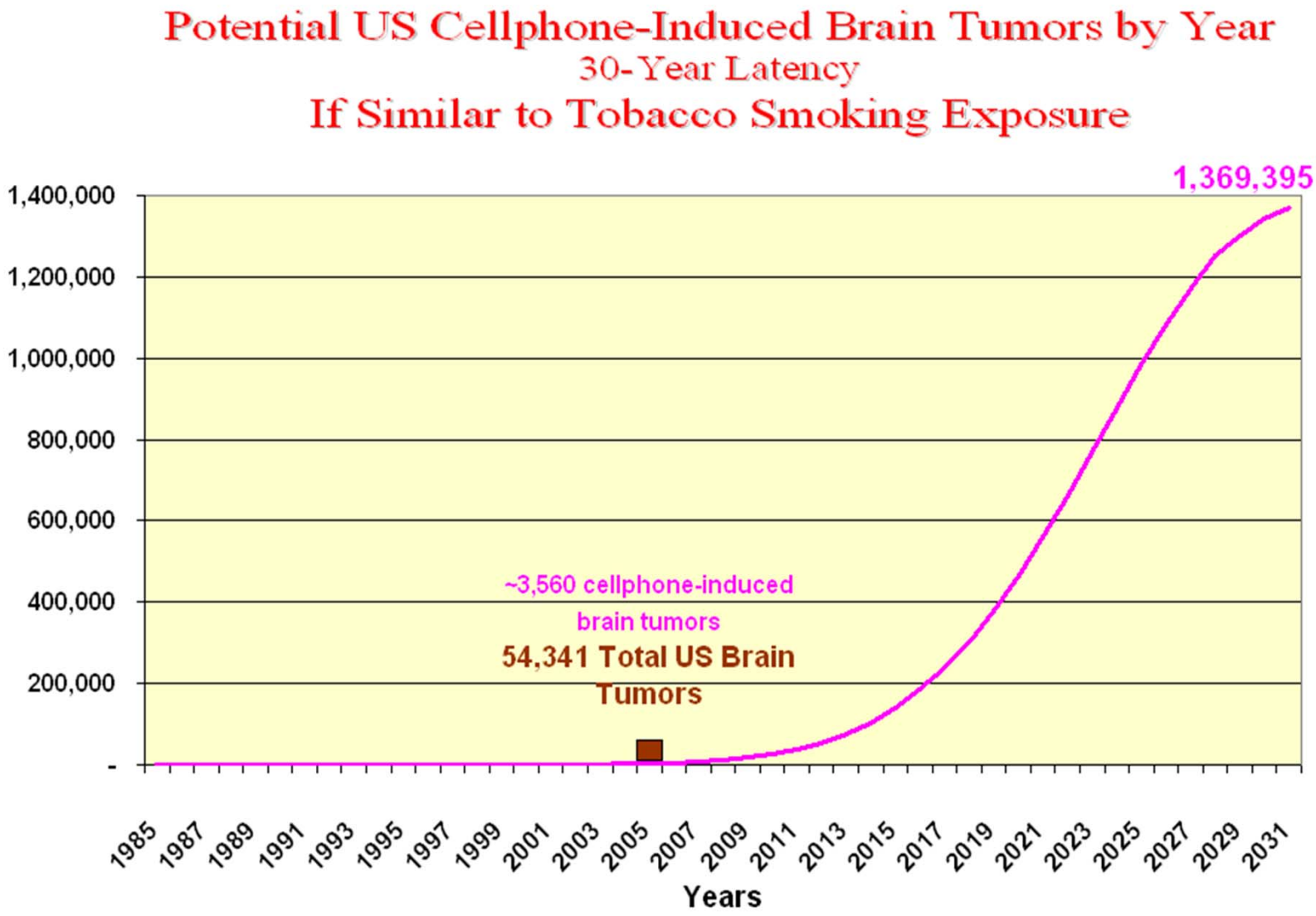
Materials and Methods

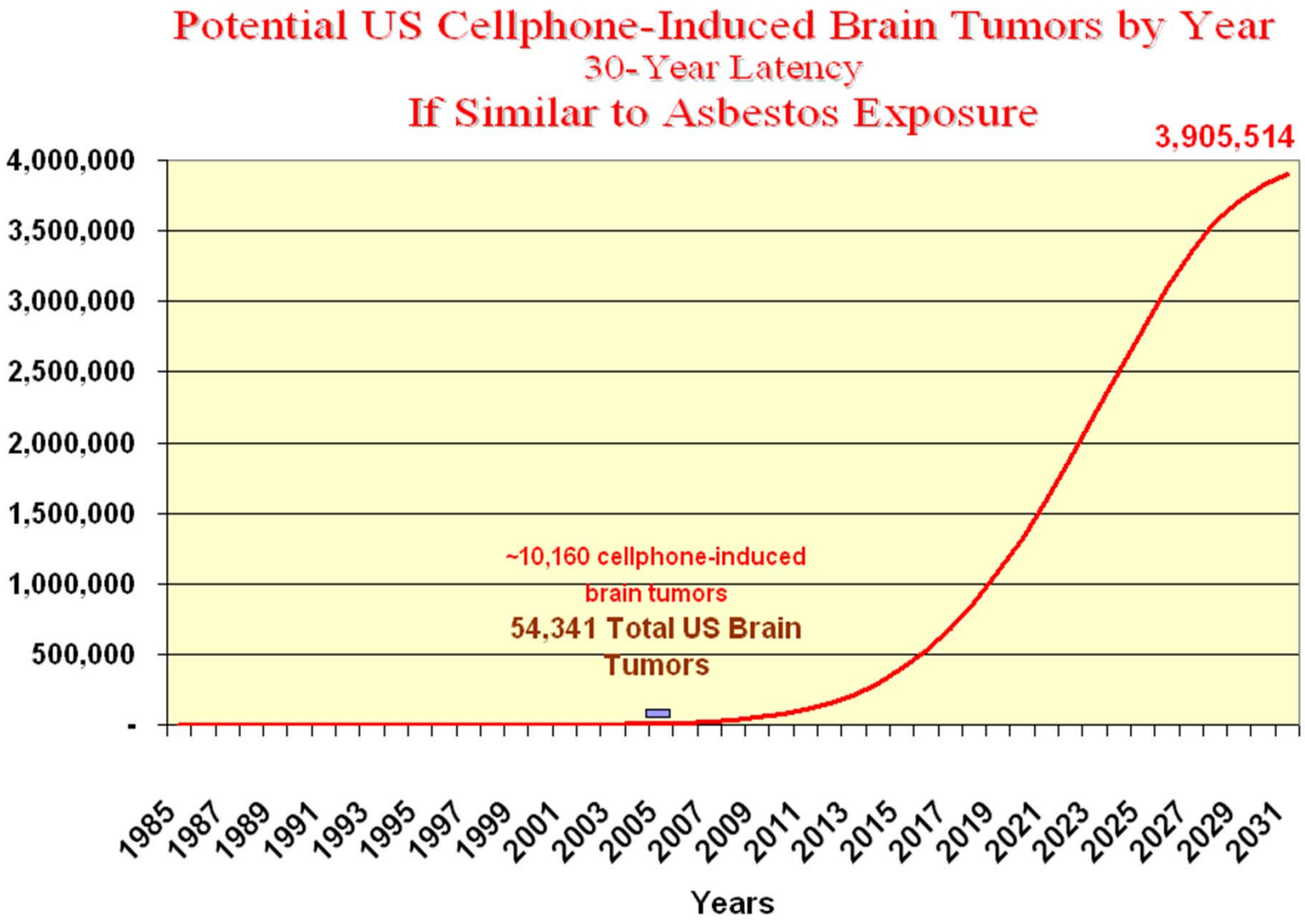
An Excel spreadsheet was use to calculate the number of cellphone-induced brain tumors. The calculation required data for the number of US cellphone subscribers by year (the number of subscribers beyond 2008 was estimated). [16] A Poisson distribution for a 30-year latency was used to provide the probability of a cellphone-induced brain tumor for every year of use. This result was combined with the percent of exposed subjects who are eventually diagnosed with tumors from exposure to the 3 carcinogens to provide an estimate of the number of cellphone-induced brain tumors by year.

30-Year Poisson Distribution
% of eventual tumor diagnoses




Potential US Cellphone-Induced Brain Tumors by Year
30-Year Latency
If Similar to Low-dose X-Radiation Exposure
140,000
120,000
100,000
80,000
60,000
40,000
20,000
-
123,246
~320 cellphone-induced
brain tumors
54,341 US Brain Tumors
Diagnosted in 2005 [17]
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
Year


Potential US Cellphone-Induced Brain Tumors by Year
30-Year Latency
If Similar to Tobacco Smoking Exposure
1,369,395
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
-
~3,560 cellphone-induced
brain tumors
54,341 Total US Brain
Tumors
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
Years


Potential US Cellphone-Induced Brain Tumors by Year
30-Year Latency
If Similar to Asbestos Exposure
3,905,514
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
-
~10,160 cellphone-induced brain tumors
54,341 Total US Brain Tumors
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
Years

Conclusion

If cellphones are a risk for brain tumors,

no matter the assumption,

there will be a dramatic increase in brain tumors.[1]

Given the cost of treating a brain tumor is about $250,000 per case, the cost to society will be large. [18]

[1]It is still too early to see any increase in incidence for the entire population, and with a 4-year delay in USA incidence reporting, there will be at least a 4-year delay before it is recognized.

I Pray I'm Wrong!

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[17] CBTRUS (2009). (http://www.cbtrus.org/reports/2009-NPCR-04-05/CBTRUS-NPCR2004-2005-Report-.pdf) Adjusted as folows: With 98,900 brain tumor over 2 years for 91% of USA population [98,900/2/91%=54,340]

[18] Fisher et al. California Childhood Brain Tumor Study. 2004