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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

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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

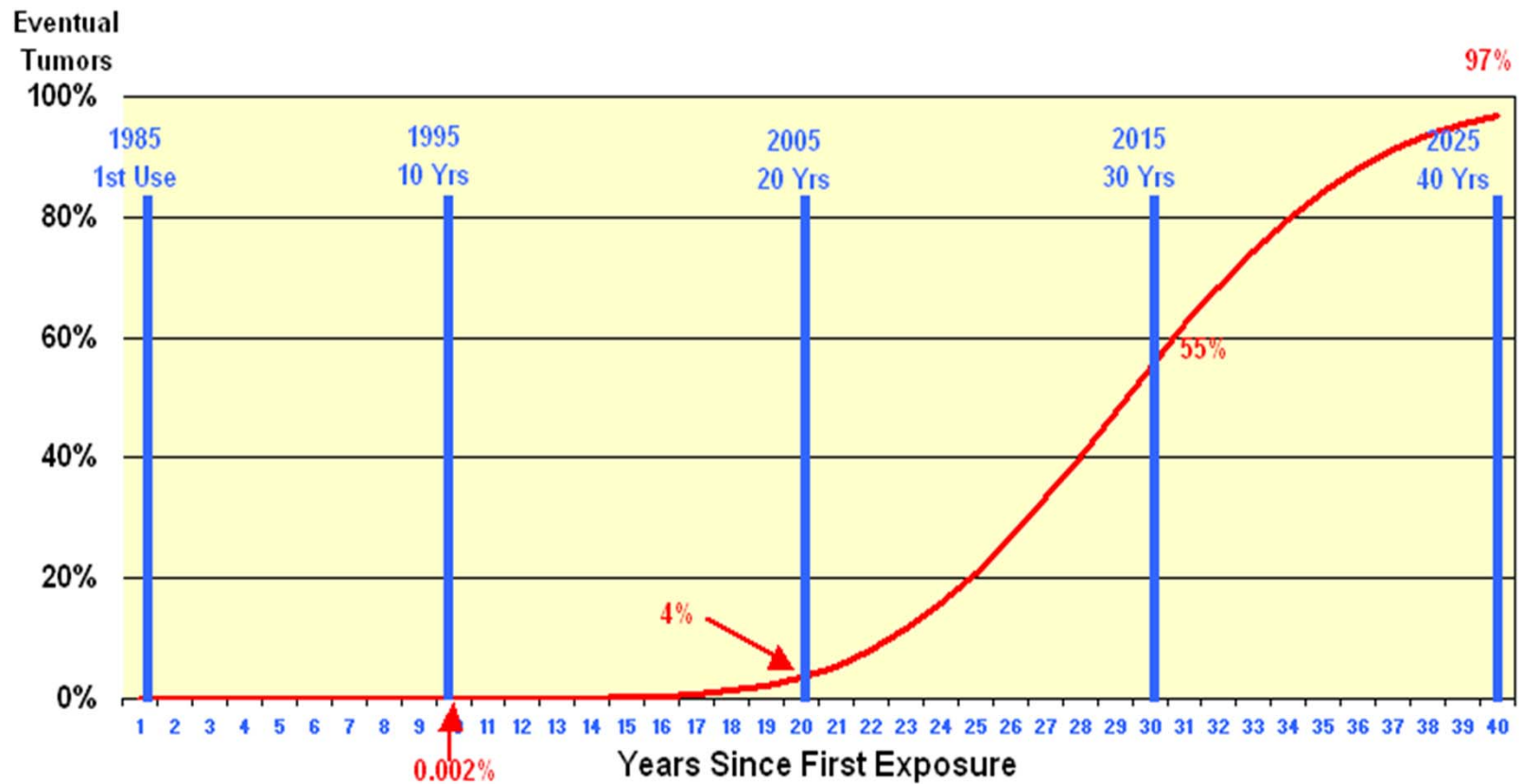
What factors are important in predicting the number of cellphone-induced brain tumors?

- 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]

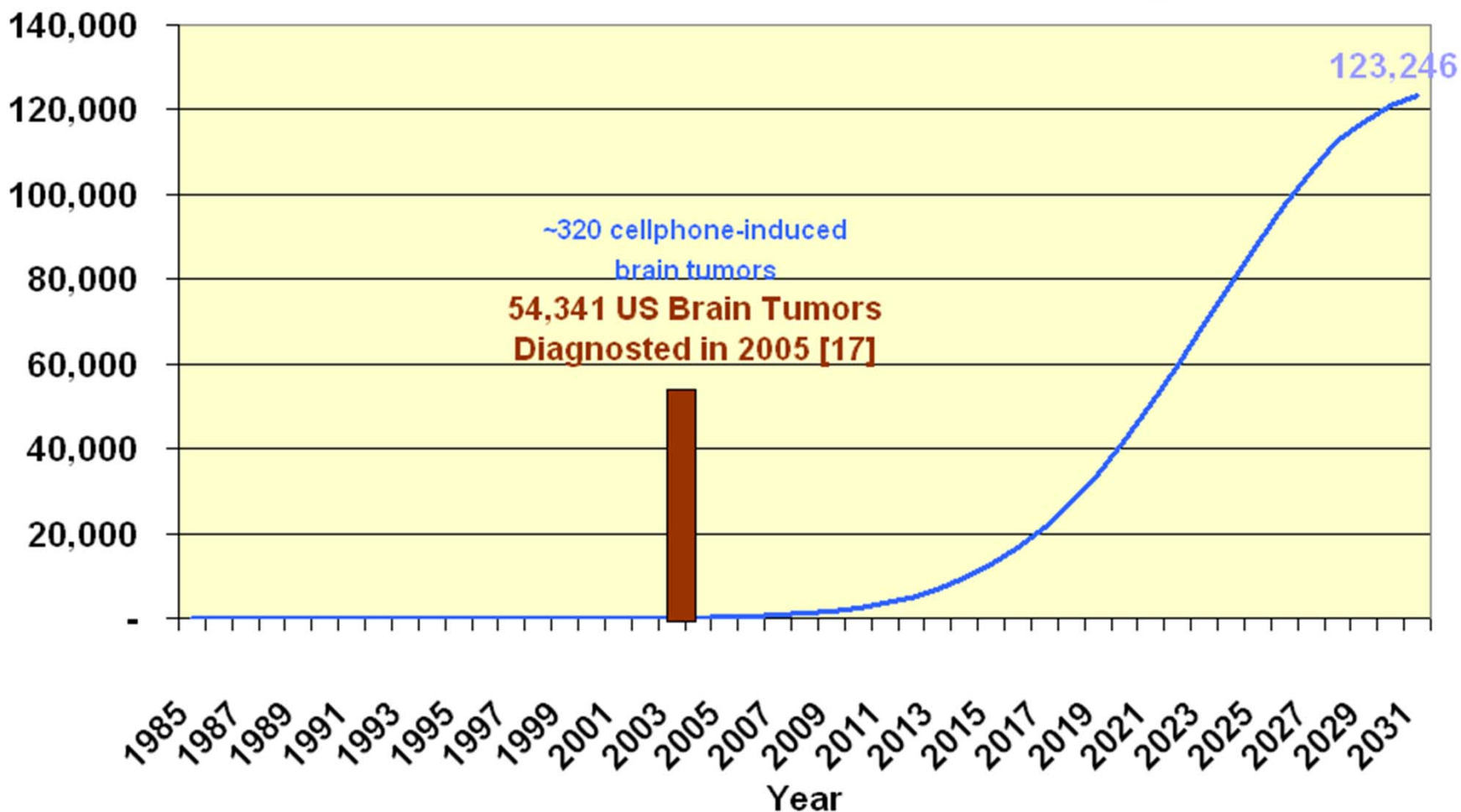
Materials and Methods

An Excel spreadsheet was used 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

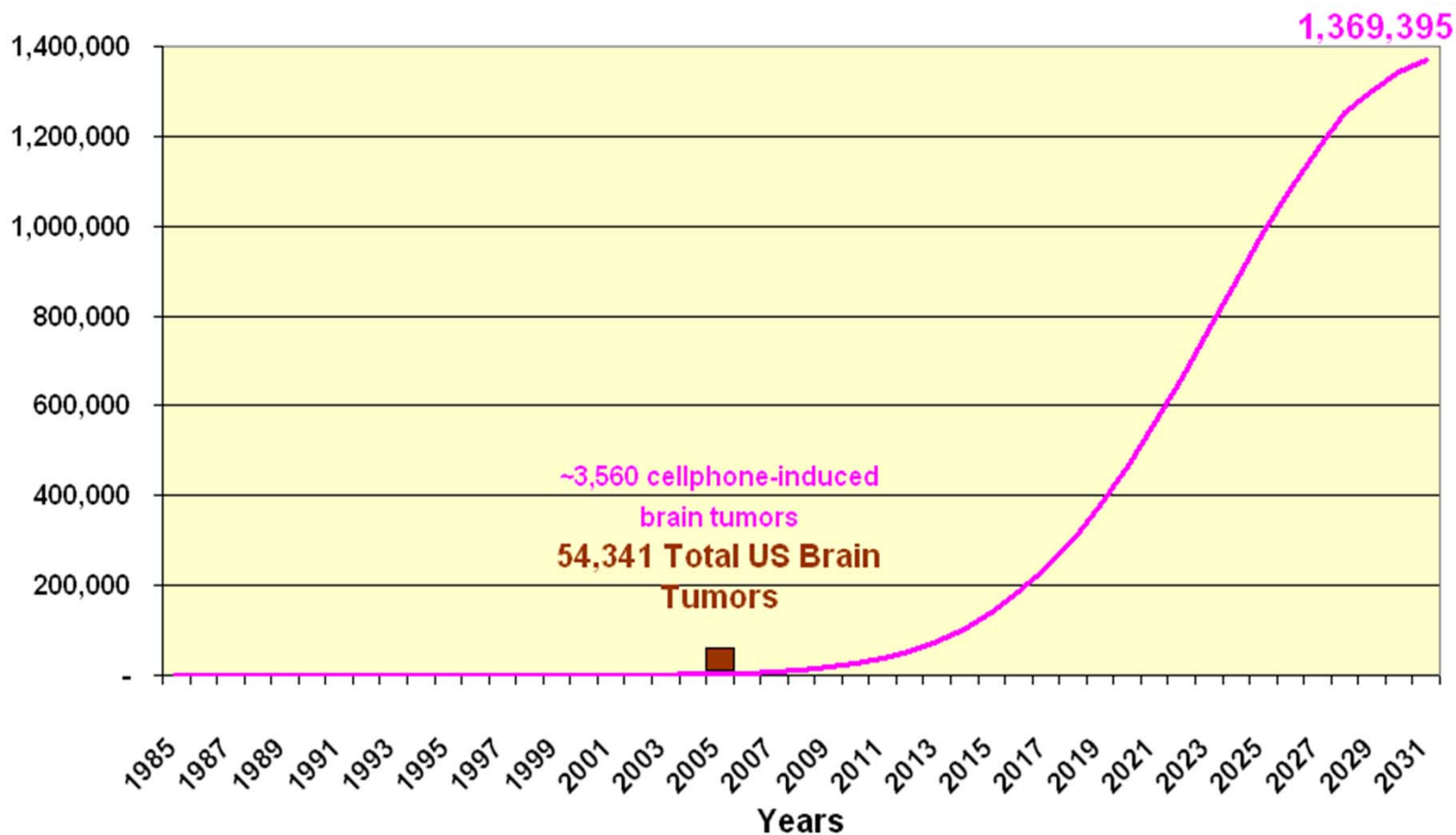


Potential US Cellphone-Induced Brain Tumors by Year 30-Year Latency If Similar to Low-dose X-Radiation Exposure



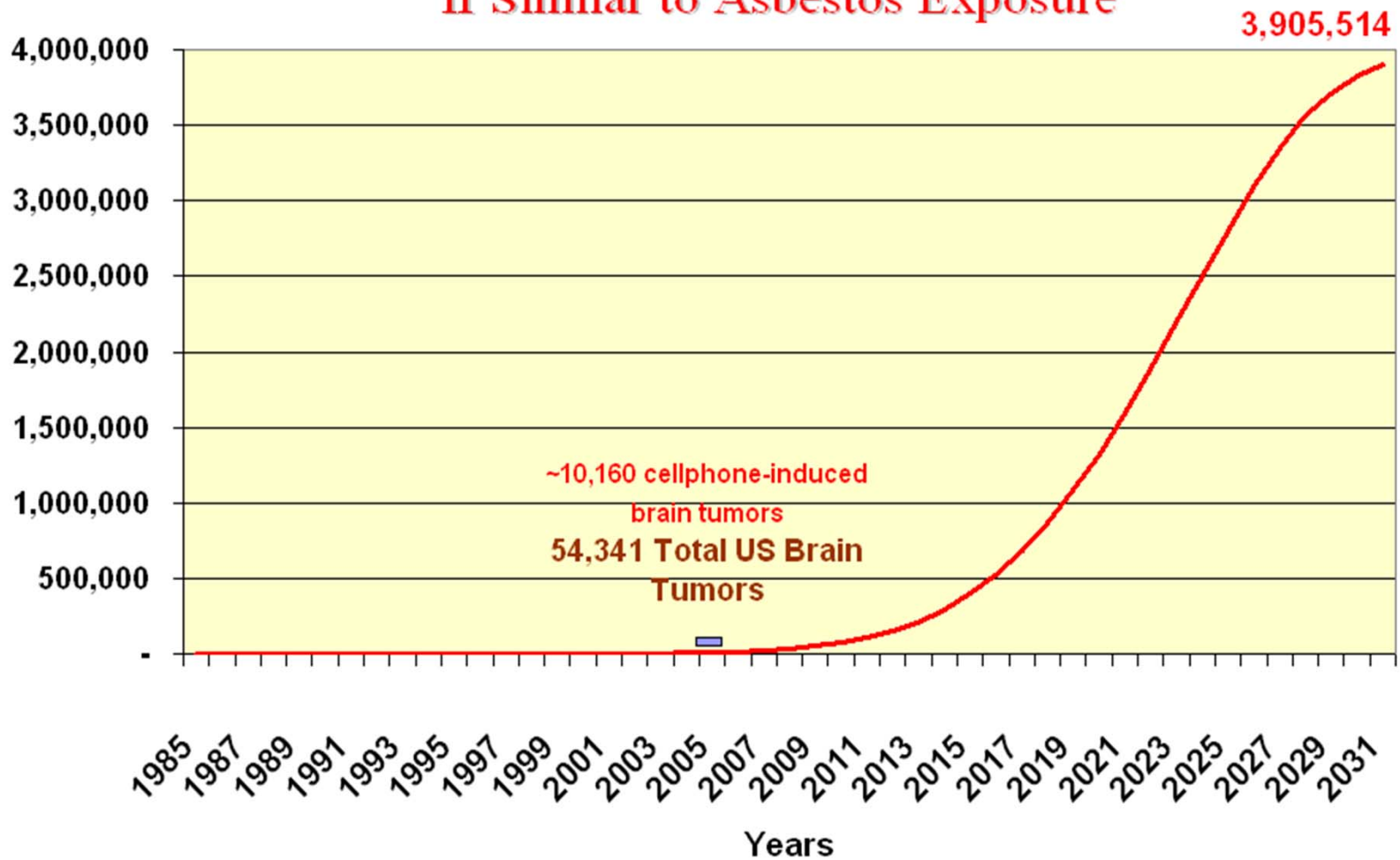
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Potential US Cellphone-Induced Brain Tumors by Year 30-Year Latency If Similar to Tobacco Smoking Exposure



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Potential US Cellphone-Induced Brain Tumors by Year
30-Year Latency
If Similar to Asbestos Exposure



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]

¹It 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.

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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 follows: 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