

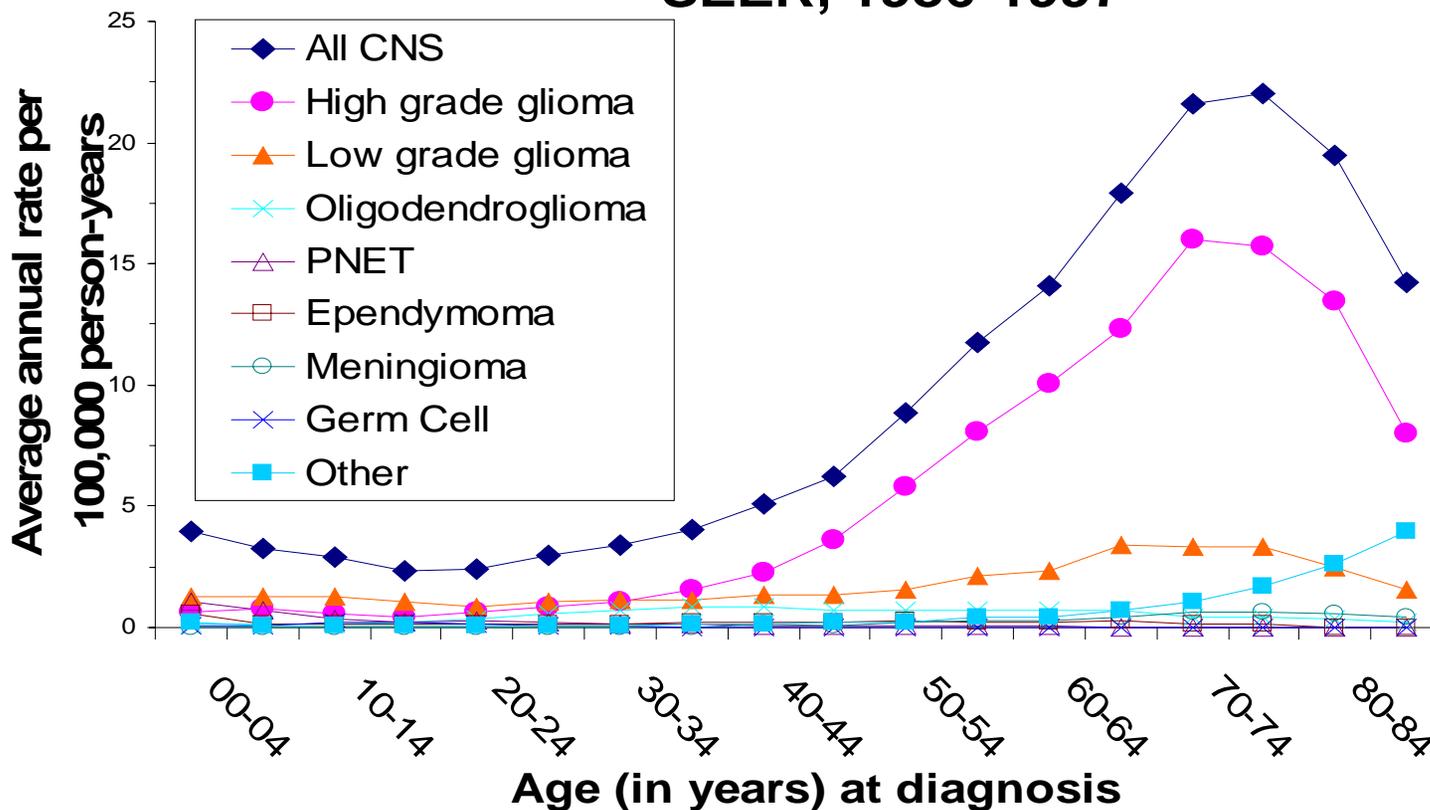
Brain Tumor Epidemiology Consortium (BTEC)

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Overview of Brain Tumors

- 17,000 new cases and 13,100 deaths expected in 2004
- Most frequent solid tumor in children
- More frequent in males than females
- Lower rates in non-whites
- Rates are increasing especially in adults over age 65

Incidence of malignant primary CNS tumors by age and histology, SEER, 1986-1997



Chronology of BTEC

- February 2003 - 1st meeting organized by NCI (Peter Inskip)
- November 2003 - 2nd meeting held in conjunction with Society for Neurooncology
 - Sought funding for future meetings from brain tumor foundations (National Brain Tumor Foundation, Pediatric Brain Tumor Foundation, American Brain Tumor Foundation)
 - Arrangements and coordination by Central Brain Tumor Registry of the United States (CBTRUS – Carol Kruchko)
 - Research groups and leadership established

Goals

- **Develop a mission statement**
- **Organize planning committee**
- **Develop consortium structure**
- **Identify research group chairs**
- **Identify U.S. and international investigators conducting epidemiologic research in brain tumors for future involvement**

Purpose

Self-directed consortium committed to developing multi-center interdisciplinary collaborations that will lead to a better understanding of etiology, outcomes, and prevention of all brain tumors

Rationale

Pooled analyses provides researchers with a sample size and statistical power necessary to study uncommon tumors such as brain tumors

Objectives

- **To meet the NCI Director 2015 Challenge Goal for molecular epidemiology**
- **To incorporate tools generated by advances in genomics and molecular sciences specifically to molecular epidemiology of brain tumors**
- **To facilitate interaction among brain tumor investigators conducting molecular epidemiology studies**
- **To foster collaborations that result in pooled or parallel analyses that address multiplex families, gene-gene interaction, gene-environment interaction**

Coordinating Committee Established

Chairs:

U.S. - Melissa Bondy (M.D. Anderson) and Faith Davis (University of Illinois-Chicago)

Europe - Beatrice Malmer (Sweden) and Siegel Sadetzki (Israel)

Committee:

Jill Barnholtz-Sloan, Peter Inskip, Carol Kruchko, Roberta McKean-Cowdin, and Susan Preston Martin

Membership

An international group of population researchers:

- Epidemiologists
- Statistical geneticists
- Neurosurgeons
- Neurooncologists/Medical oncologists
- Neuropathologists
- Basic scientists
- Others who study brain tumors
- Advocates/Funders

Chronology of BTEC (cont.)

- June 2004 – 3rd meeting at MIT Endicott House Dedham, MA (30 attendees)
- May 2005 – 4rd meeting in Edinburgh, Scotland in conjunction with the World Federation of NeuroOncology (~30 attendees from U.S. and Europe)

Continued to bring groups together to determine what research was being done in Europe and to plan for future collaborations

Research Areas

- **Adult Glioma Etiology** (Faith Davis and Peter Inskip)
- **Family Studies** – (Melissa Bondy and Beatrice Malmer)
- **Meningiomas** – (Elizabeth Claus and Siegel Sadetzki)
- **Pediatric Brain Tumors** (Susan Preston-Martin and Roberta McKean-Cowdin)

Funded Initiatives

Meningiomas

- **Multi-Center Study** headed by Elizabeth Claus
- **First large epidemiological study of meningiomas (1520 cases and 1520 controls)**
- **Examine environmental, genetic, pathologic and clinical variables associated with meningioma risk**
- **5 Centers - Connecticut, Massachusetts, North Carolina (Schildkraut), San Francisco Bay Area (Wrensch) and Harris County, TX (Bondy)**

Pilot Studies Funded by National Brain Tumor Foundation

- DNA repair gene pathway and etiology of glioblastoma
- Retrospective multi-center study headed by Roberta McKean-Cowdin (USC)
- 4 Centers – NCI (Inskip), NIOSH (Butler and Ruder) San Francisco Bay Area (Wrensch) and Harris County, TX (Bondy)

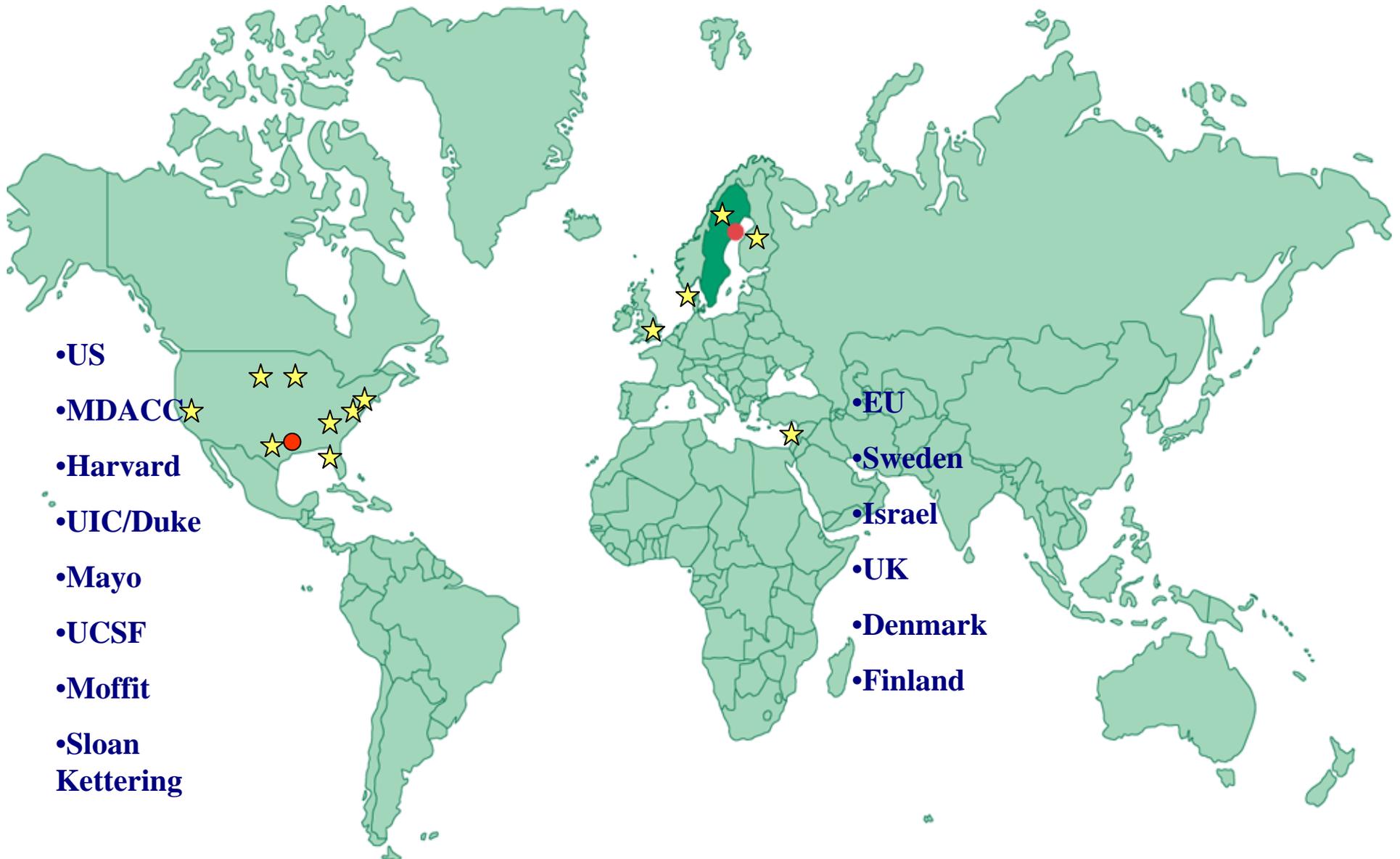
Pilot Studies Funded by National Brain Tumor Foundation

- Descriptive epidemiology, etiologic risk factors and classification of oligodendroglioma
- Retrospective multi-center study headed by Bridget McCarthy (UIC)
- 4 Centers – NCI (Inskip), NIOSH (Butler and Ruder) San Francisco Bay Area (Wrensch) and Harris County, TX (Bondy)

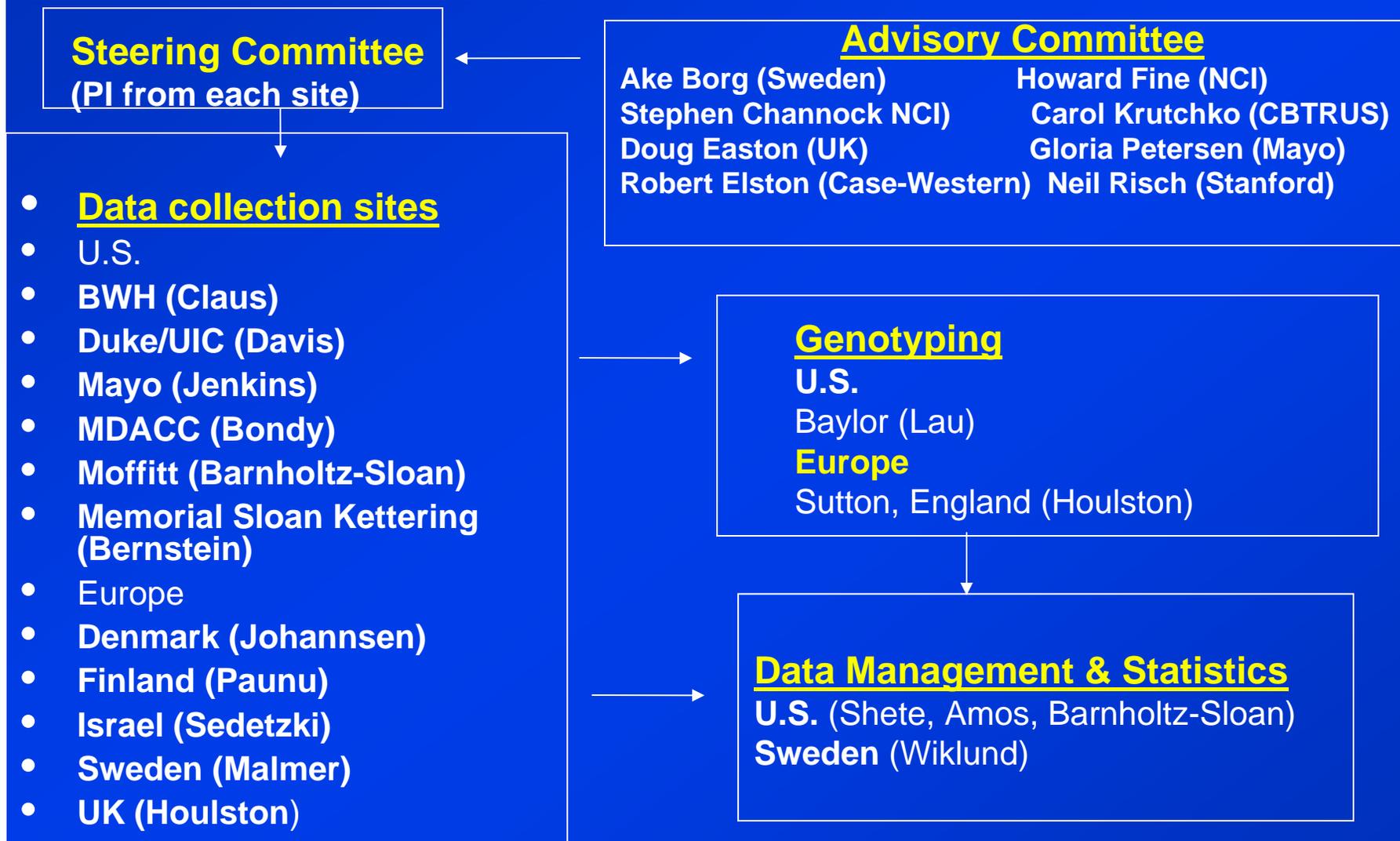
Genetic Epidemiology of Gliomas (GLIOGENE)

- New insights of genes important to glioma development
- Genes could provide insights to sporadic gliomas
- Disadvantage: Rare
- Advantage: low rate of phenocopies
- Possibility of intervention for low grade gliomas

Glioma International Consortium – GLIOGENE



Structure of GLIOGENE CONSORTIUM Proposed



Strengths of Consortium

- **CBTRUS provides administrative support for handling meeting logistics and finances**
- **Long-term support from foundations for meetings and pilot funds (\$200,000/year from NBTF)**
- **Collaborative and committed group of investigators**
- **Retrospectively collected data for merged analyses**
- **Prospective studies are being initiated**
- **Opportunities for junior investigators**
- **Developing criteria for publications**

Future Directions

- Funding from the Office of Rare Diseases and Foundations for a conference to develop a consensus protocol for pathology classification for brain tumor types
- Meetings will allow discussions for working groups to plan studies
- Meet every 6 months either in U.S. or Europe to foster collaborations
- Spring 2006 meeting in Lake Como, Italy to complete a manuscript on familial aggregation