

Changing incidence trends of cutaneous T-cell lymphoma

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Disclosure

No conflicts of interest to declare



Cutaneous T-cell Lymphoma (CTCL)

- ▶ The overall annual age-adjusted incidence rate of CTCL in the United States was 6.4 cases per million persons between 1973 and 2002¹ and 7.7 per million persons between 2001 and 2005²
- ▶ CTCL incidence has been increasing for more than 25 years
 - ▶ Improvement in physician detection
 - ▶ Real increase in cases
- ▶ Incidence has been correlated with physician density, high density of medical specialists, higher income, and higher education¹



Objectives/Methods

- ▶ We sought to measure changes in CTCL incidence trends and changes in CTCL survival rates
- ▶ Surveillance, Epidemiology and End Results Program (SEER) of the National Cancer Institute
 - ▶ 9 original registries from 1973-2009 (covering 9.5% of the population)
 - ▶ 4 additional registries from 1992-2009
- ▶ Analysis
 - ▶ SEER*Stat 7.0.5 for incidence and survival data
 - ▶ JoinPoint Software 4.0.1 for trends analysis



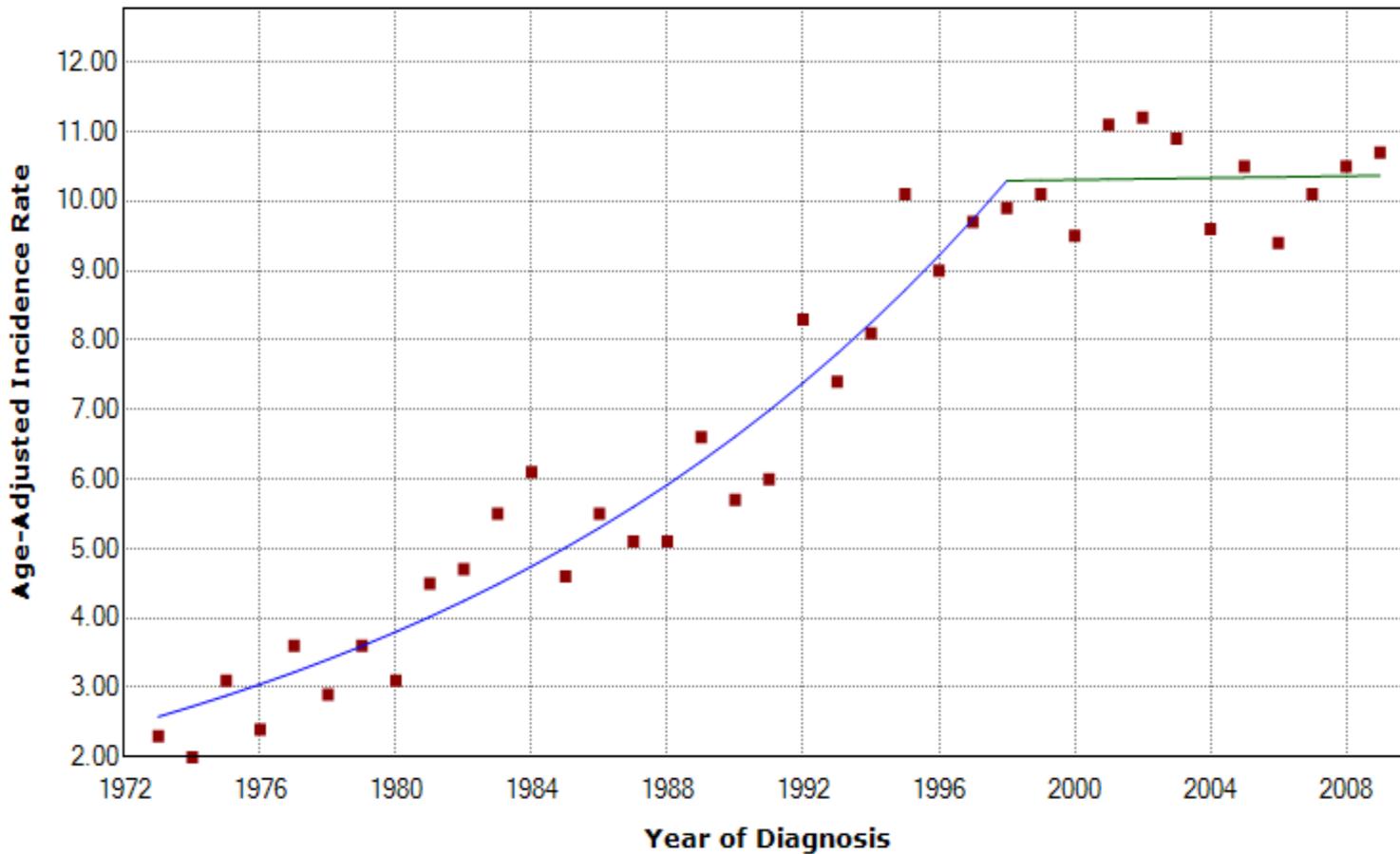
Change in CTCL incidence trends

- ▶ **We observed that incidence of CTCL is no longer increasing**
- ▶ True across all subgroups
 - ▶ Age
 - ▶ Gender
 - ▶ Race
 - ▶ Registry



Overall CTCL Incidence

CTCL : 1 Joinpoint



Joinpoint year: 1998

(95% CI 1994-2002)

Annual Percent Change

1973-1998: 5.7%

(95% CI: 4.9 to 6.5)

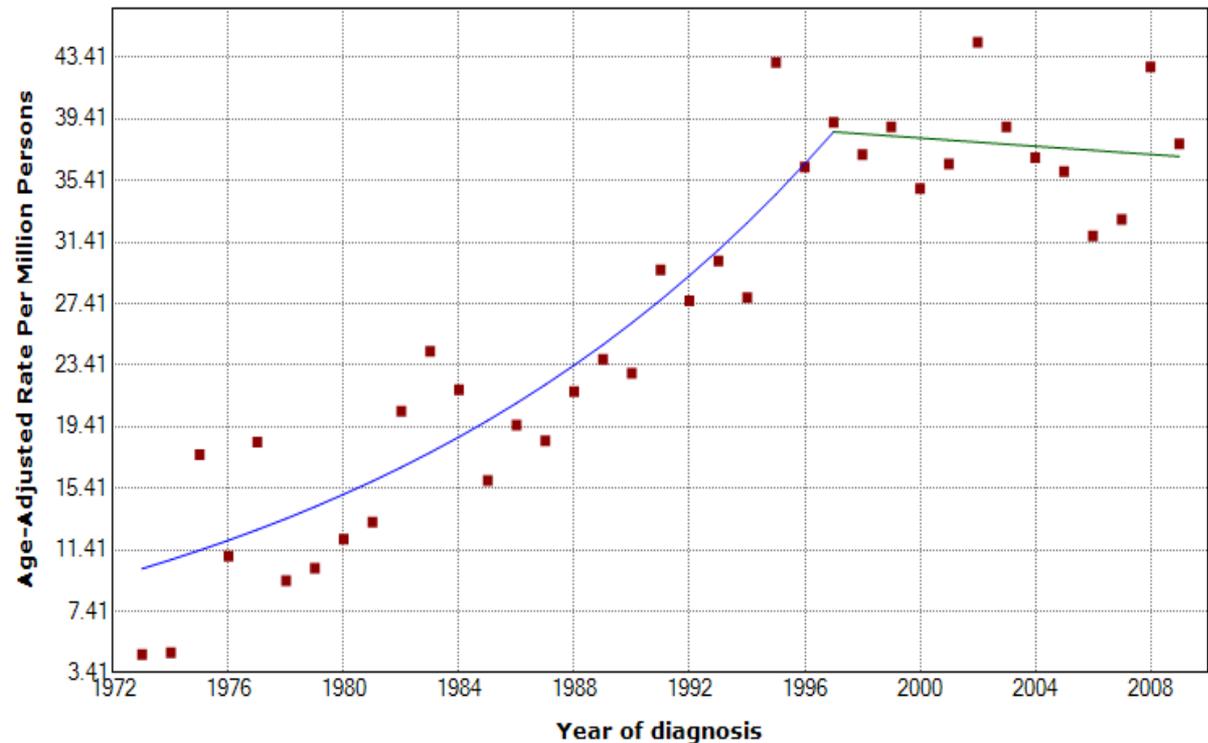
1998-2009: 0.1%

(95% CI: -1.4 to 1.5)

Age Trends

- ▶ Stabilization seen across all age groups except 85+
- ▶ CTCL incidence increases with increasing age, with peak in age group 70-84

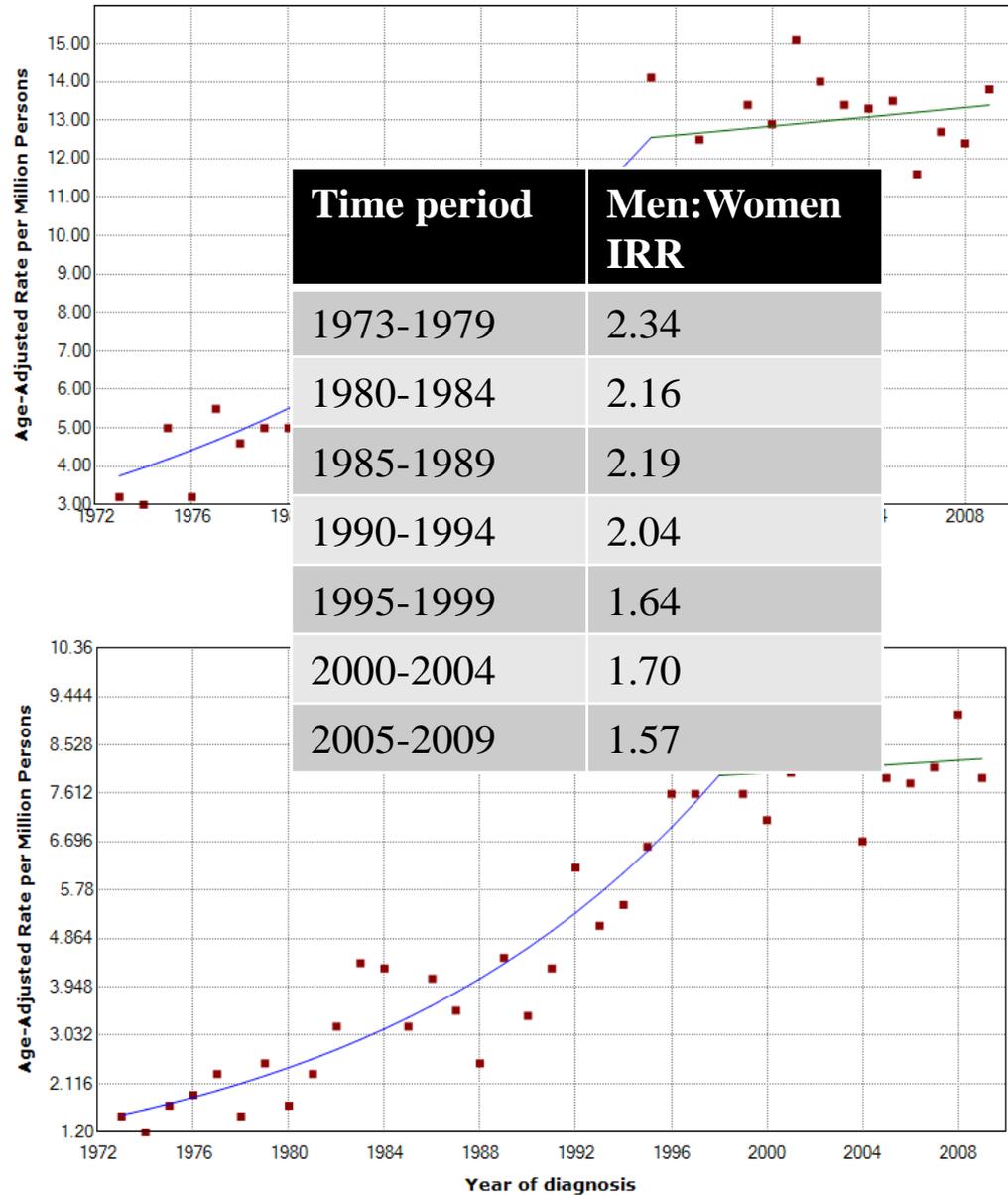
Age 70-84
70-84 : 1 Joinpoint



Gender Trends

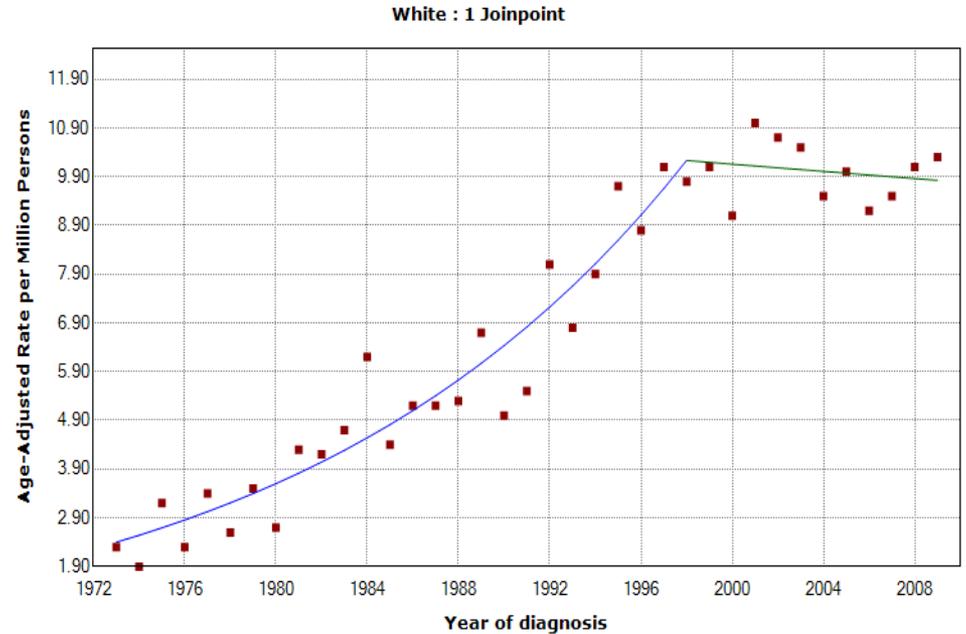
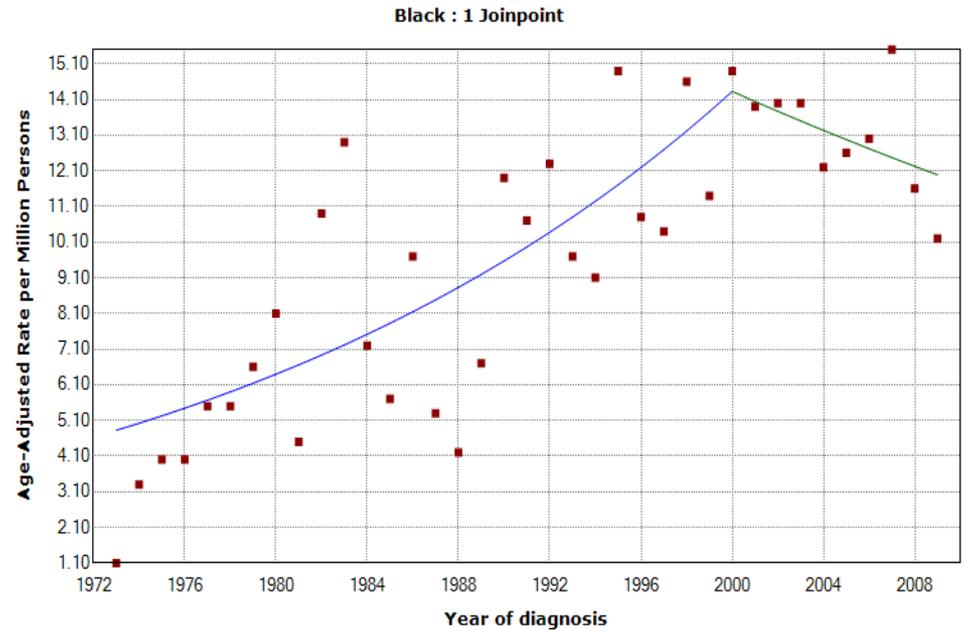
- Standardization of CTRCL
- Gender trends in incidence rate ratio (IRR) for men: women decreasing by 0.14 per 5 year period (95% CI: -0.19 to -0.08)

Male : 1 Joinpoint



Race Trends

- ▶ Stabilization of CTCL incidence in both blacks and whites
- ▶ CTCL incidence is higher in blacks
 - ▶ Black:white IRR (2005-2009):1.28



Geographical Variation

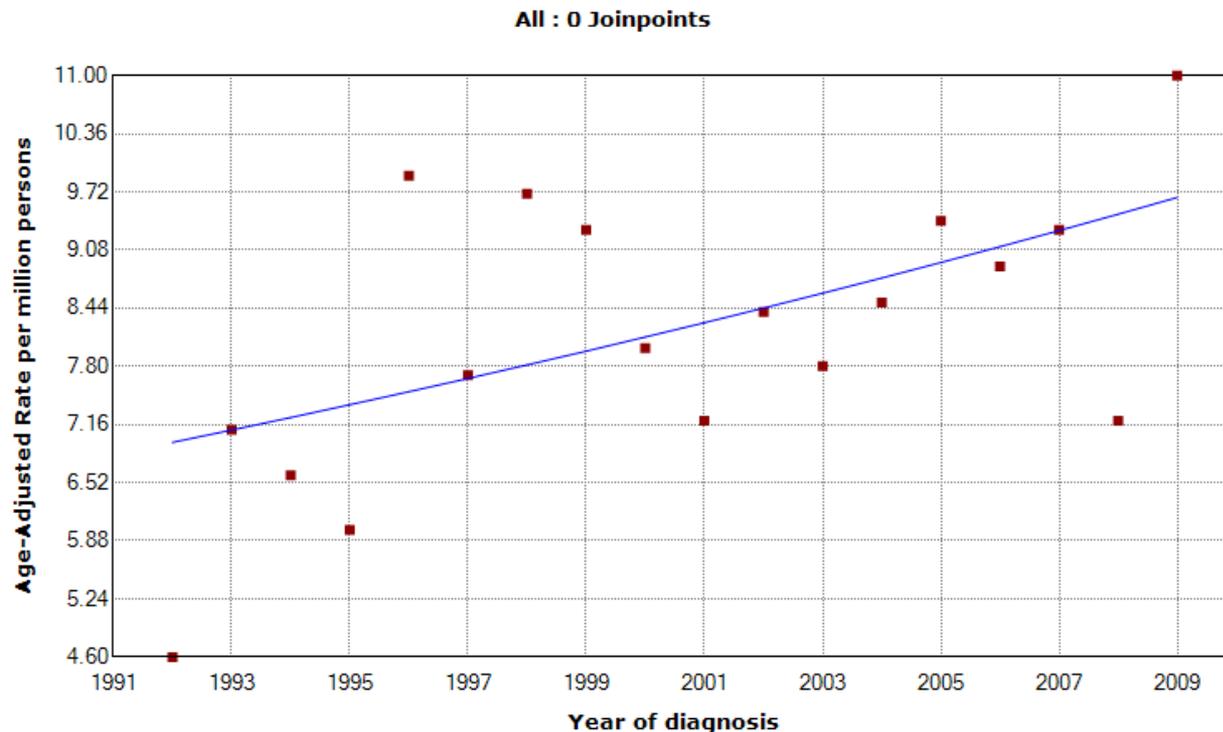
- ▶ Sensitivity analysis: similar pattern of incidence stabilization observed after exclusion of any 2 registries
- ▶ Registries with the highest incidence
 - ▶ 1973-1979
 - ▶ San Francisco
 - ▶ Seattle
 - ▶ 2005-2009
 - ▶ San Francisco
 - ▶ Detroit

Registry	1992 Incidence Rate (95% CI)	1992 Population (millions)	2009 Incidence Rate (95% CI)	2009 Population (millions)
San Francisco	13.4 (9.9-17.8)	3.8	20.3 (16.3-24.9)	4.3
San Jose	4.3 (1.8-8.5)	2.1	9.7 (6.2-14.5)	2.5
Los Angeles	4.7 (3.2-6.5)	9.0	11.4 (9.3-13.8)	9.8



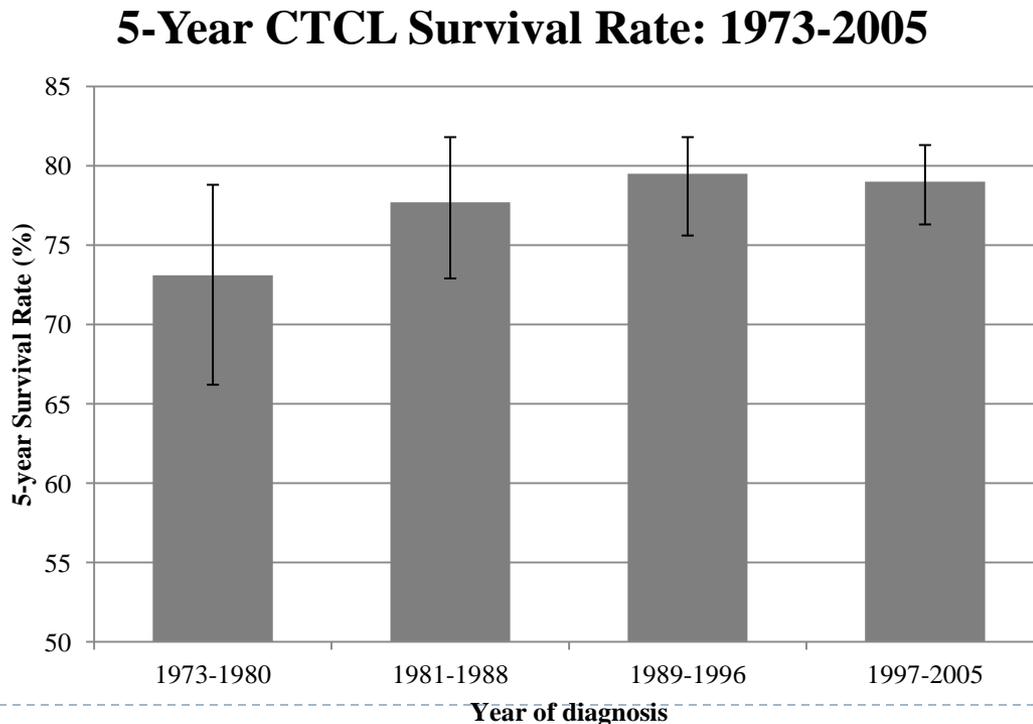
Additional registries after 1992

- ▶ San Jose and Los Angeles combined comprised 97% of the population of the 4 additional registries
- ▶ No incidence trend change was observed however we cannot exclude this data



Survival Analysis

- ▶ Increasing survival documented in early years
- ▶ No further improvement in 5-year survival rates were found for the most recent period shown (1997-2005)
- ▶ We cannot comment on survival trends after 2005 as data is unavailable



Causes for incidence trend changes

- ▶ Real stabilization
- ▶ Past increase in incidence due to improving physician detection may be reaching a natural maximum
- ▶ Delayed reporting
 - ▶ 2 year delay in reporting is the standard, however 4-17 years needed to accurately report >99% of cases³
 - ▶ Prior to 1994, there was minimal if any delay in CTCL reporting⁴
 - ▶ We do not have evidence regarding delayed reporting after 1994
- ▶ ICD-O coding changes
 - ▶ Reclassification of ICD-O codes may have affected the reported incidence of CTCL, however there were no major deletions of diagnoses listed as CTCL
 - ▶ The last set of ICD-O coding changes were applied in 2001



Conclusions

- ▶ Cutaneous T-cell lymphoma incidence is no longer increasing
- ▶ The cause for these trend changes remains unknown



References

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3. Clegg LX, Feuer EJ, Midthune DN, Fay MP, Hankey BF. Impact of reporting delay and reporting error on cancer incidence rates and trends. *Journal of the National Cancer Institute* 2002;94:1537-45.
4. Dores GM, Curtis RE, Anderson WF, Demierre MF. Assessment of delayed reporting of mycosis fungoides and Sezary syndrome in the United States. *Archives of dermatology* 2008;144:413-4

