



The Actuarial Profession

making financial sense of the future

Which Cancers Should Insurers Cover?

Critical Illness Prospective

Paul Brett

Regional Chief Actuary

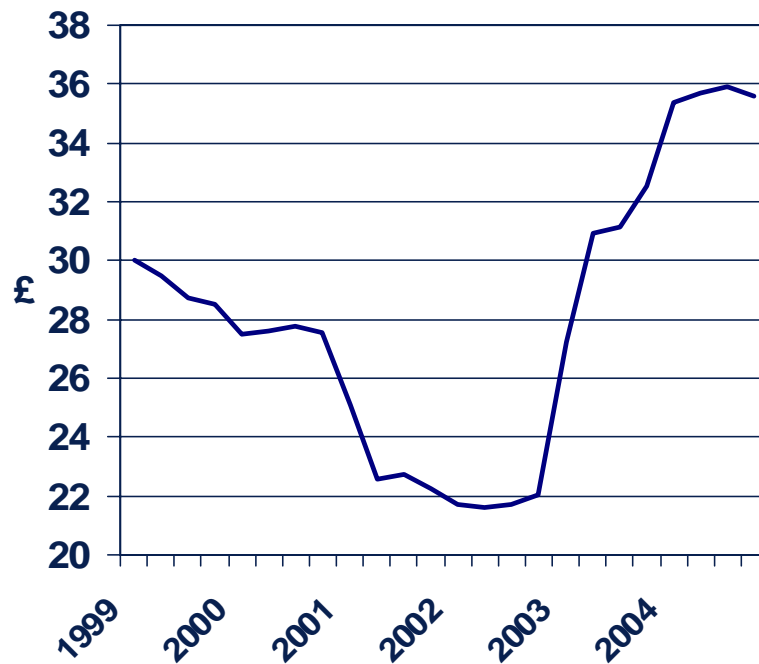


What's Wrong with Current CI Design?

- One size fits all
- Not future proofed

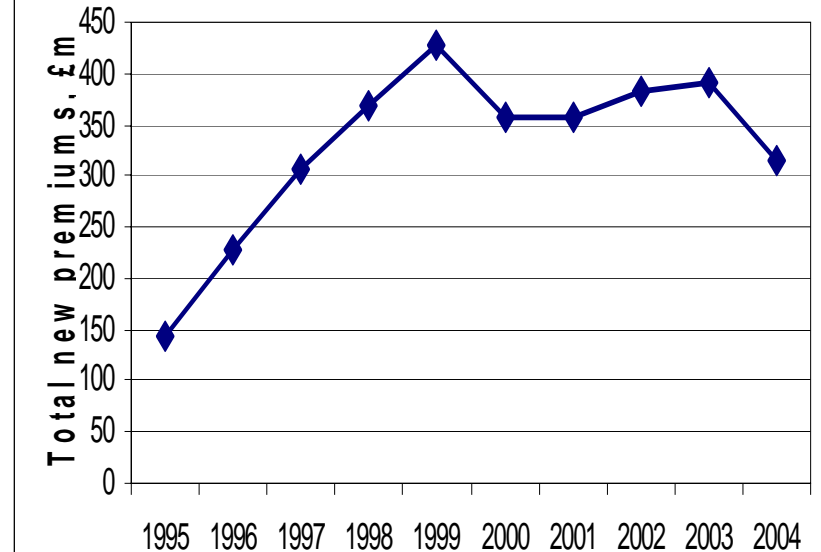
Industry Background

Index of CI Premiums



Source: LifeSearch

Regular Premium individual CI Buiness



Source: ABI

Not all cancers are the same

5 Year Cancer Survival Rates

Cancer site	UK	Europe	US
Lung (M)	7%	9%	14%
Breast (F)	72%	74%	88%
Colo-rectal (M)	44%	46%	64%
Colo-rectal (F)	46%	50%	63%
Prostate (M)	54%	67%	99%
Stomach (M)	13%	19%	22%

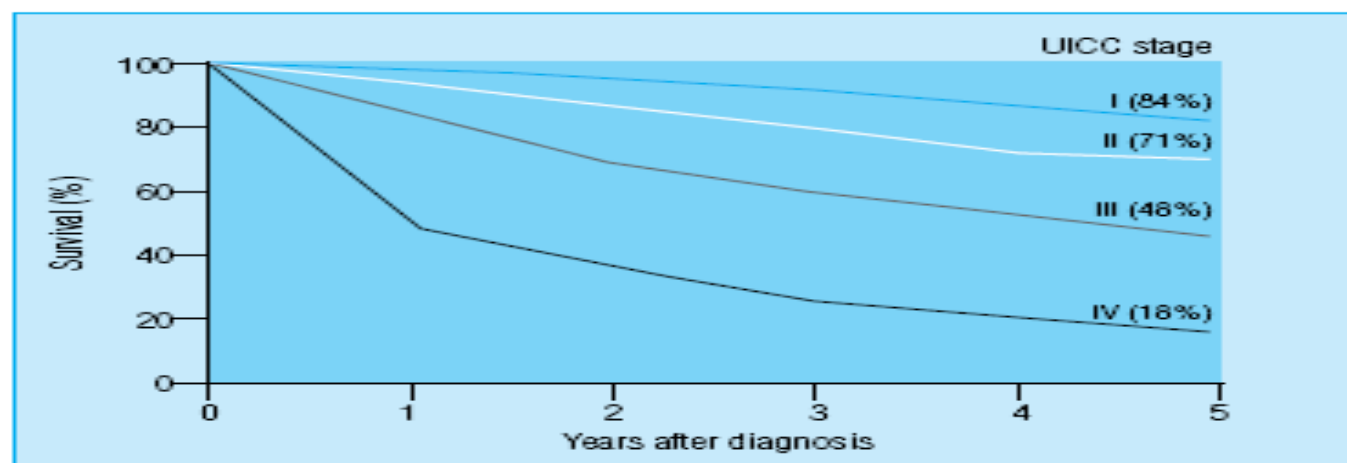
Sources: Cancer Survival Trends 1971/95, Eurocare III Study, SEER Cancer Statistics Review 1975/2001



Breast Cancer Survival

Correlation of UICC (1987) and TNM classifications of tumours

UICC stage	TNM classification
I	T_1, N_0, M_0
II	$T_1, N_1, M_0; T_2, N_{0-1}, M_0$
III	any $T, N_{2-3}, M_0; T_3, \text{any } N, M_0; T_4, \text{any } N, M_0$
IV	any $T, \text{any } N, M_1$



Survival associated with invasive breast cancer according to stage of disease

Source: BMJ Vol 321 23/9/00

Cancer Definition

Any malignant tumour characterised by the uncontrolled growth and spread of malignant cells and invasion of tissue. The term cancer includes leukaemia and Hodgkin's disease but the following are excluded:

- All tumours which are histologically described as pre-malignant, as non-invasive or as cancer in situ.
 - All tumours of the prostate unless histologically classified as having a Gleason score greater than 6 or having progressed to at least TNM classification T2NOMO.
 - All forms of lymphoma in the presence of any HIV.
 - Kaposi's sarcoma in the presence of any HIV.
 - Any skin cancer other than invasive malignant melanoma.
-

Skin Cancer



Skin Cancer



Cancer Definition

Any malignant tumour characterised by the uncontrolled growth and spread of malignant cells and invasion of tissue. The term cancer includes leukaemia and Hodgkin's disease but the following are excluded:

- All tumours which are histologically described as pre-malignant, as non-invasive or as cancer in situ.
- **All tumours of the prostate unless histologically classified as having a Gleason score greater than 6 or having progressed to at least TNM classification T2NOMO.**
- All forms of lymphoma in the presence of any HIV.
- Kaposi's sarcoma in the presence of any HIV.
- Any skin cancer other than invasive malignant melanoma.

Tiering of Solid Cancers

Life Threatening – 100% payment	Disabling - 50% payment	Traumatic - 25% payment
TNM Stage III or above Tumours	TNM Stage II Tumours	TNM Stage I Tumours excluding prostate cancer with Gleason score of 6 or less

Predicting the Future

“if someone ever invents a method of screening apparently healthy men for prostate cancer, the apparent incidence rates may be expected to rise quite quickly by several hundred percent.”

1981 Doll & Peto

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Potential Bad Scenario

The NEW ENGLAND JOURNAL of MEDICINE
 VOL. 351 NO. 6
 AUGUST 28, 2004
 PAGES 645-704

THIS WEEK IN THE JOURNAL

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654 Long-Term, High-Dose Glucocorticoids and Bone Mineral Density in Childhood Glaucoma with or without Myeloma Syndrome
 M.R. Treisman and Others

678 Abundant Plasmablastic Therapy for B-cell Multiple Myeloma
 J.D. Nobile and Others

684 Effect of Resection of Sarcoid Pilonic Cystic Lesions on the Acute Respiratory Distress Syndrome
 M.L. Spragg and Others

687 ZAP-70 Compared with Immunoglobulin Heavy-Chain Class Variable and Phases of Risk Prediction in CLL
 L.P. Rowland and Others

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CASE RECORD OF THE MASSACHUSETTS GENERAL HOSPITAL

703 A New and Old Case of Cystic Degeneration and Anomalous Position
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 F.M. Keefe

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“--- Diagnoses of chronic lymphatic leukaemia are becoming more common because **we are looking harder**. With sensitive techniques, a monoclonal population of B lymphocytes that is indistinguishable from CLL cells may be found in the blood of **3.5% of persons older than 40 years of age**. ---”

Conclusion

- Future Proofing:
 - Severity levels
 - Less anti-selection
 - Positive effect on the price
- Tiered product:
 - Future proofing
 - Fairer

Questions

