

Aging of TB epidemic Case of Japan

APR, Malaysia August 3, 2007

IUATLD

Takashi Yoshiyama, RIT, JATA

TB among old

Big in number in Japan

Aging TB in Japan

Case detection in 2005 : 28319 cases (23.3/100 000)

Case detection > 65 : 14958 = 56% of all TB cases

case detection is

65-69 : 2244 cases = 29.0 / 100 000

70-74 : 2823 cases = 40.8 / 100 000

75-79 : 3509 cases = 63.6 / 100 000

80-84 : 3206 cases = 89.3 / 100 000

85-89 : 2051 cases = 106.9 / 100 000

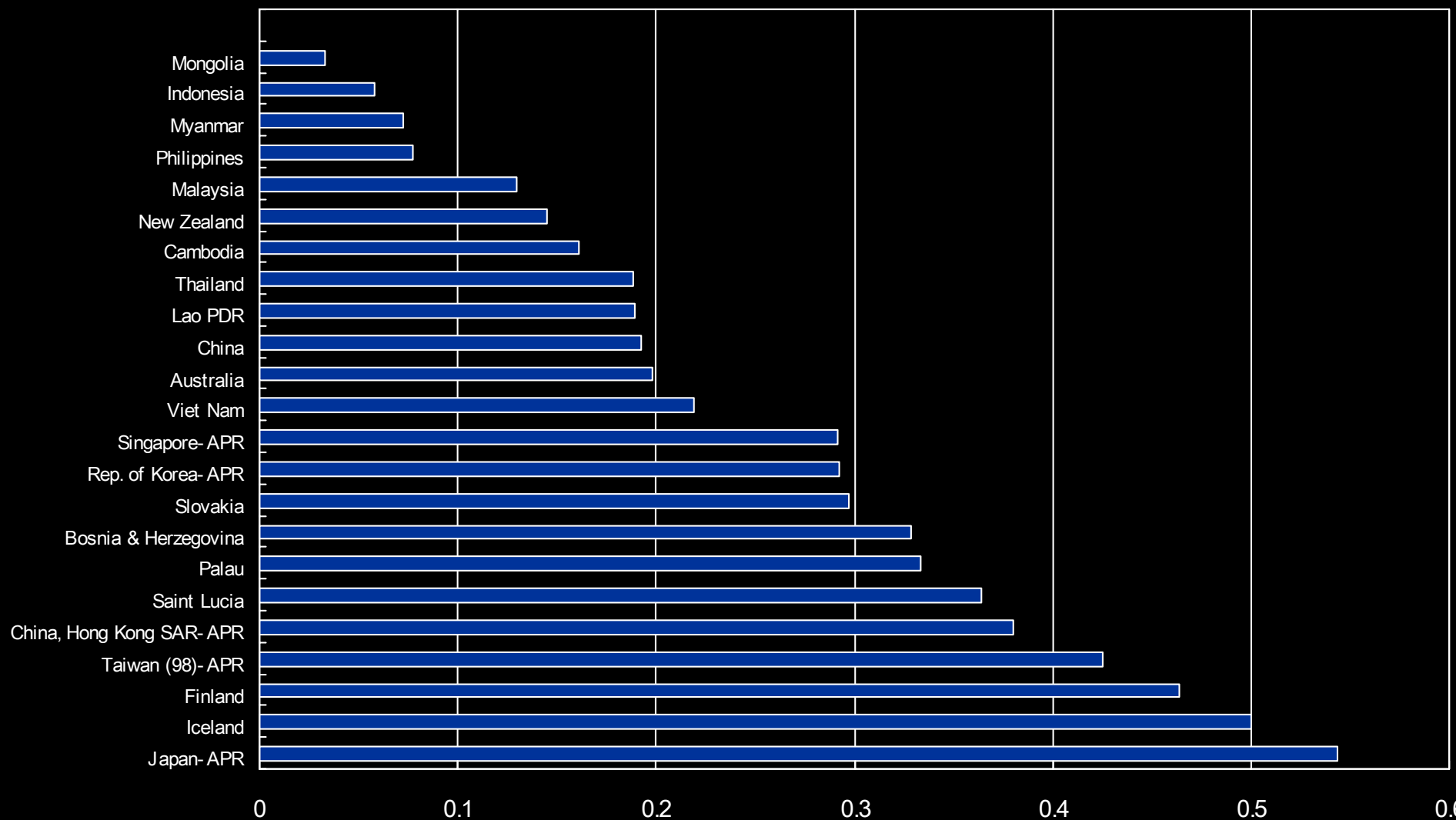
90- : 1125 cases = 100.3 / 100 000

TB among old

Big in number in Japan.

And in APR countries

Proportion of >65 among AFB S+ TB top 10 + APR countries, global TB control

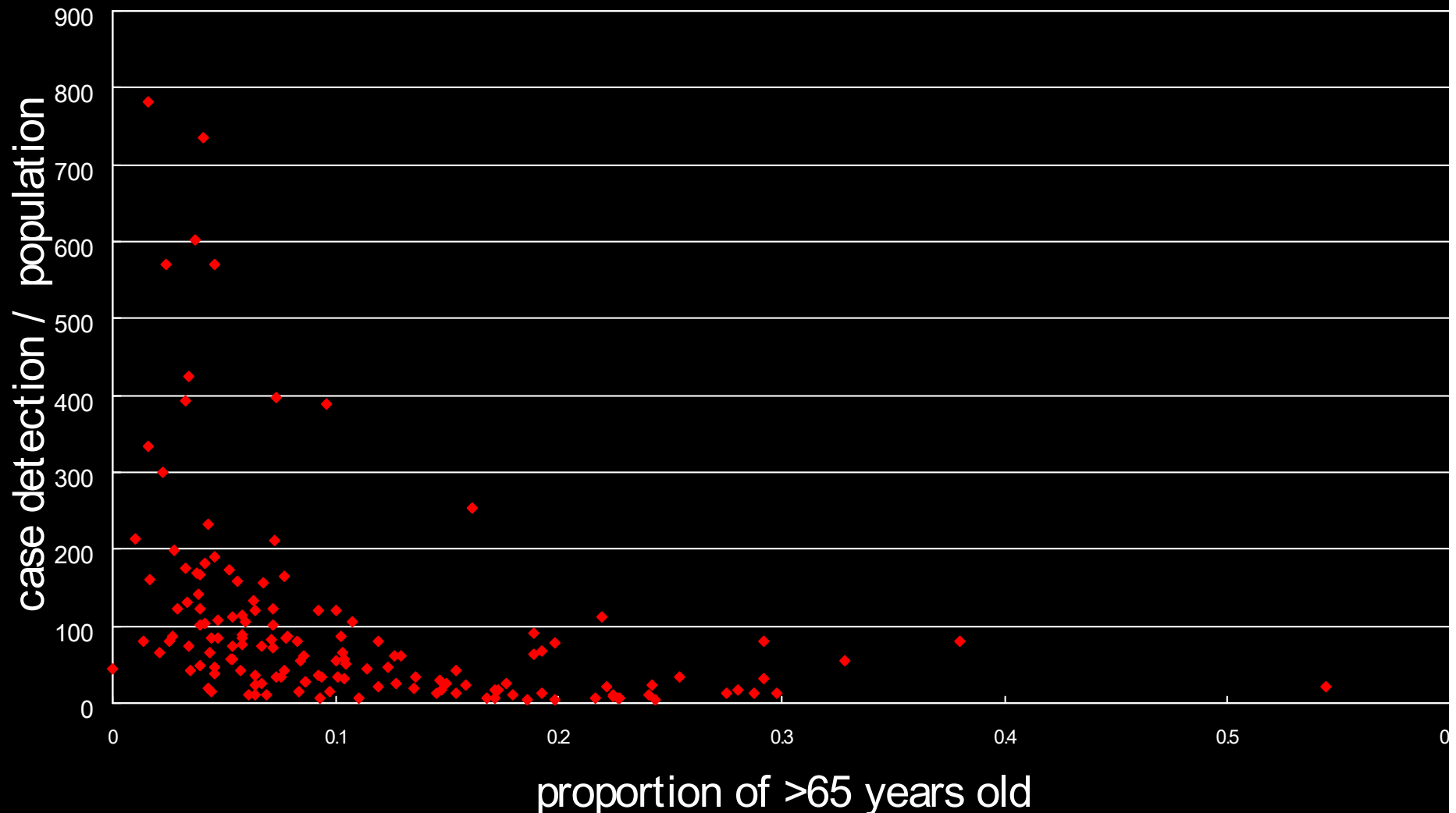


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TB among old

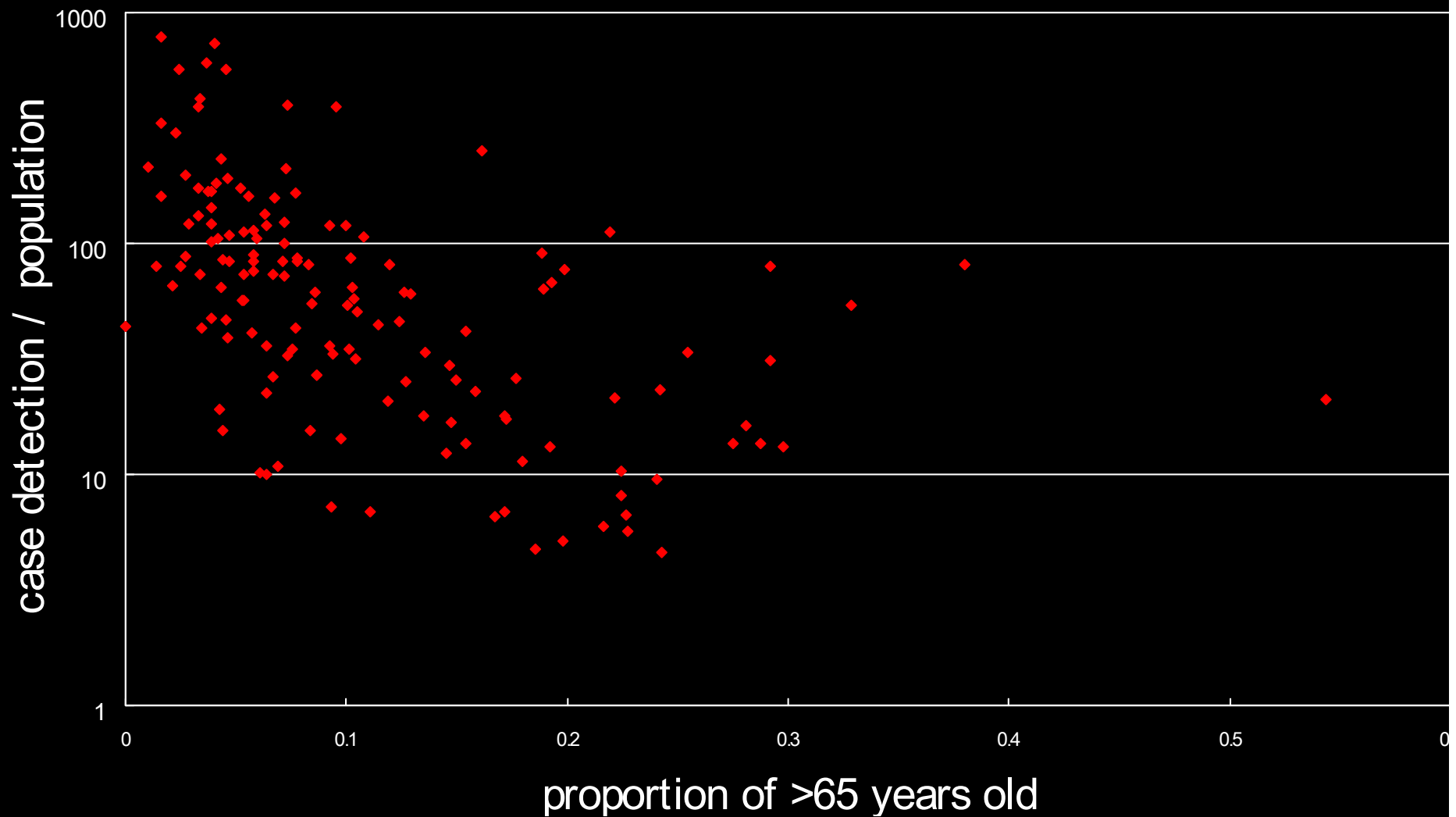
Big in number in Japan and countries with intermediate burden countries.

Proportion of >65 and incidence rate



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Proportion of >65 and incidence rate



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TB among old

Big in number and at incidence.

Incidence rate 15-24 / >65 AFB S+

incidence rate, S+ TB

	proportion >65	all ages	15-24	25-34	>65	>65/15-24	>65/25-34
Japan	0.544	9	3	5	24	8.6	4.8
China, Hong Kong SAR	0.380	23	16	15	71	4.6	4.8
Rep. of Korea	0.292	24	18	25	75	4.1	3.0
Singapore	0.292	13	2	8	44	18.6	5.6
Viet Nam	0.219	66	30	66	265	9.0	4.0
China, Macao SAR	0.199	30	14	28	77	5.5	2.7
Australia	0.198	1	2	2	2	1.0	0.9
China	0.193	36	34	36	91	2.7	2.6
Lao PDR	0.189	47	20	48	245	12.4	5.1
Thailand	0.188	46	21	53	118	5.7	2.2
Cambodia	0.161	149	49	182	703	14.2	3.9
New Zealand	0.145	2	3	4	2	0.8	0.7
Malaysia	0.129	33	48	83	178	3.7	2.1
Philippines	0.077	98	66	126	196	3.0	1.6
Myanmar	0.072	72	58	101	106	1.8	1.0
Indonesia	0.058	71	69	97	75	1.1	0.8
Mongolia	0.033	71	100	112	61	0.6	0.5

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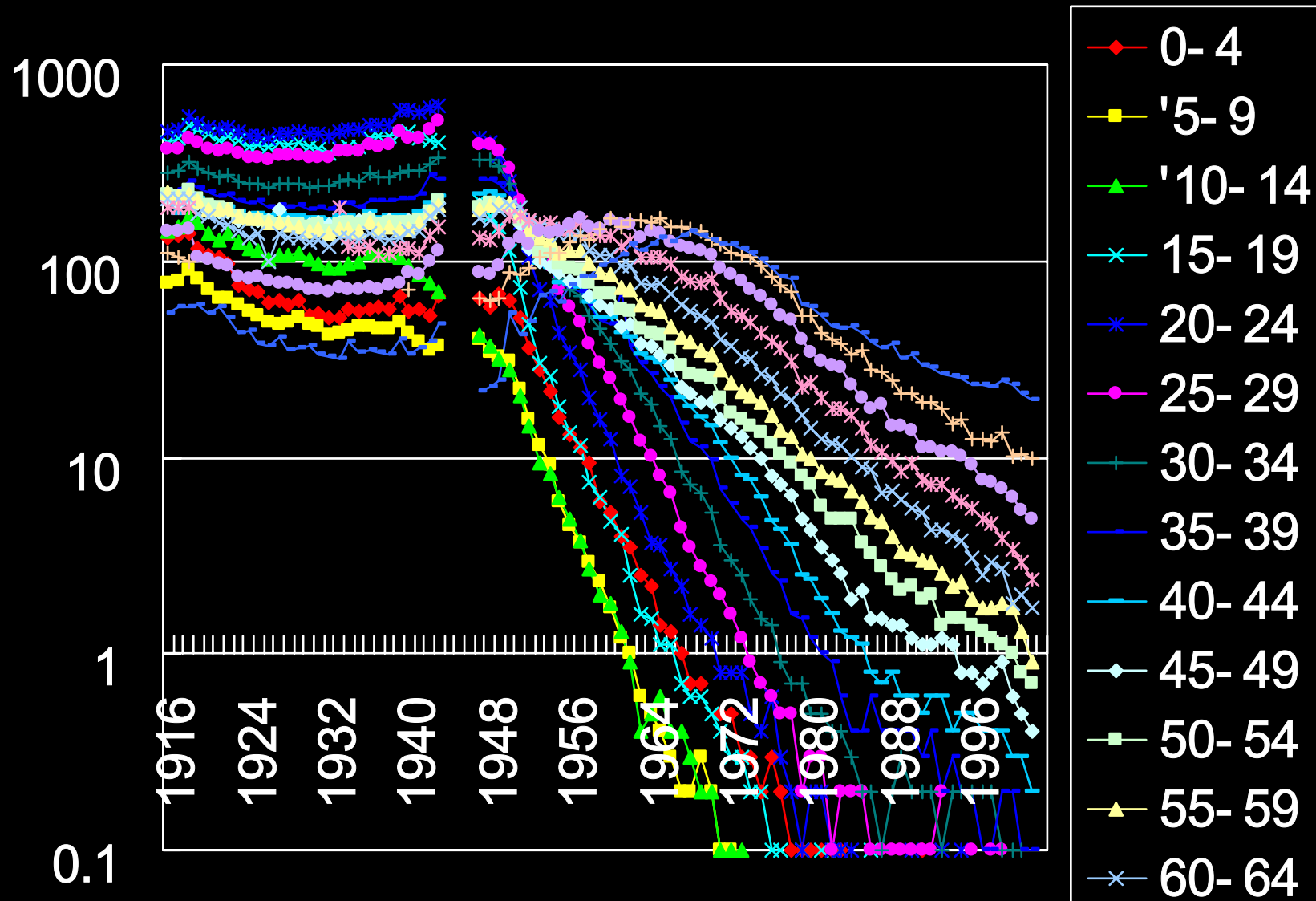
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TB among old

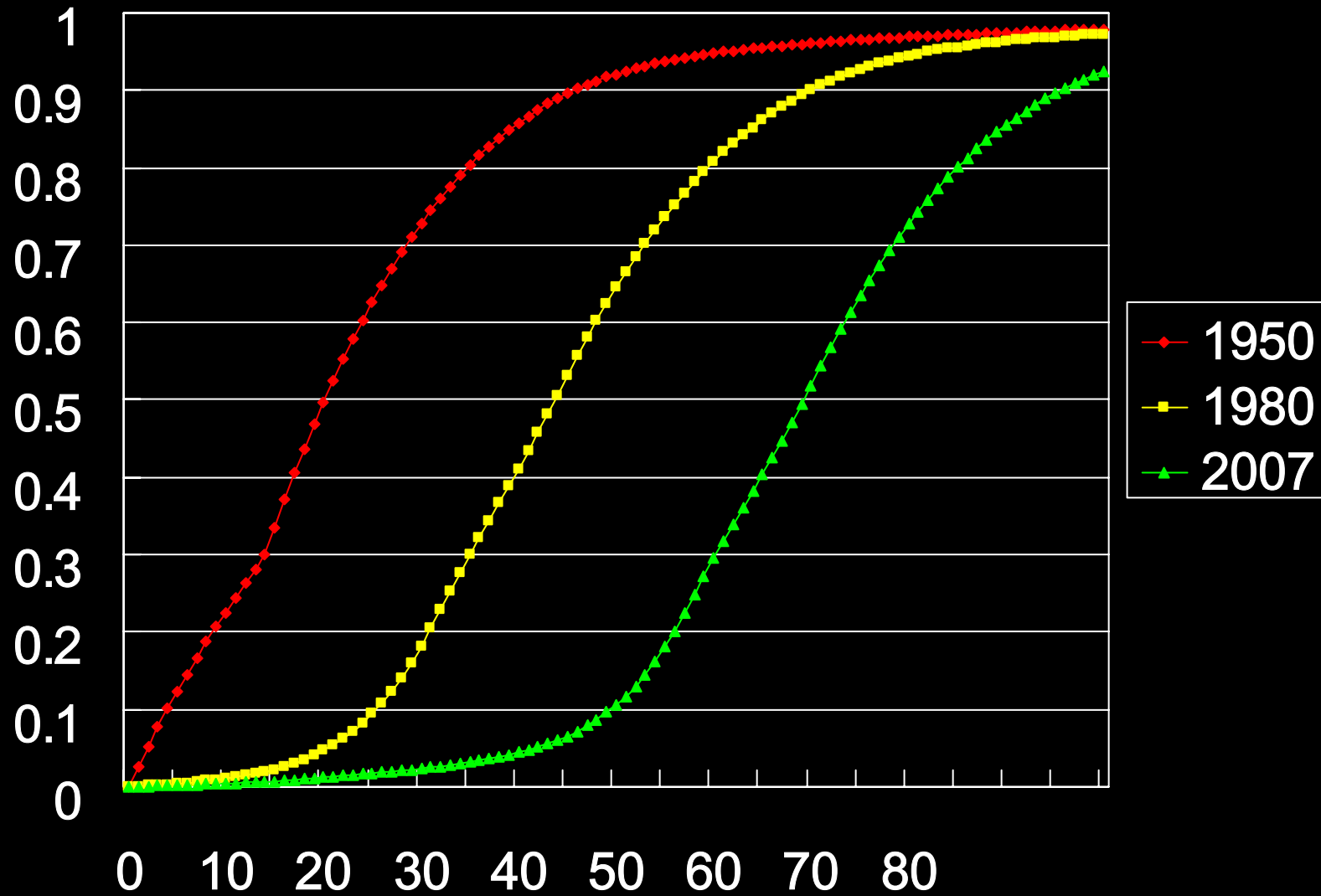
Big in number and at incidence
by historical reasons.

In high burden era, TB was prevalent both at
young and old.

Death due to TB / 100 000 population



Estimated prevalence of infection, Japan



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TB among old

Big in number and at incidence
by historical reasons.

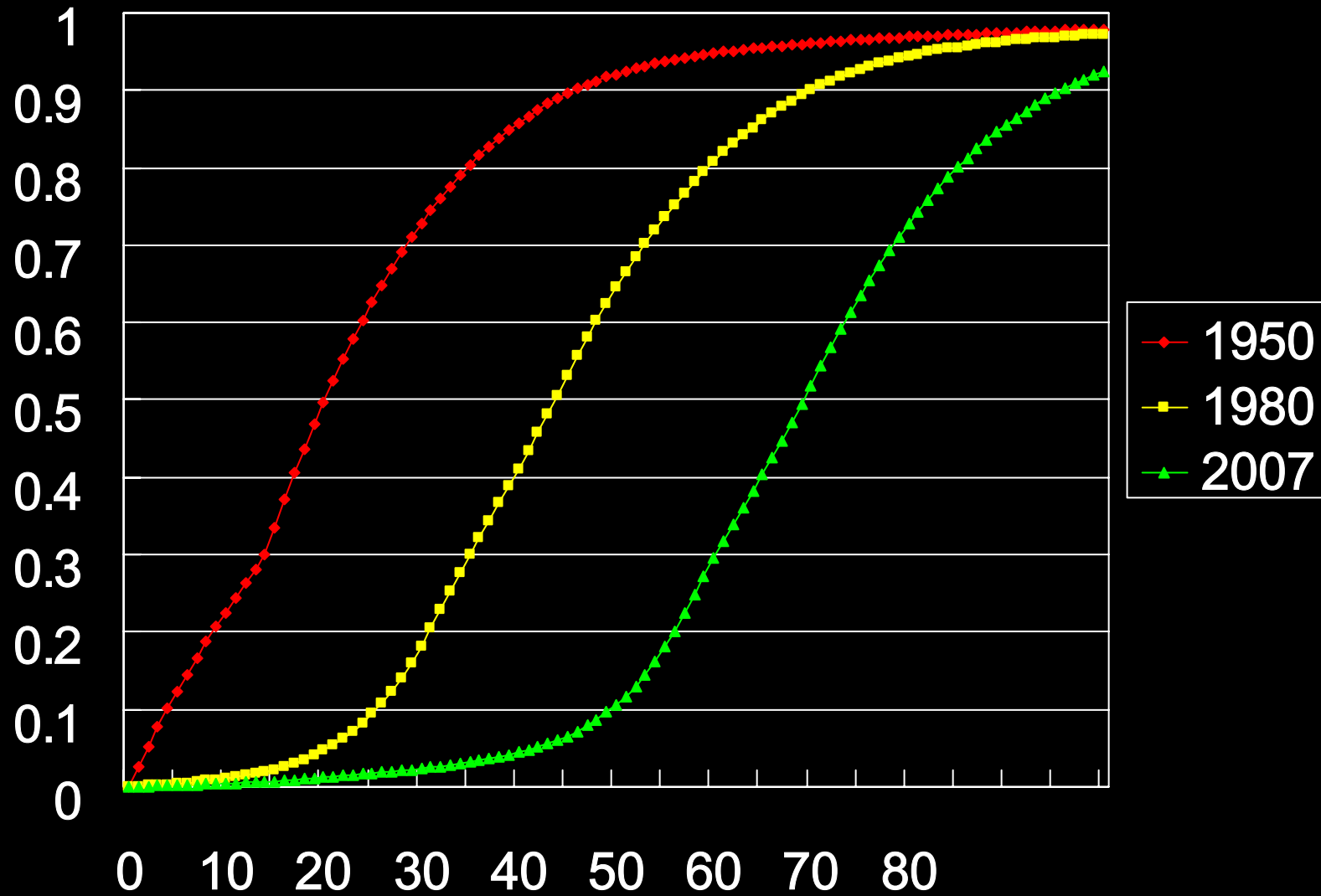
In high burden era, TB was prevalent both at
young and old.

Both by New infection and reinfection (and
to lesser extent reactivation).

TB among old

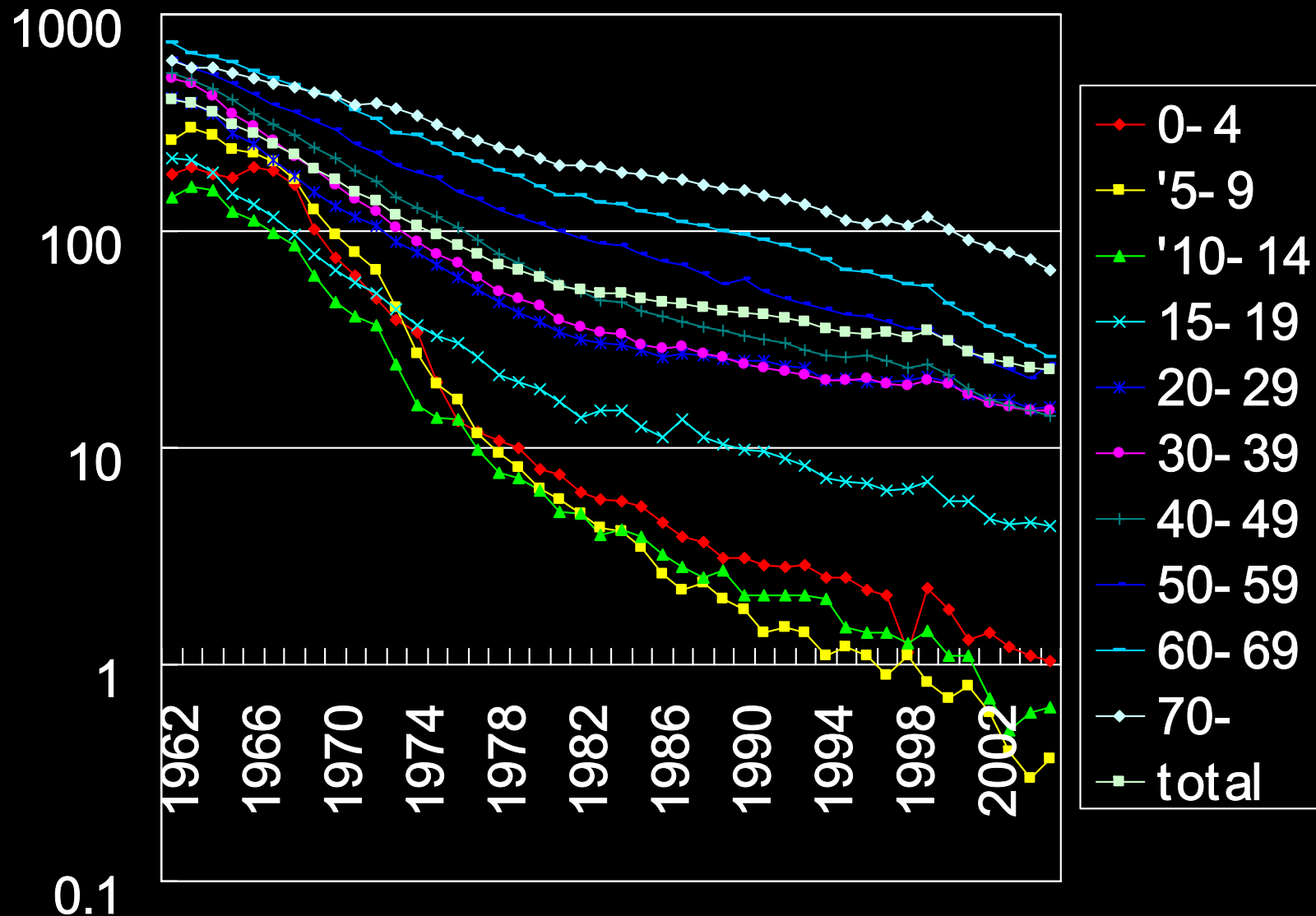
Risk of infection has reduced dramatically
and prevalence of infection has reduced
among younger generation.

Estimated prevalence of infection, Japan



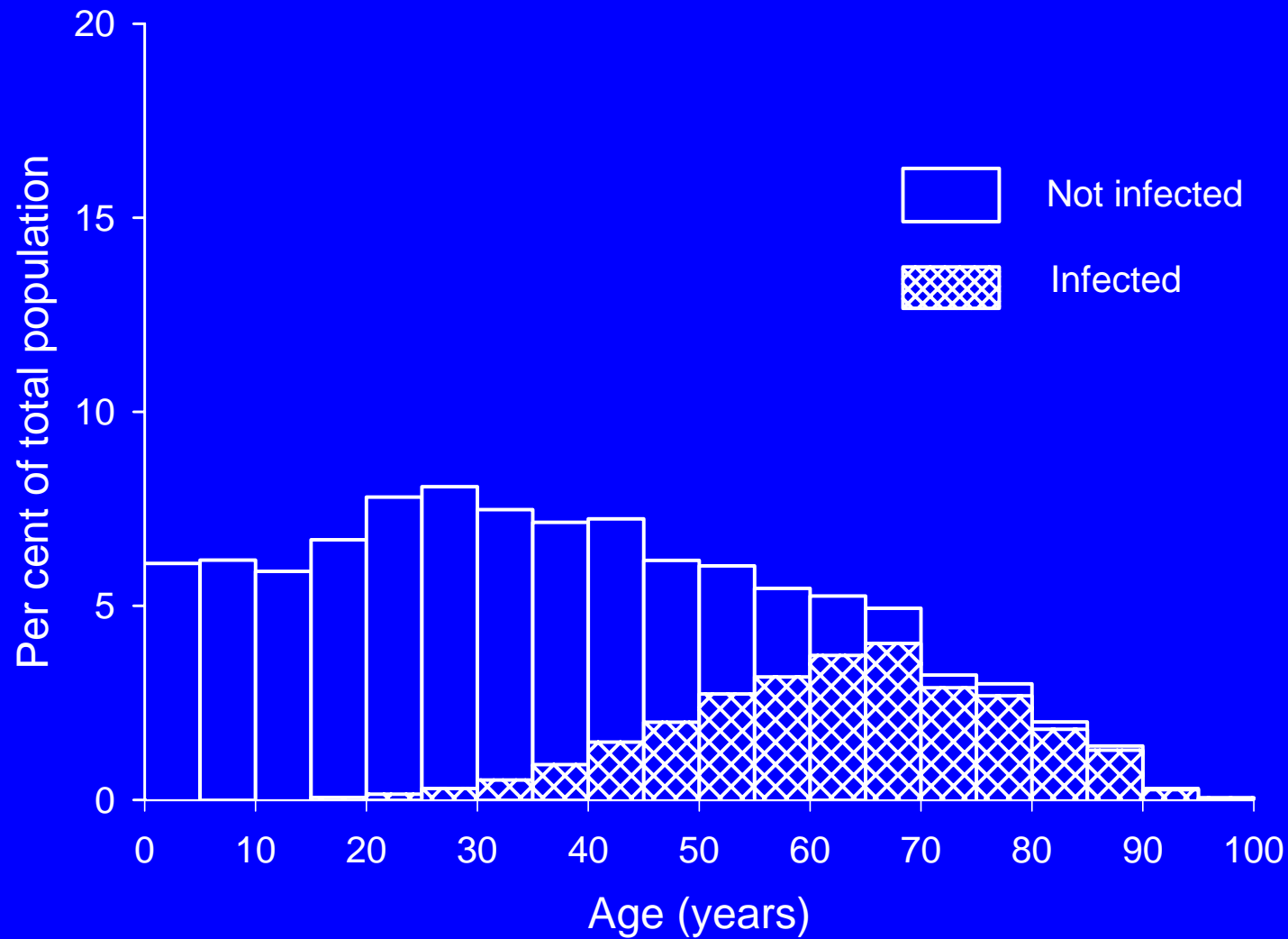
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Trend of age specific incidence



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Age-specific Prevalence of Tuberculous Infection in Western Europe



Data courtesy: ten Dam HG, World Health Organization, 1990

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TB in Japan

Among younger generation is due to new infection.

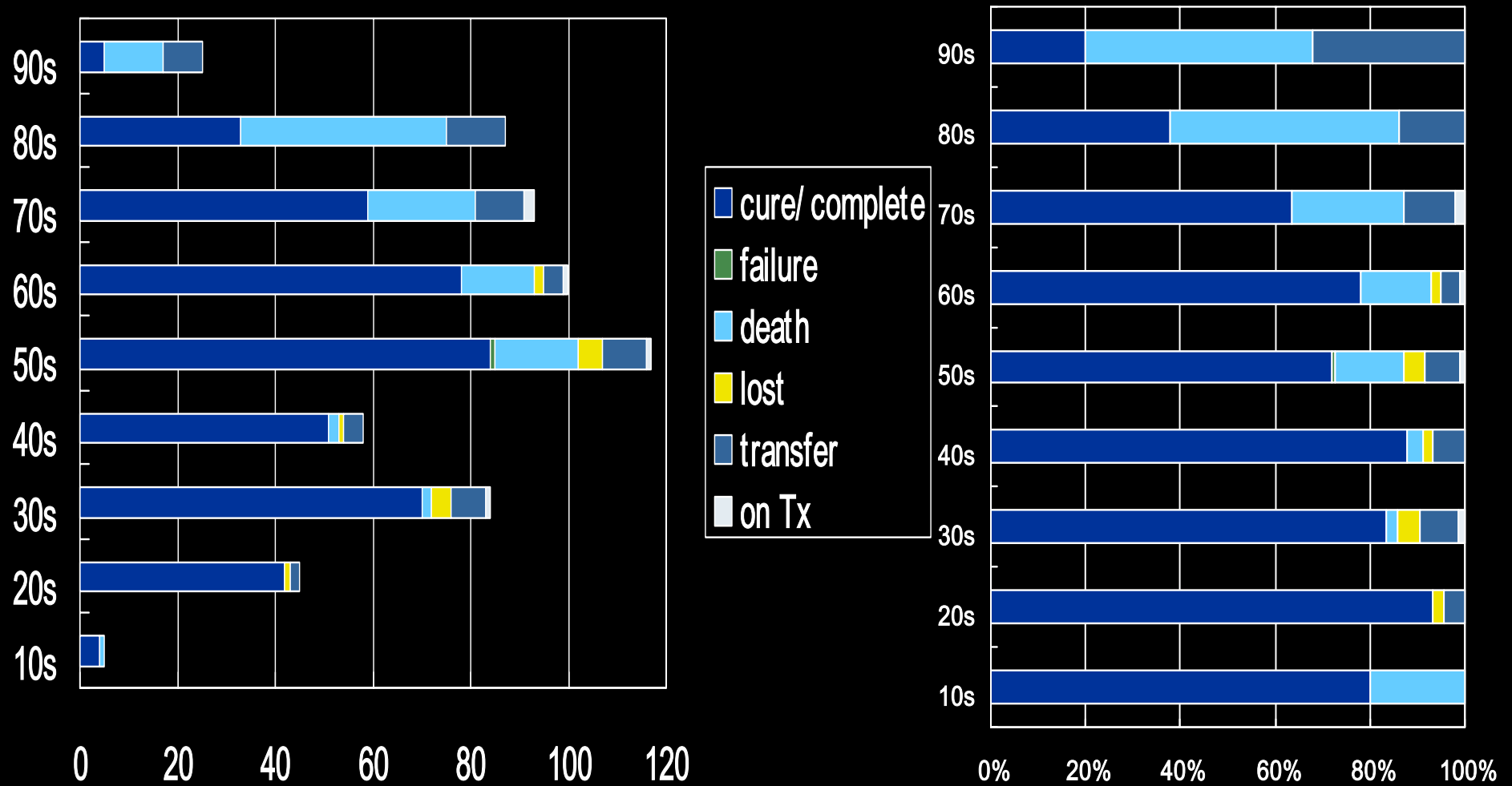
Among older generation is due to reactivation, and to lesser extent, new and re-infection.

TB among old

Dies.

Aging TB, High Case Fatality

Treatment result AFB S+ cases, Fukujuji Hp. 2003-05



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TB among old

Dies.

Many cases cannot eat due to diseases and sometimes due to anti-TB drugs.

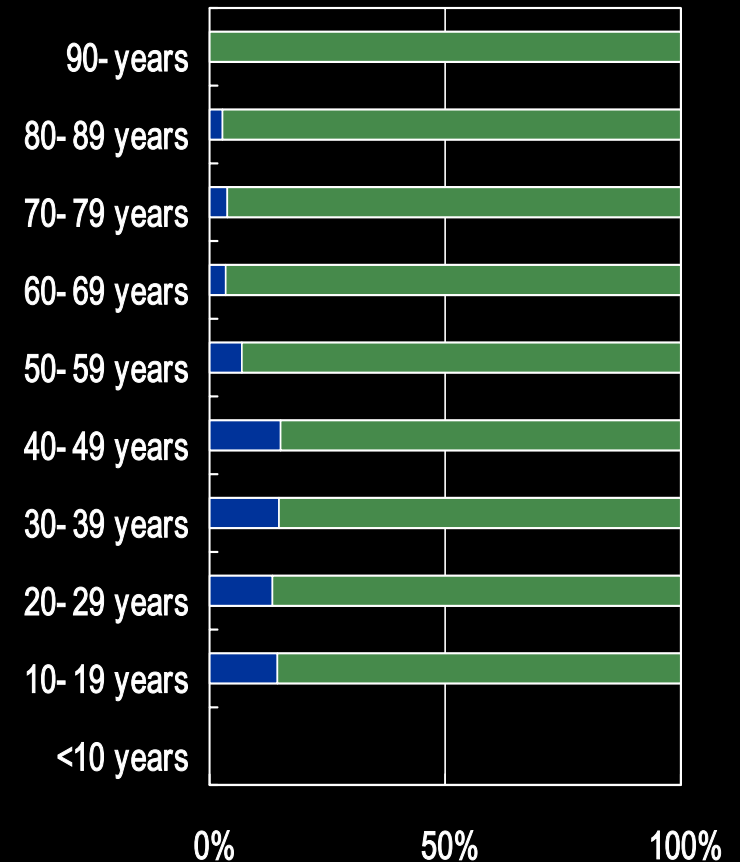
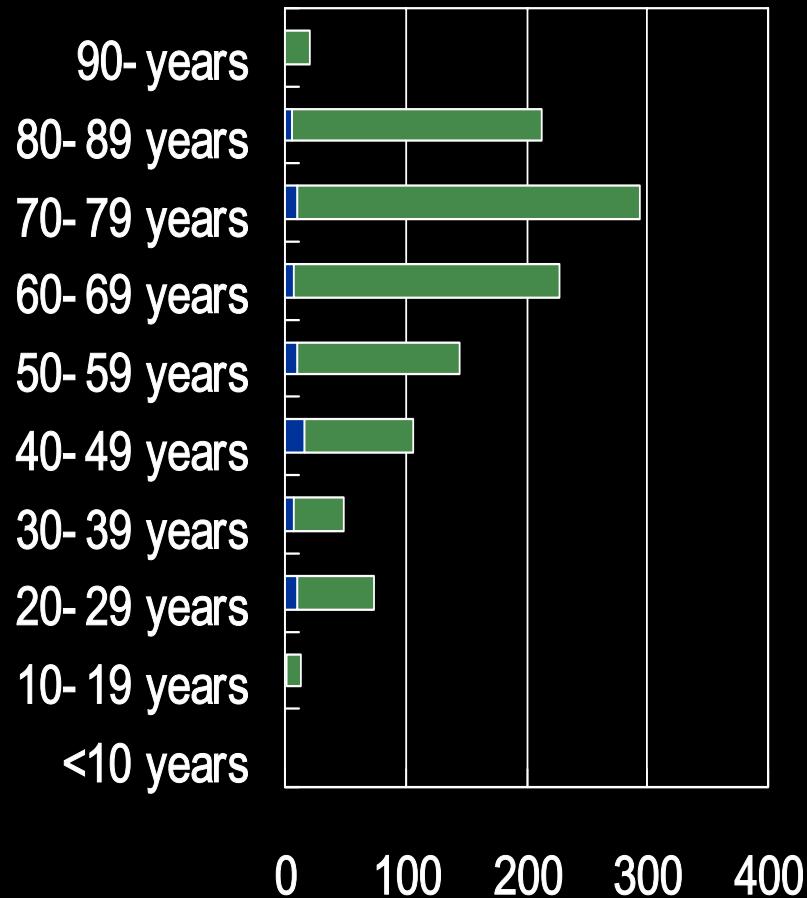
TB among old

Less infectious than younger generation.

But,

Old TB cases are less infectious

Proportion of S+TB cases that were source to secondary TB

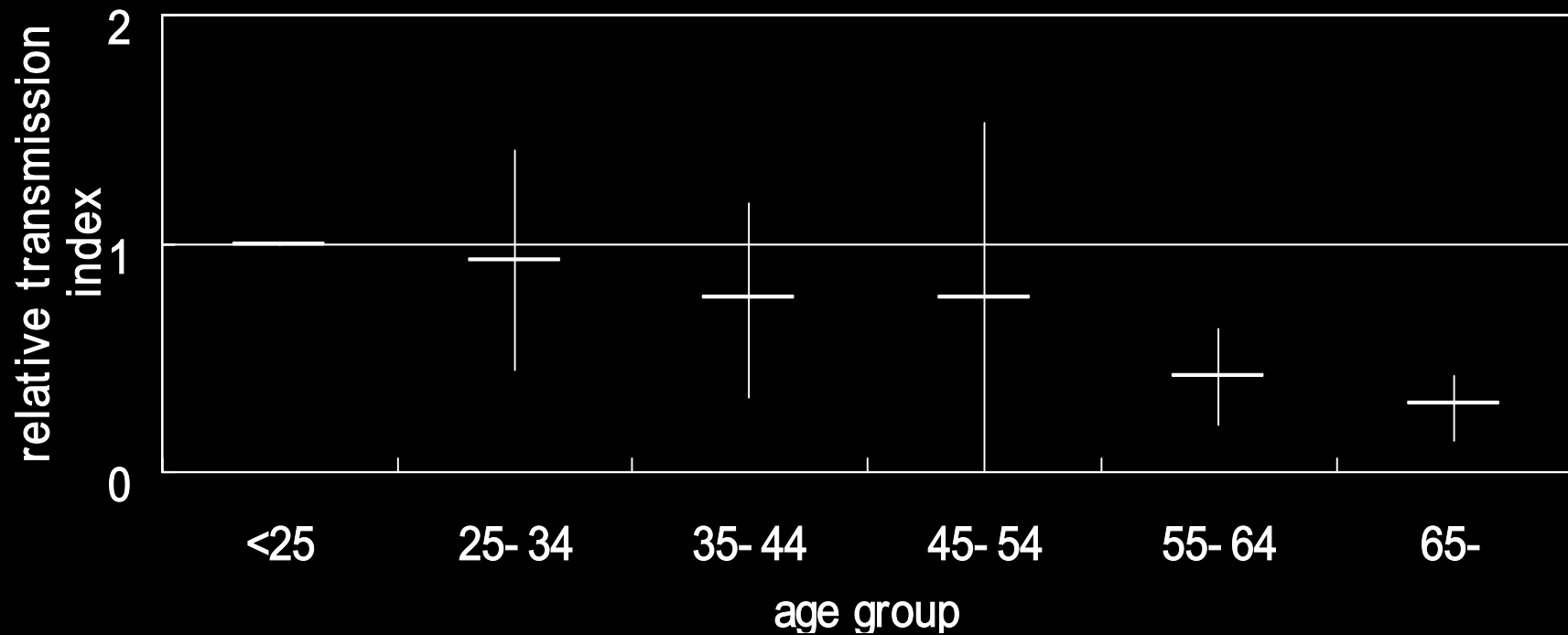


(Inoue, Kekkaku 2006;81:567-571)

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Infectiousness by age, sex, nationality

relative transmission index, Netherlands study, incidence rate model



M. Borgdorff, N.C.D. Bagelkerke, P.E.W.de Haas, D. van Soolingen, Transmission of Mycobacterium tuberculosis Depending on the Age and Sex of source cases. American J of Epidemiology 2001;154:934-943



TB among old

Less infectious than younger generation.

But, if without older source of infection, no TB cases among younger generation.

Aging TB will be

Less important when old source of TB infection dies.

However, other source of infection continues to exist until TB will be eliminated in the world.

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incidence rate, S+ TB

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Aging TB will be

Continue to be important in APR countries
(except for the low burden countries),

First in Japan and Singapore for the next 20-30
years

then in high burden countries with higher
incidence among older generation in near
future.

All countries will encounter with aged TB when
TB decline takes place for some years.