

How long do LLIN last in the field?

Some thoughts on concept & methodology
and preliminary results

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RESEARCH



PREVENTION



DIAGNOSIS



TREATMENT



BETTER HEALTH



Why do we need to know?

- Procurement: which net to buy
- Replacement: continuous distribution
- Improvement: better products

Only the physical condition of net considered here

Net survival is highly variable

Two nets of same material & strength, regularly used, same place, same time (three years)



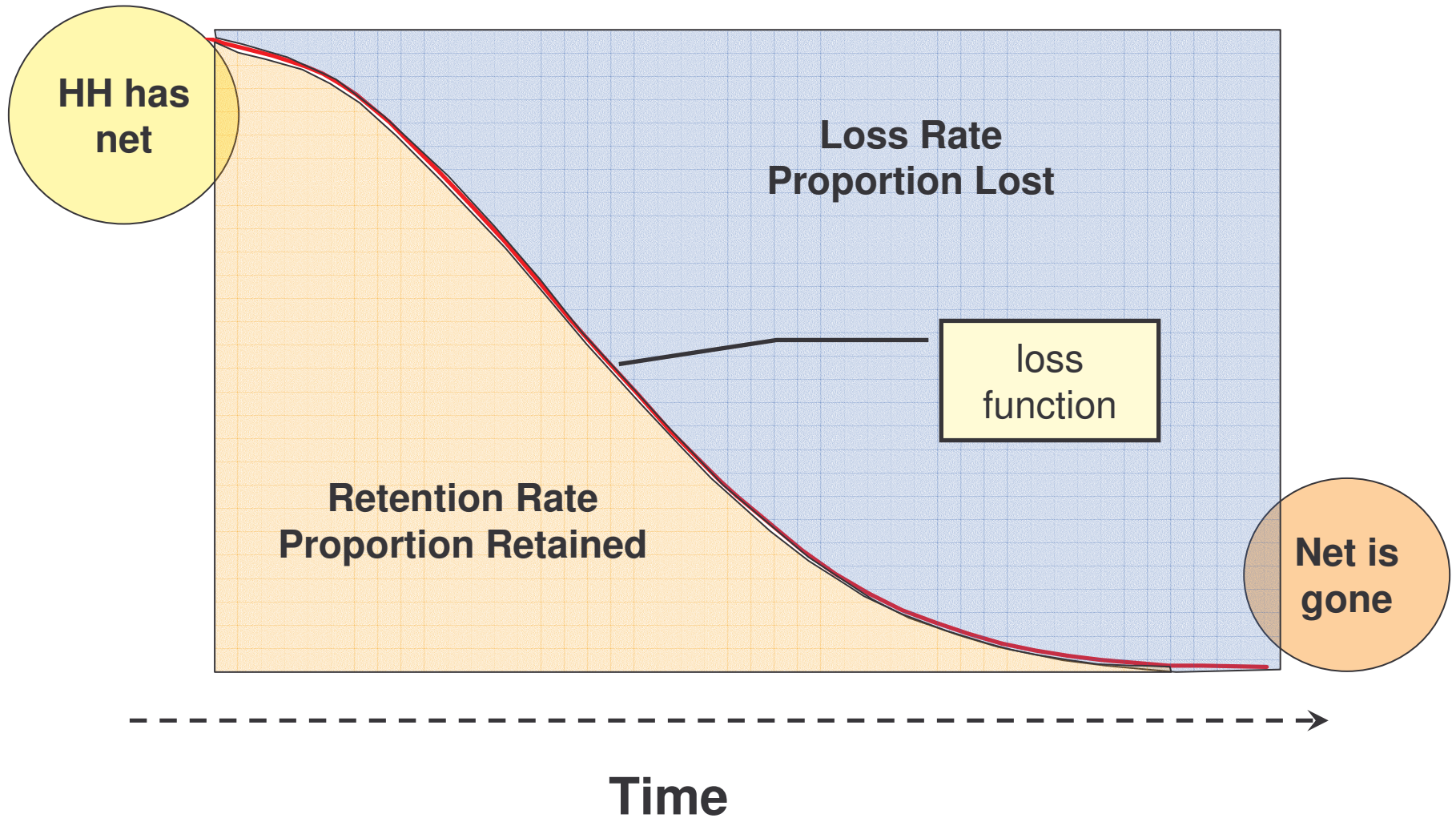
Stress on net varies

- Between regions (environment)
- Between households (socio-economic)
- Between nets within household
- Over the lifespan of the net

Two major aspects of “life of net”

- The net is there or not (retention-loss)
- Physical condition of surviving nets

Are the nets still there?

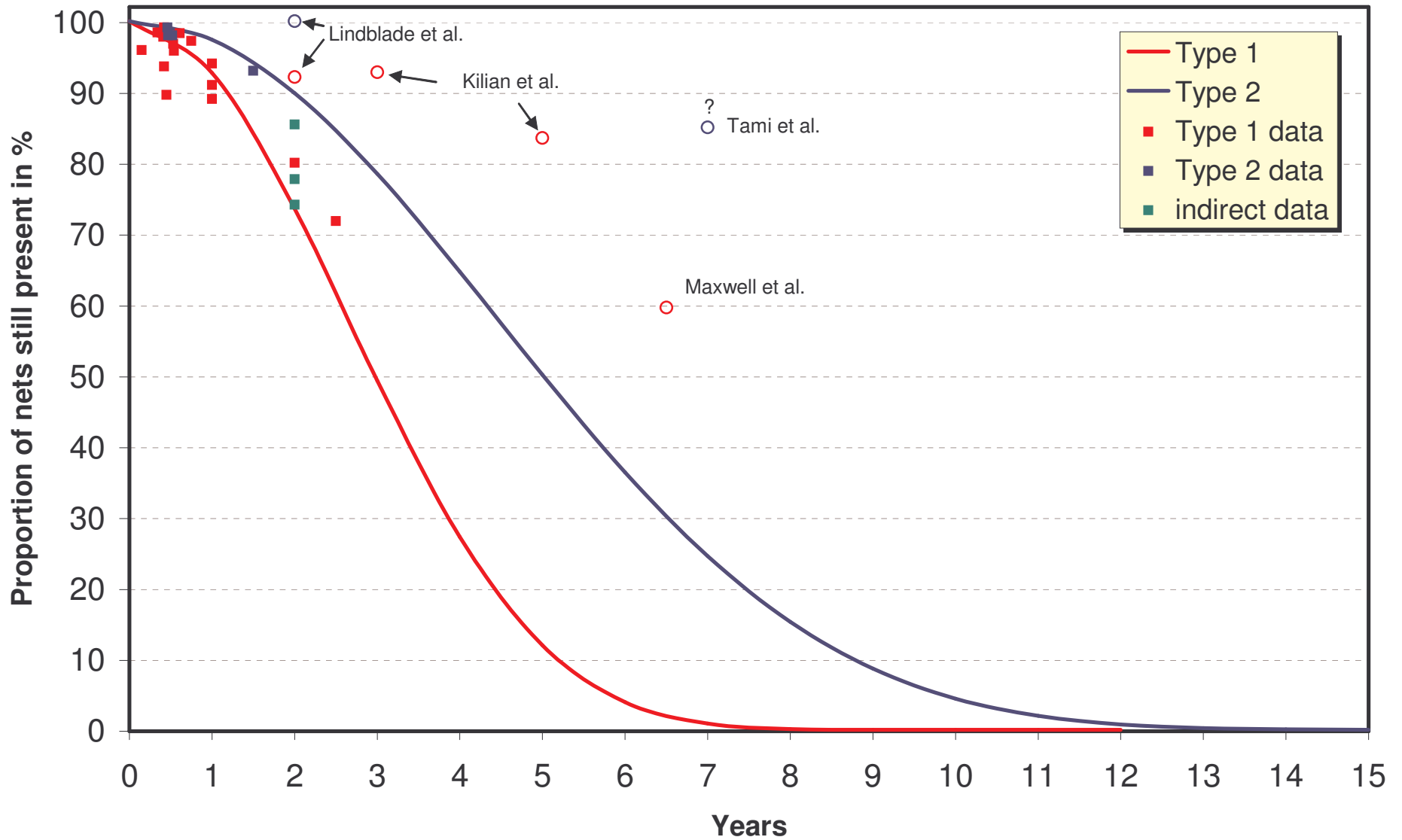


Two major aspects of “life of net”

And how to measure them

- The net is there or not (retention-loss)
 - Post distribution net tracking surveys
 - Problem with longitudinal studies (Hawthorn effect)

Retention of nets as a function of time

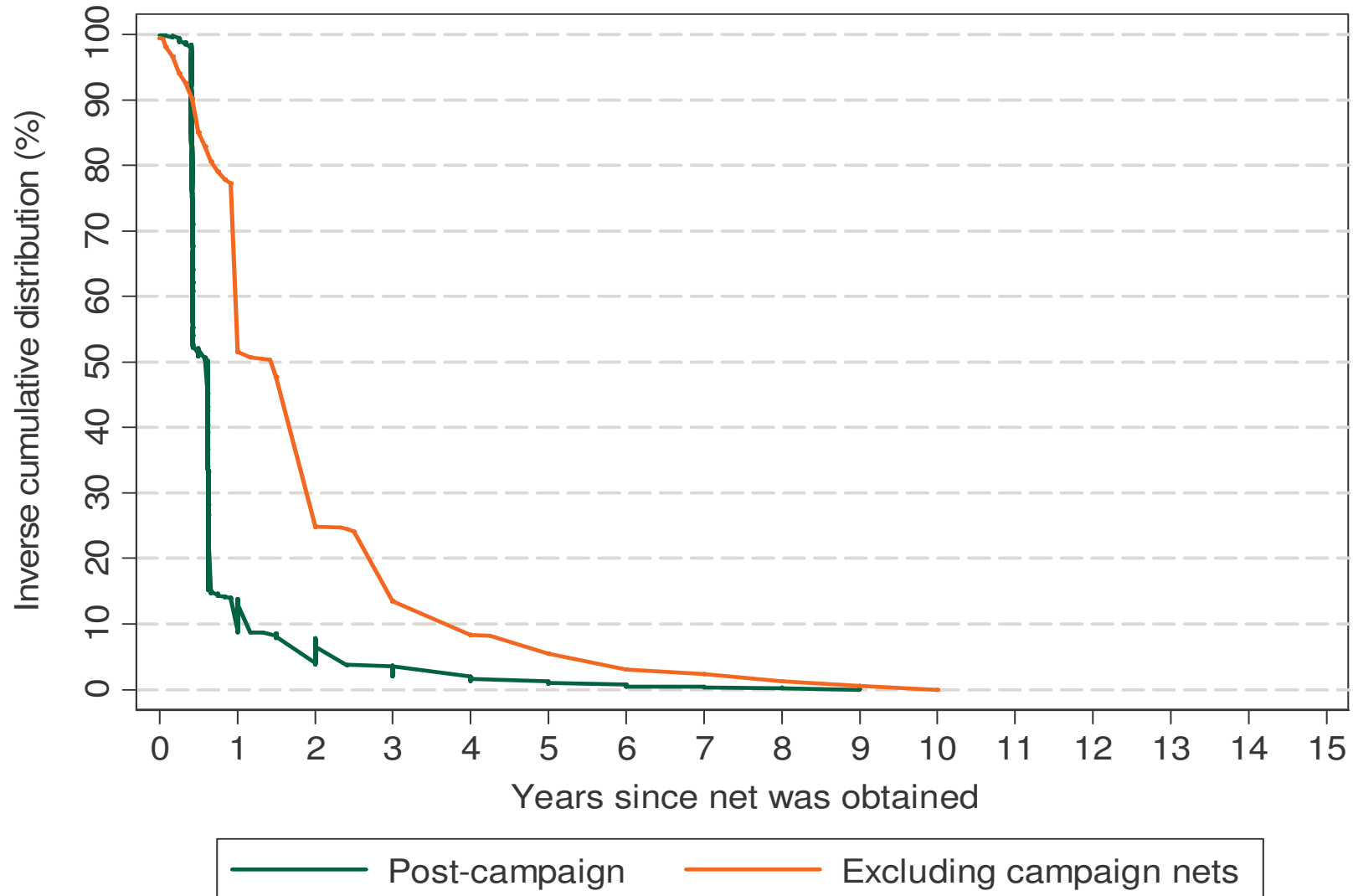


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 - Mean age of net from cross-sectional survey can be used for "tale" but depends on "steady state"

Variation of "age distribution" of nets with level of input

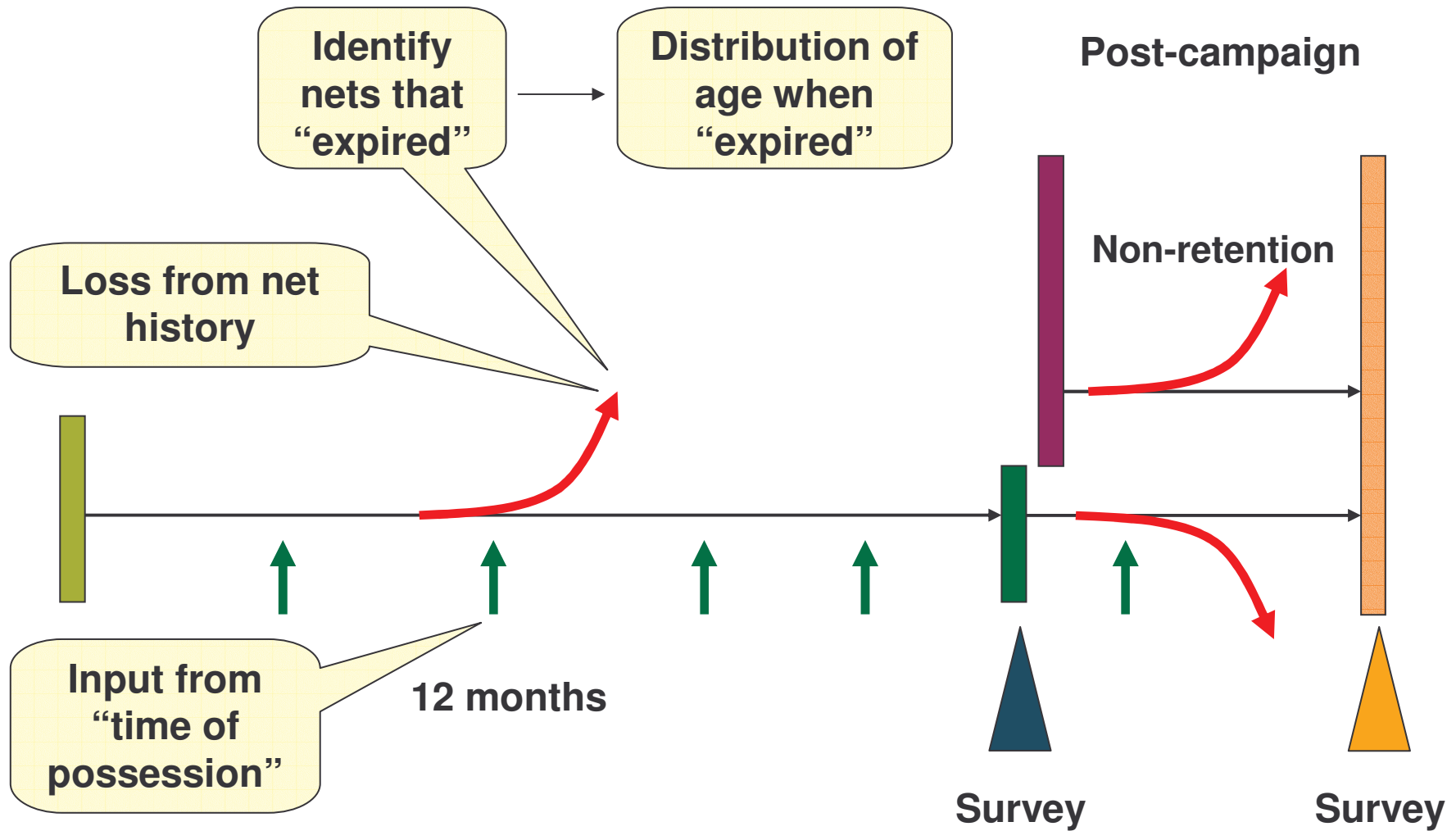


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 - Retrospectively from "net history" in cross-sectional surveys (MIS, post campaign)

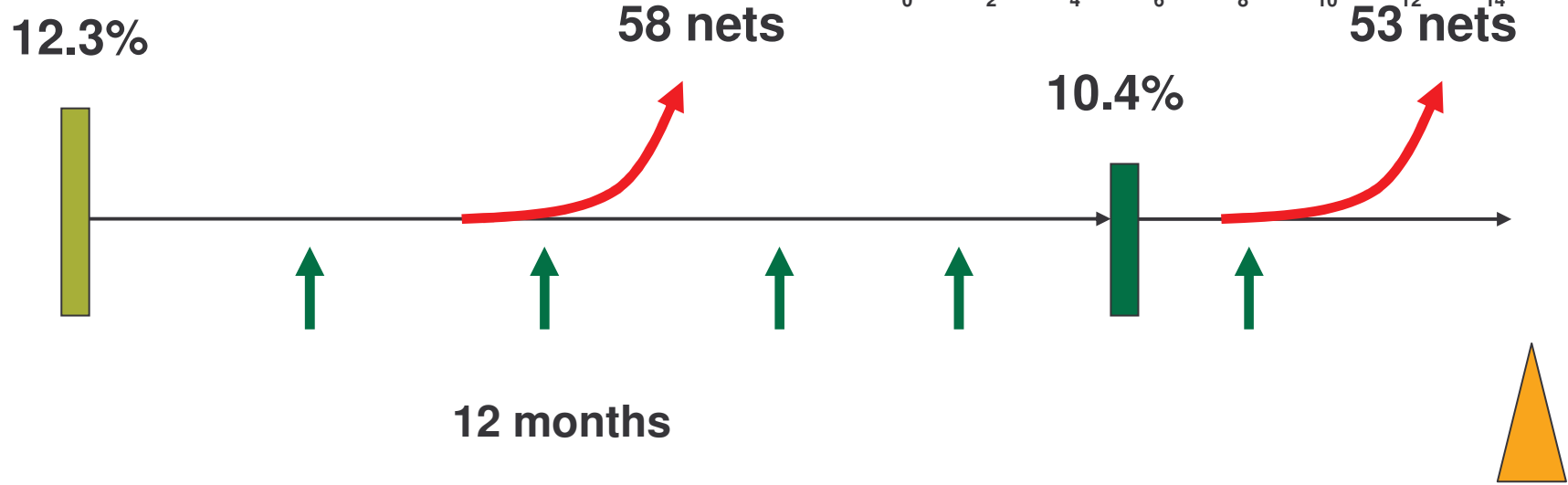
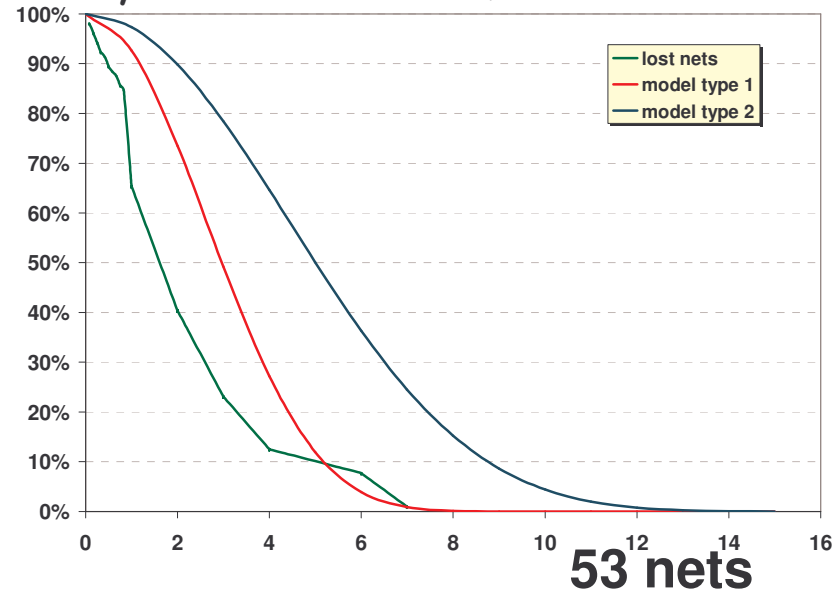
Obtaining information from net history



Obtaining information from net history

Nigeria Kano/Anambra post campaign survey Oct/Nov 2009, N=1999 hh

61% of lost nets discarded
39% given away to others
21% of all nets 12 m before campaign lost, 15% "expired"

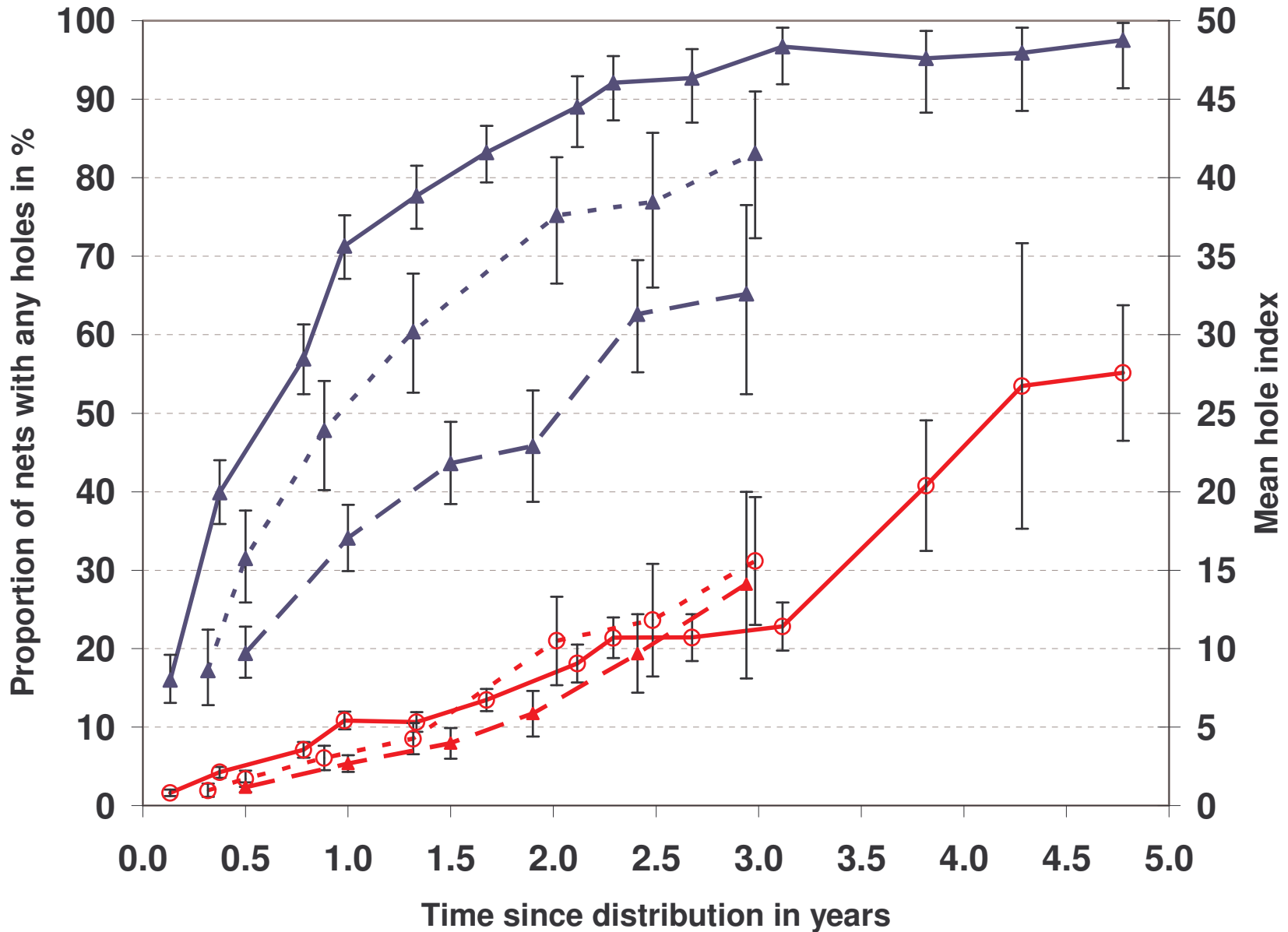


Two major aspects of "life of net"

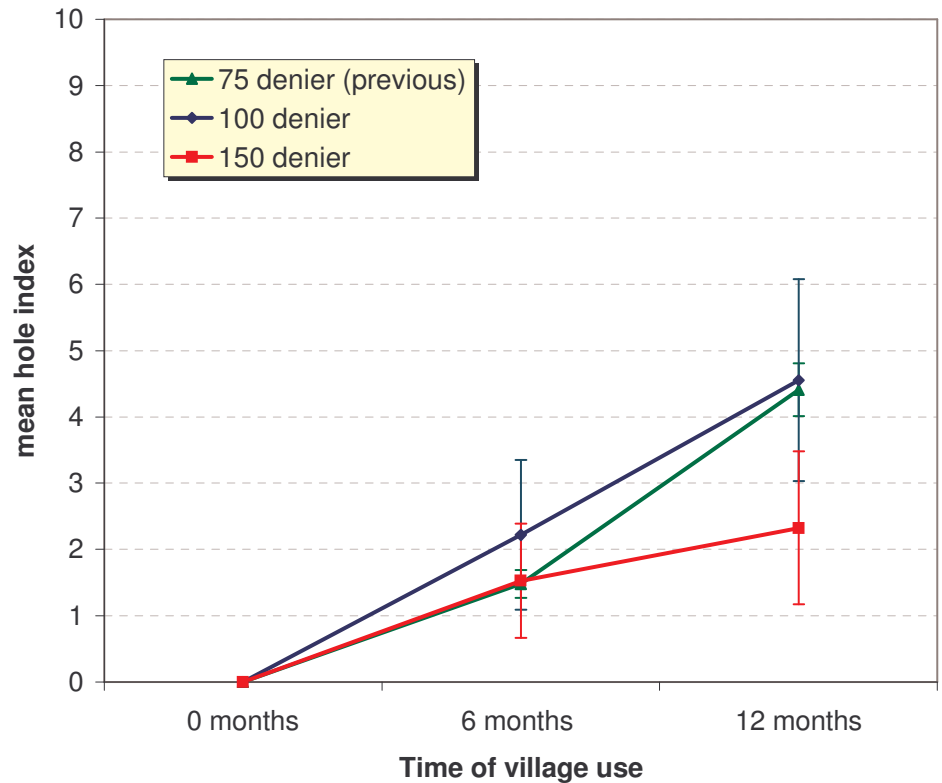
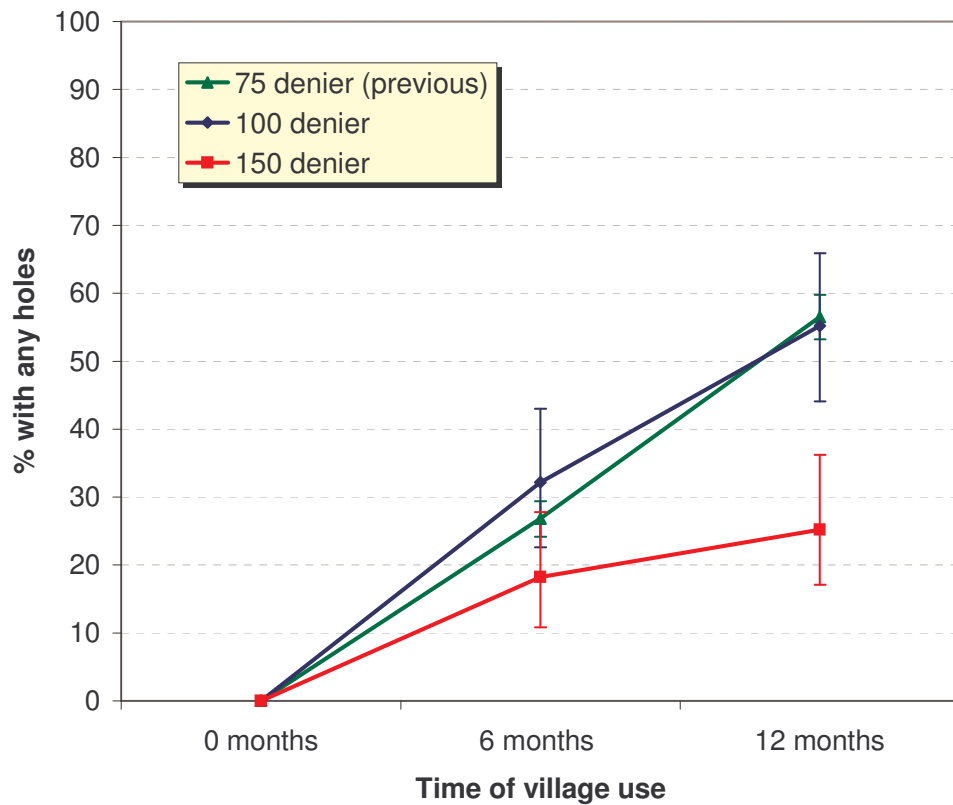
And how to measure them

- Physical condition of surviving nets
 - Best examination on frame in lab (tedious)
 - Problem if various categories of "good", "poor" etc (not yet well defined)
 - Describe damage with hole index from three categories of hole size (seems robust)

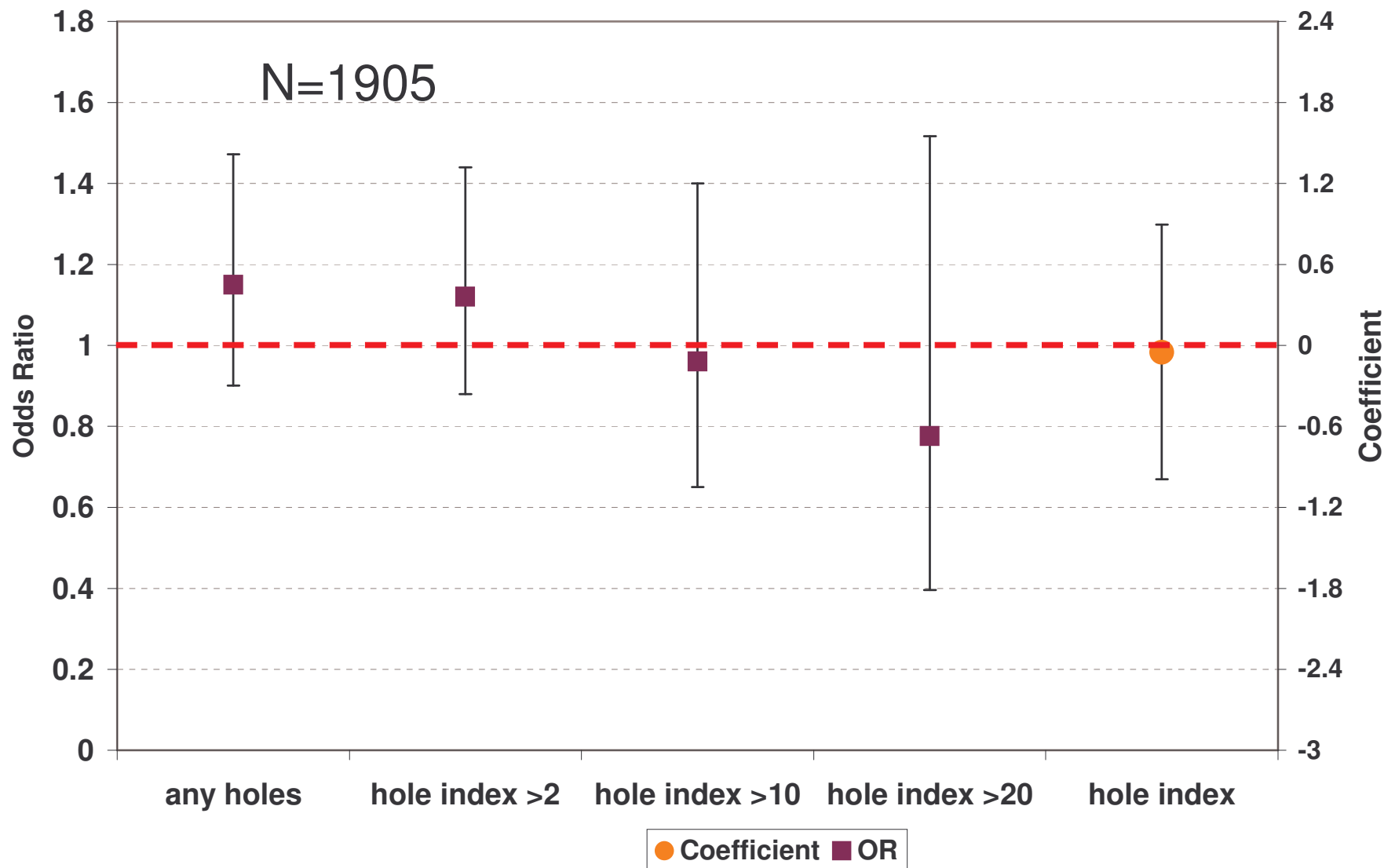
Measuring physical condition in longitudinal LLIN studies in Uganda



Comparison of physical condition over time of polyester nets of various denier during field studies in Uganda



Comparison of 75 Denier Polyester vs 150 Denier Polyethylene 5-7 months after distribution in Uganda



Conclusions

- Need to agree on standard methodologies to capture "life" of LLIN"
- This needs to comprise both "survival" and physical condition
- Mixture of cross-sectional surveys with retrospective "net history" and prospective assessment of physical condition and perception