



WEO

The voice of world
endoscopy

From Universal to Precision Screening for Colorectal Cancer

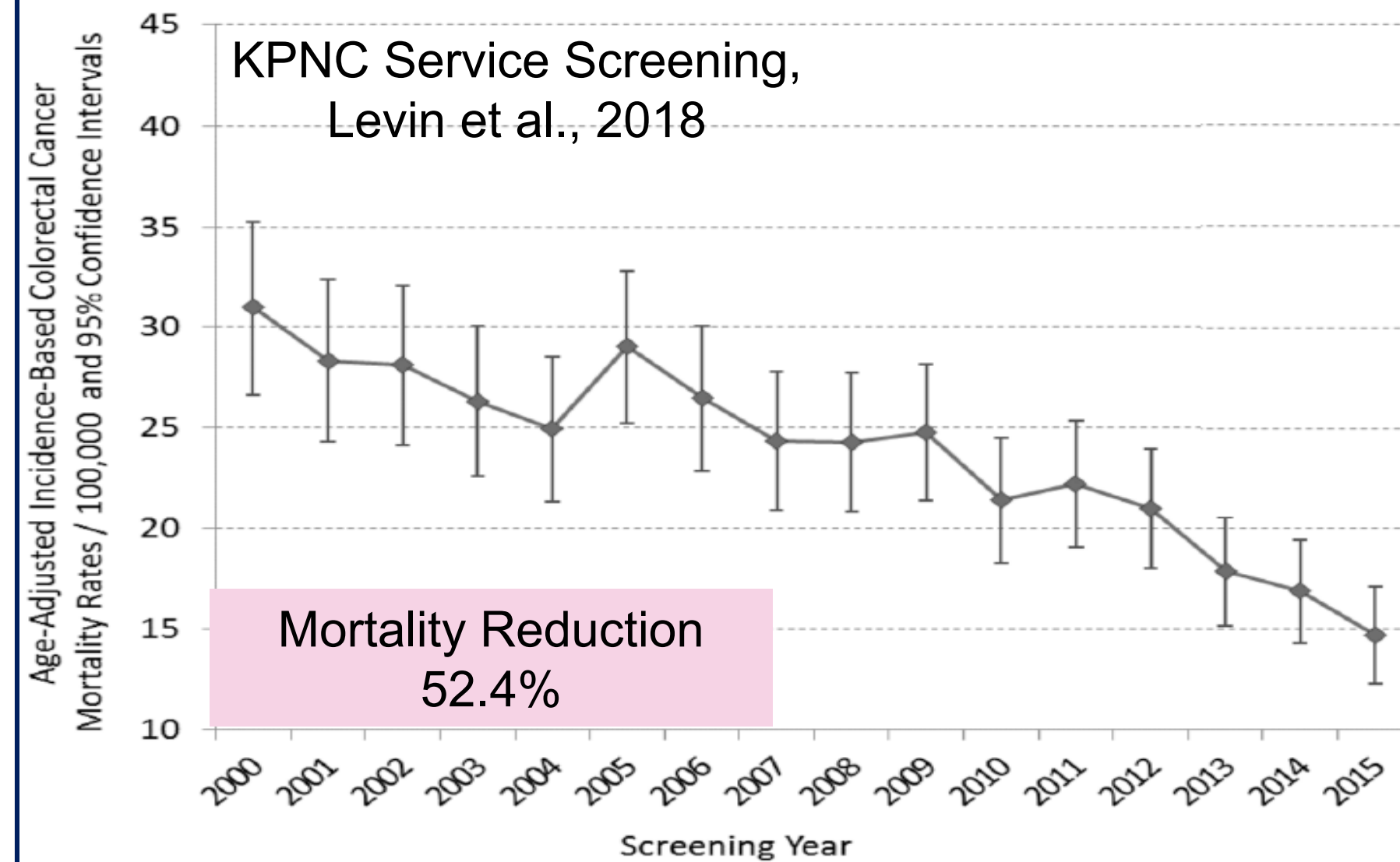
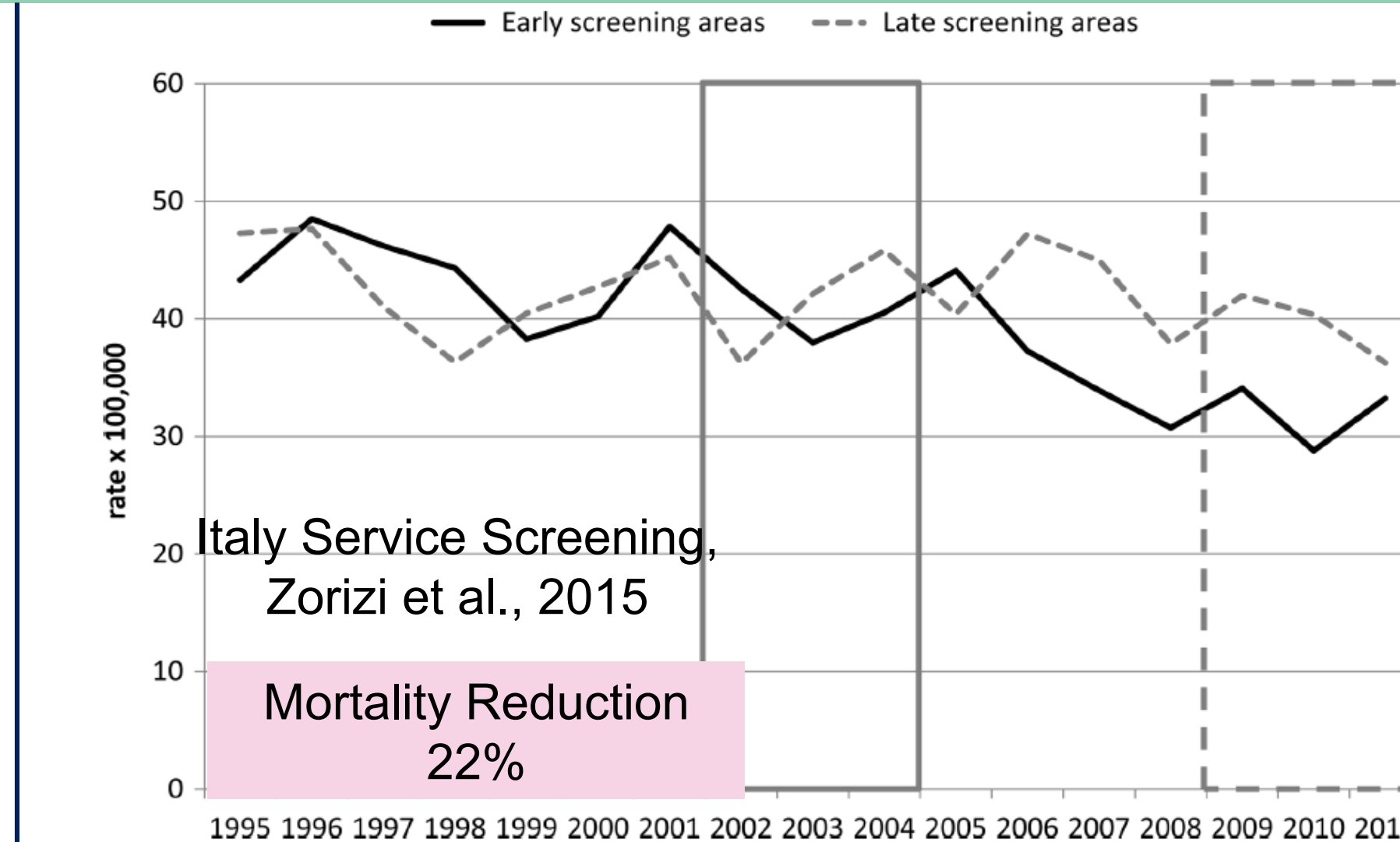
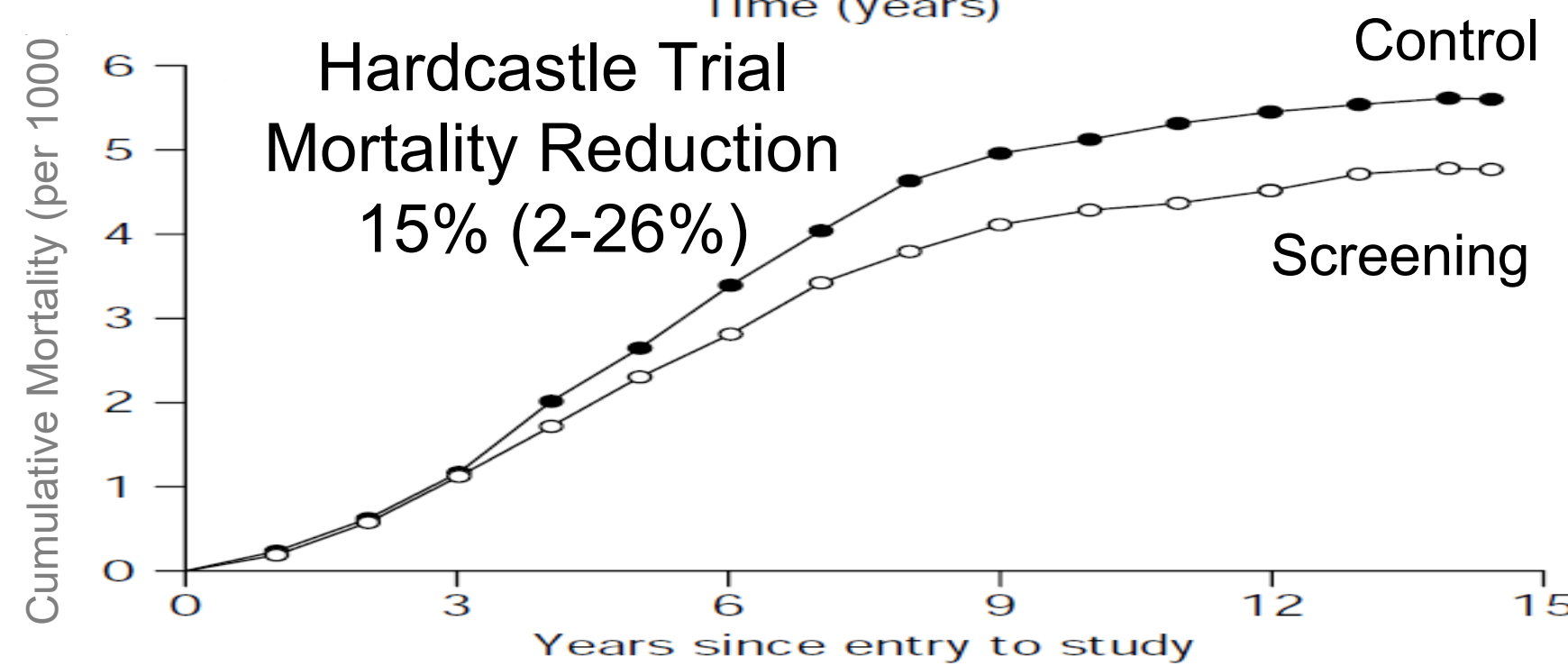
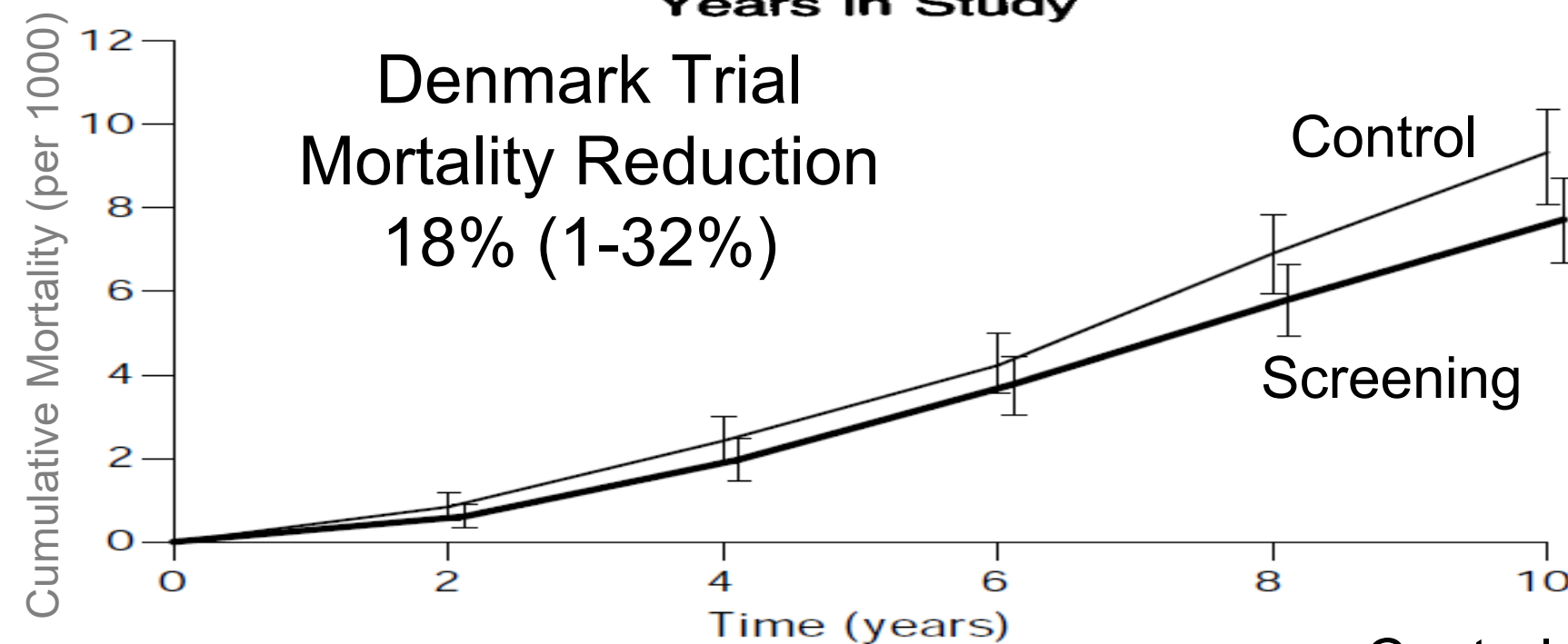
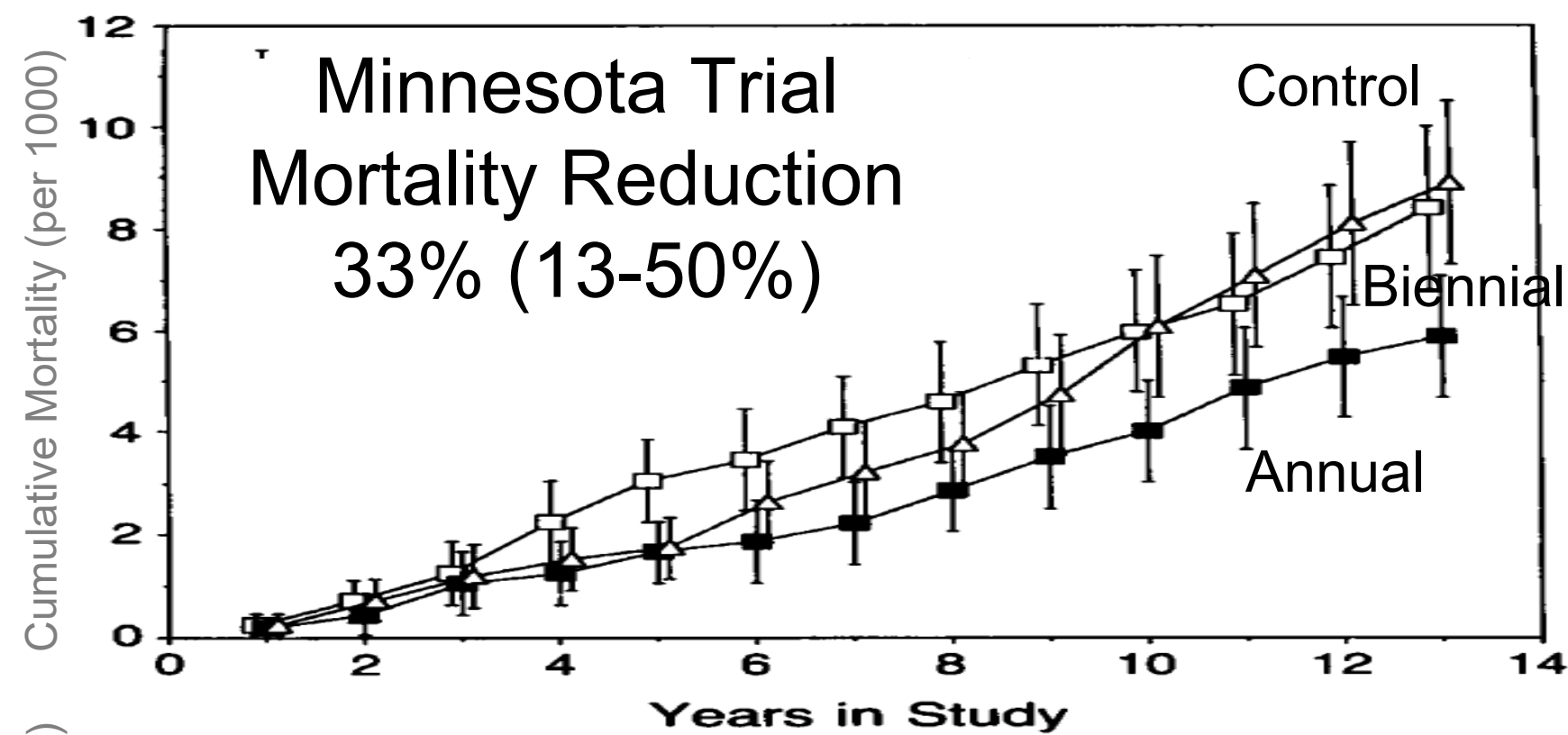
Chen-Yang Hsu, MD, PhD

Taiwan Colorectal Cancer Screening Group

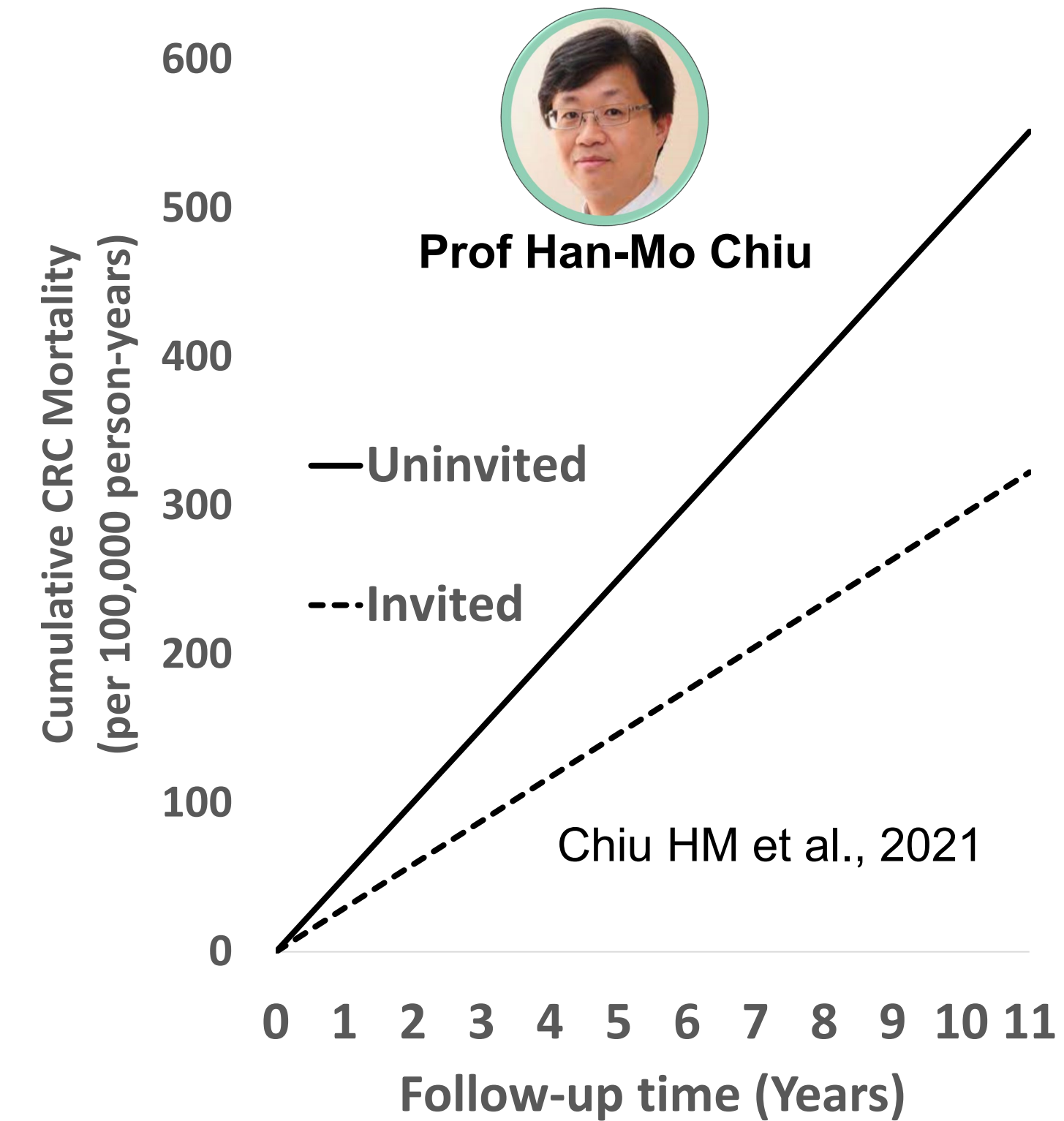
National Taiwan University Taipei, Taiwan



Universal Stool-based CRC Screening



Taiwan Population (5 million)



Mortality reduction by 40%

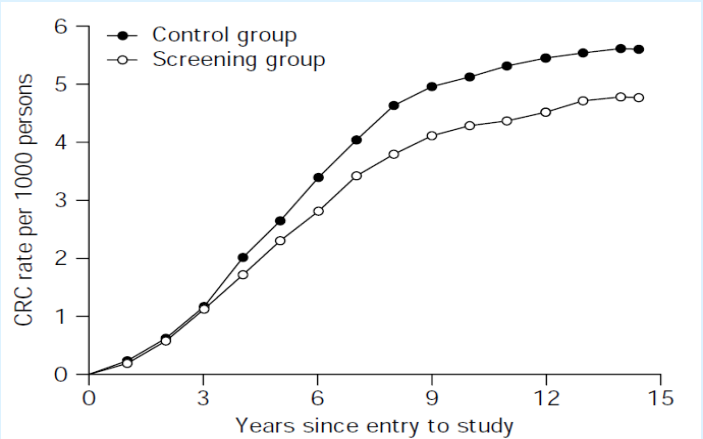
Stage Shifting by 34%



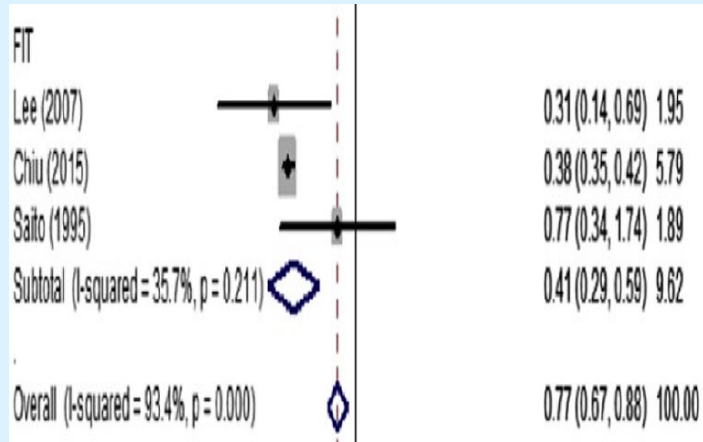
Universal Screening Strategy vs Personalized Precision Screening

Average-Risk Approach

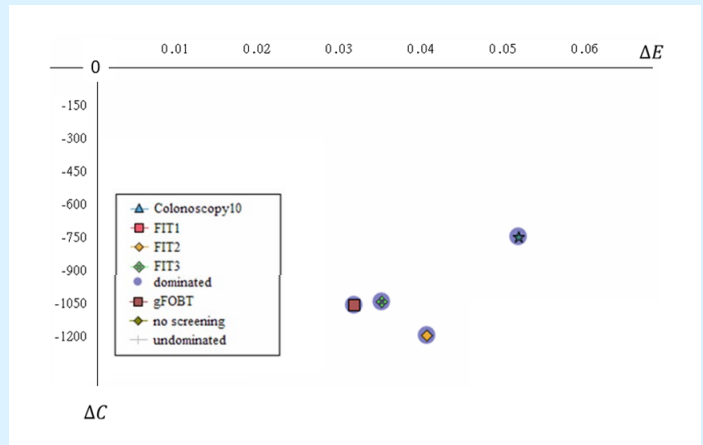
RCT/Service



Meta-analysis



Cost-Effectiveness Analysis



Risk-stratified Approach

Percentile of Risk Score	
95-100	
90-95	
80-90	
70-80	
60-70	
50-60	(Average Risk)
40-50	
30-40	
20-30	
10-20	
5-10	
0-5	

High-Risk Group



False Negative

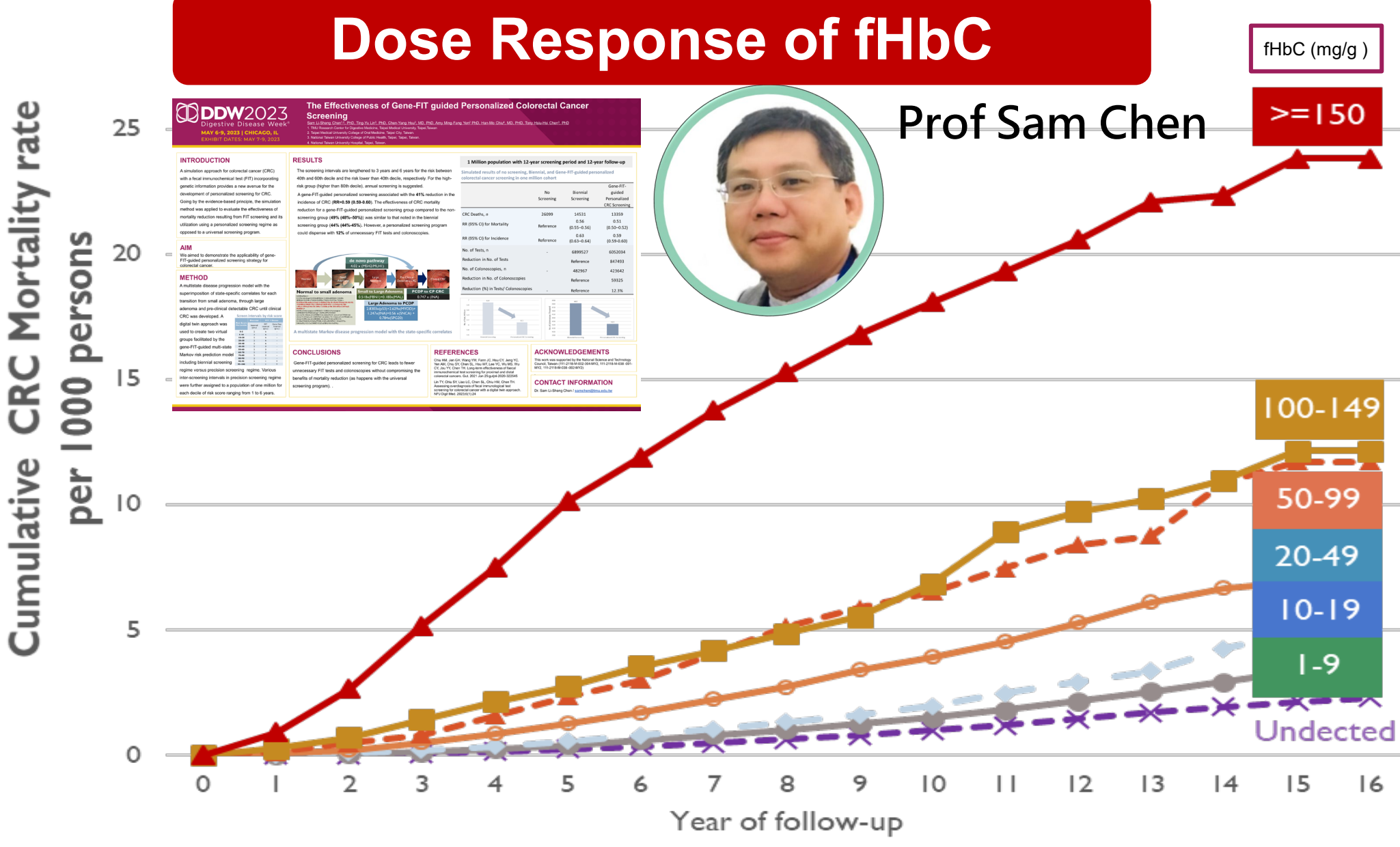
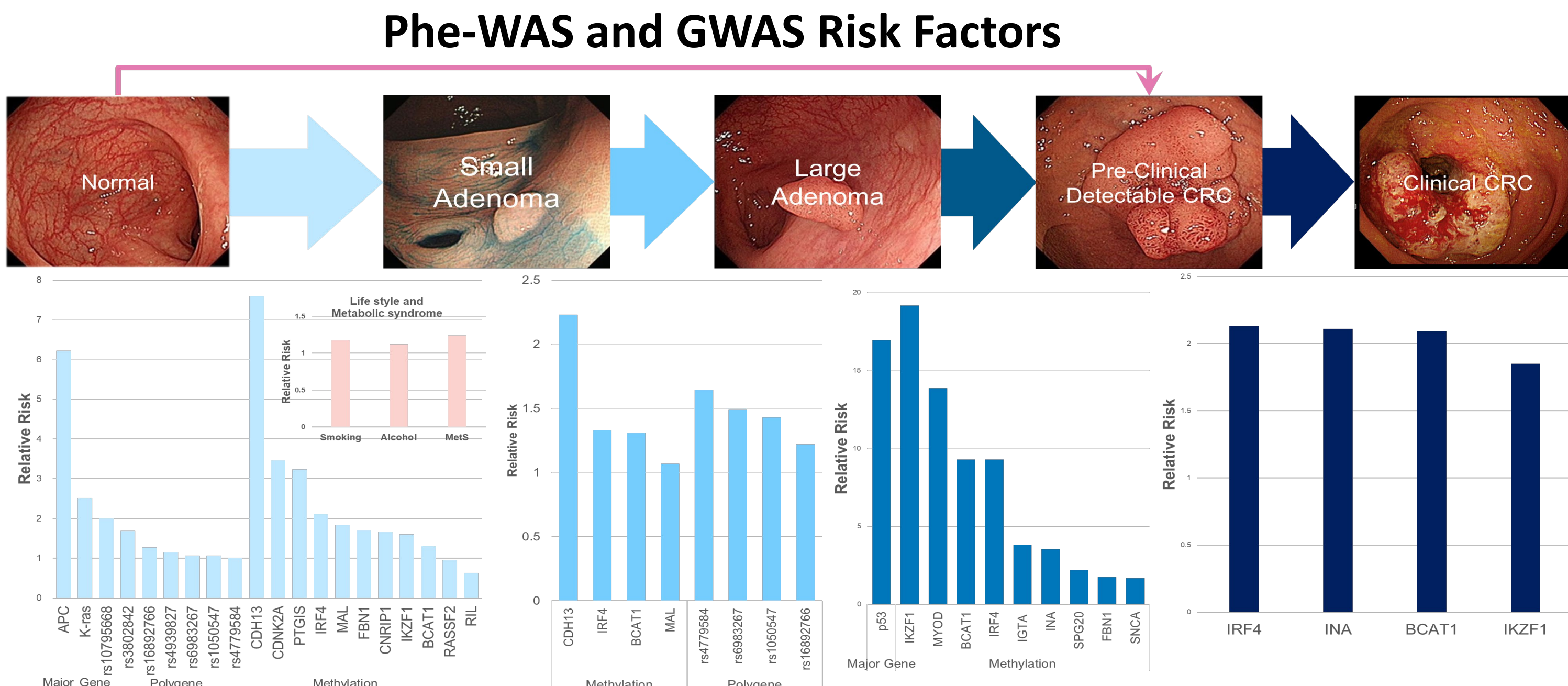
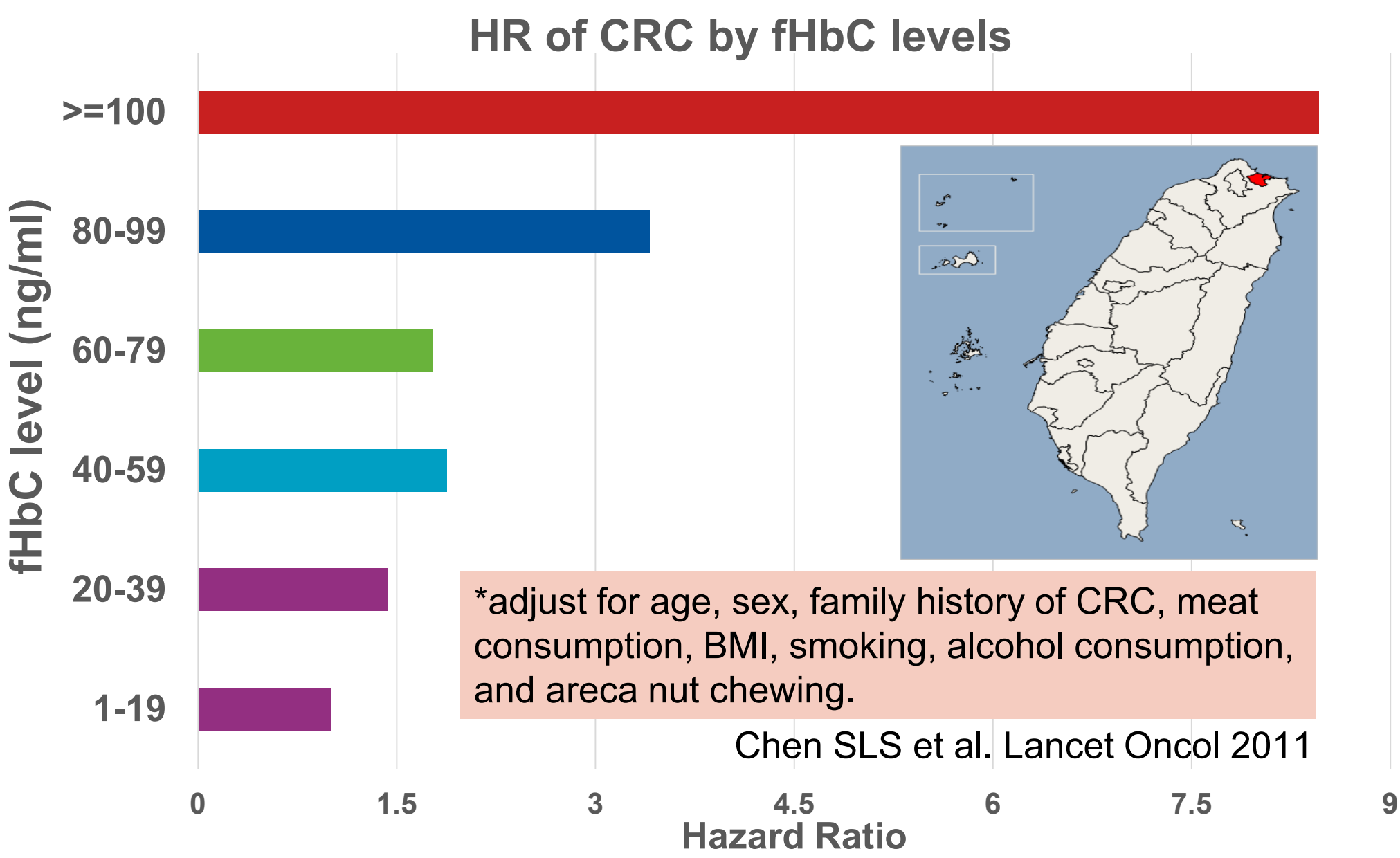


False Positive

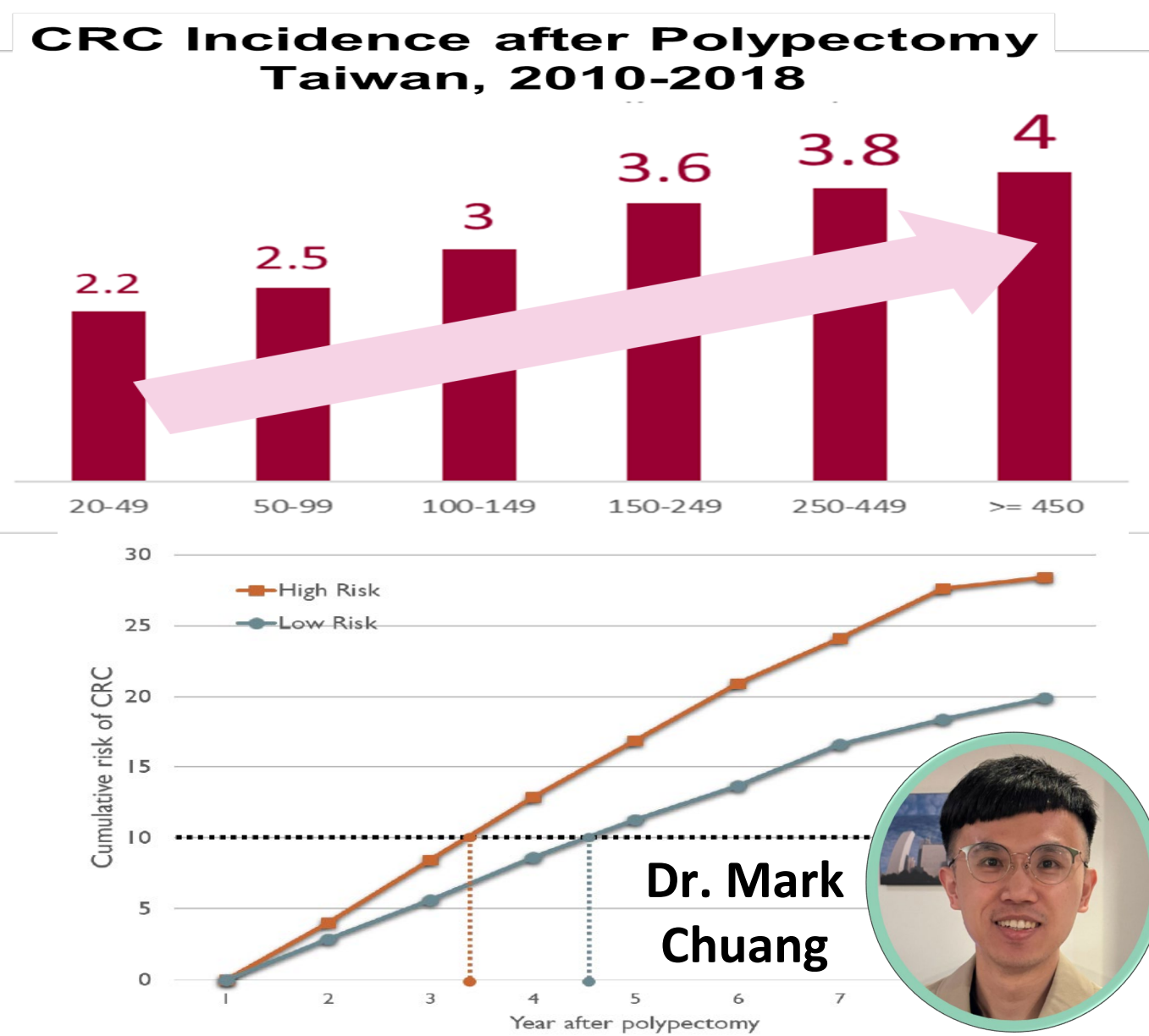
Low-Risk Group
Overdetection



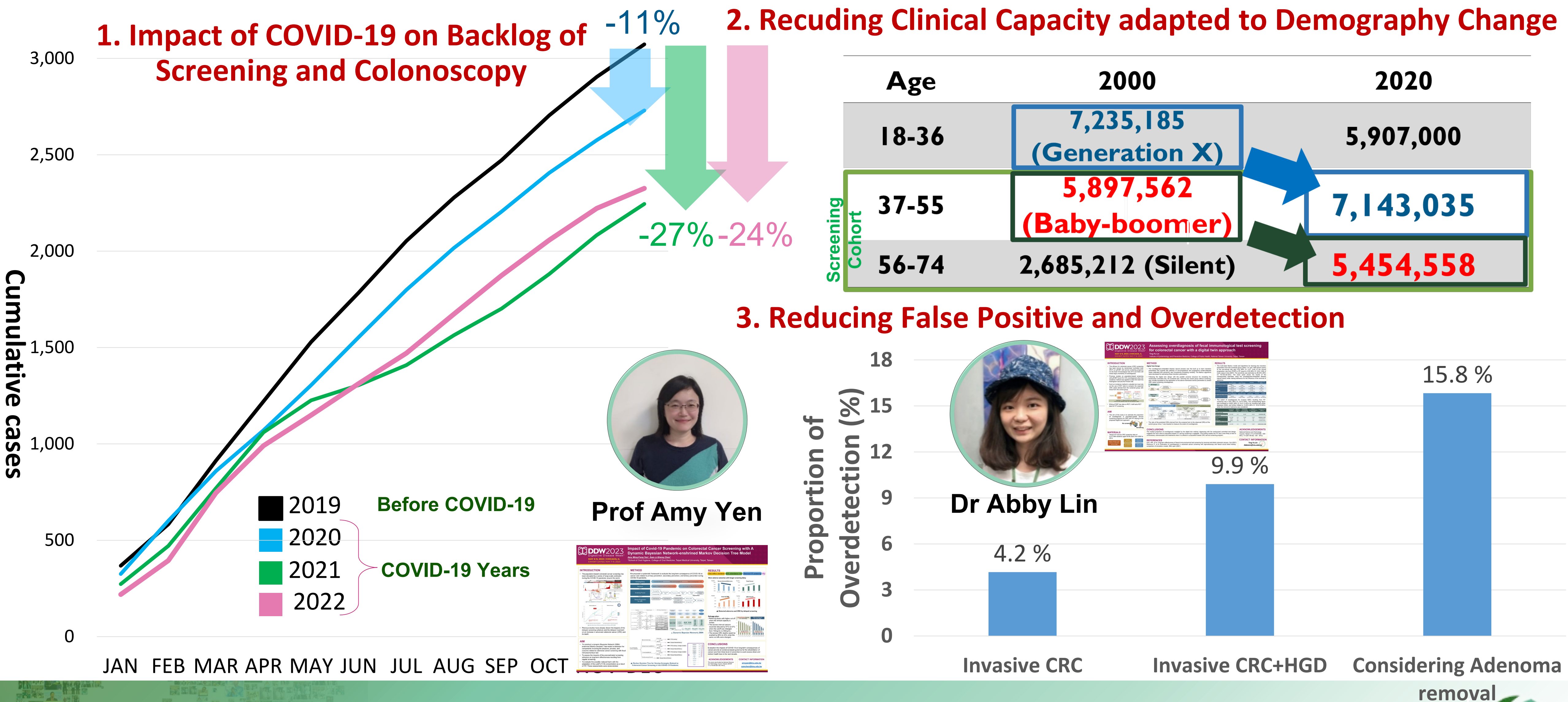
fHbC- and Genetic Susceptibility-based Multistate Risk Stratification from Adenoma to CRC for Designing Inter-screening Interval and Surveillance



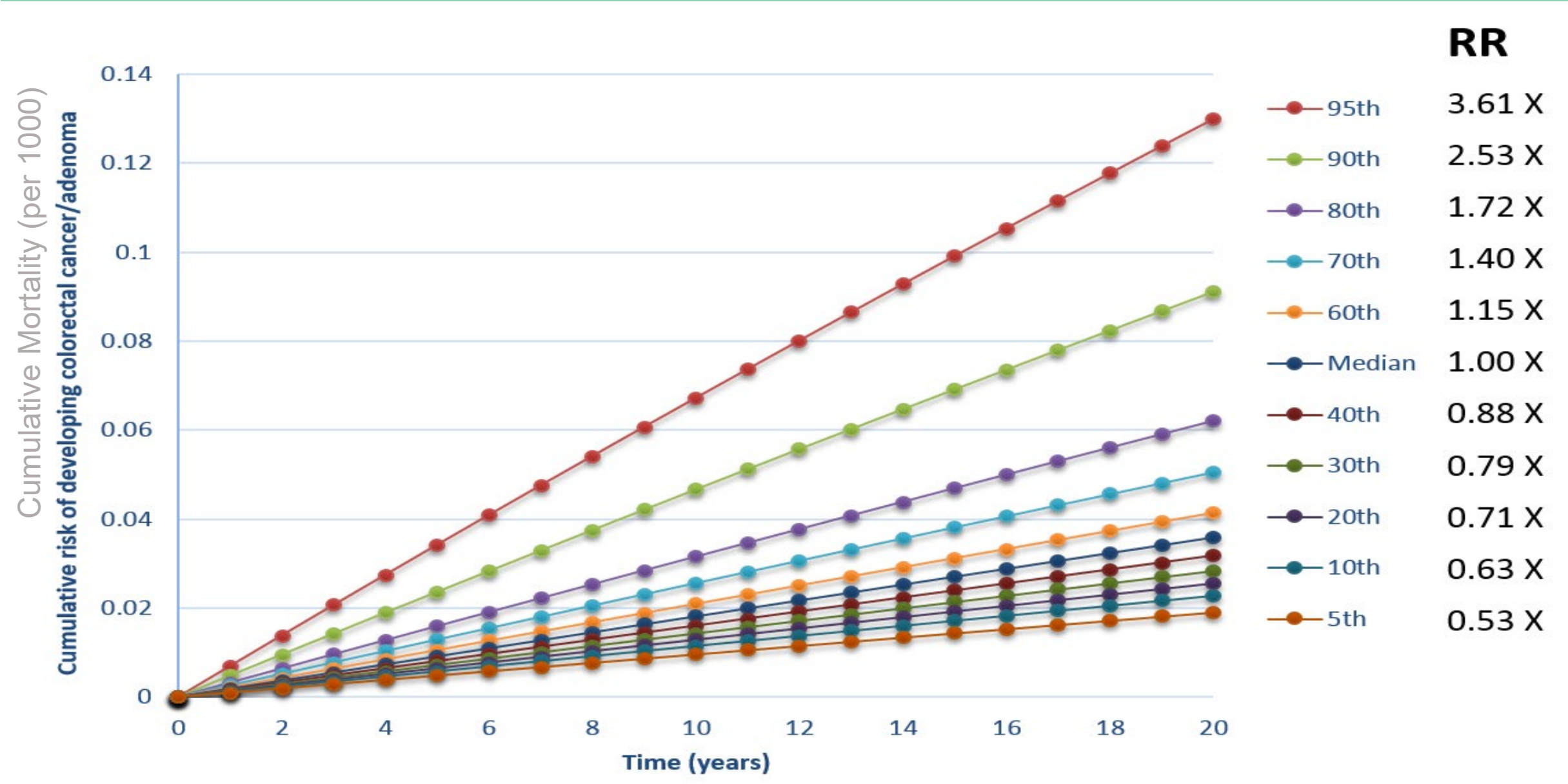
fHbC (μg Hb/g)		RR	Screening Interval (year)
Undetected	0.32	Low-risk group	
1-9	0.45	4	
10-19	0.59	3	
20-49	1.00	2	
50-99	1.53	1	
100-149	1.60	1	
>=150	4.03	High-risk group (Intensive Surveillance)	



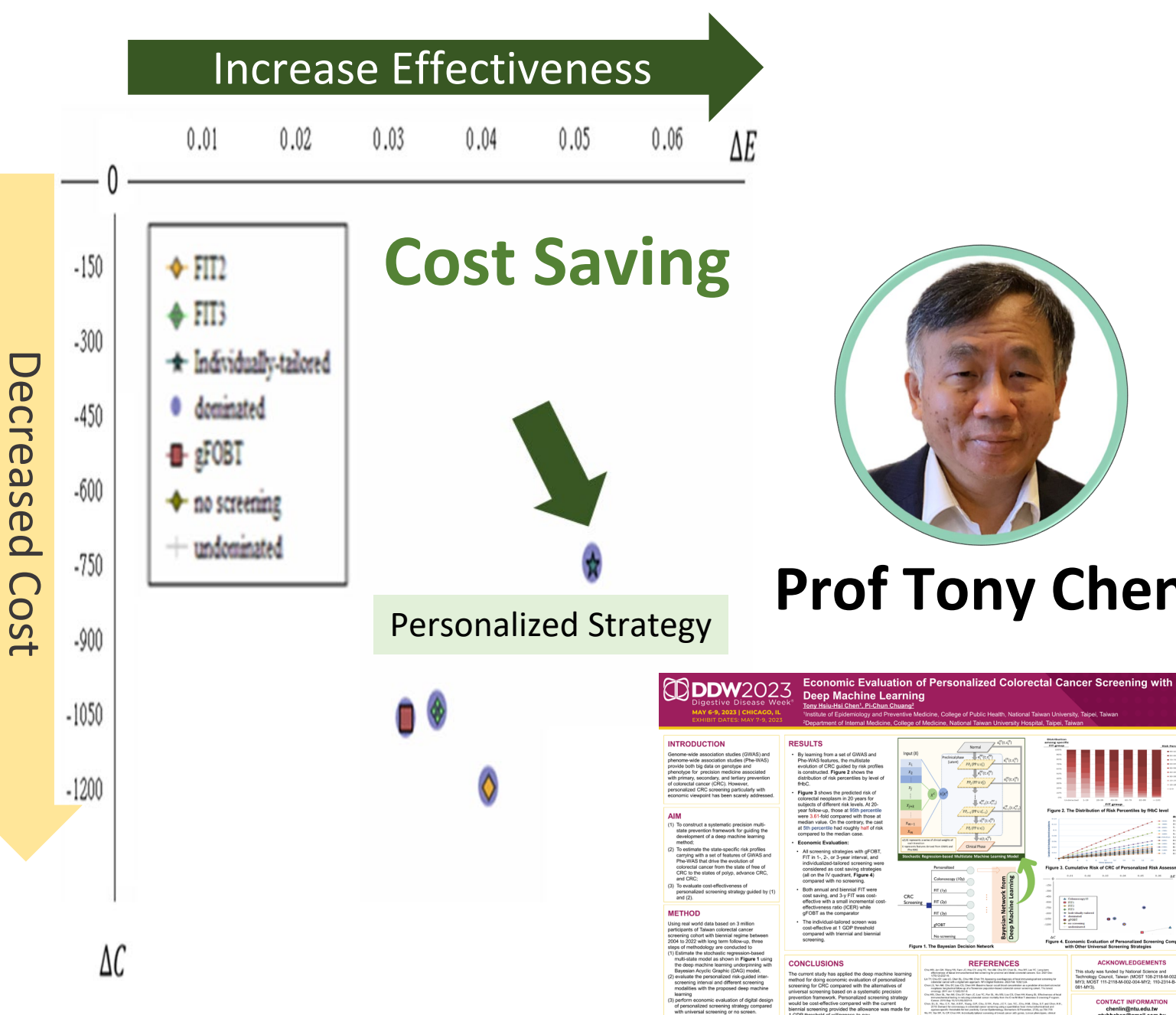
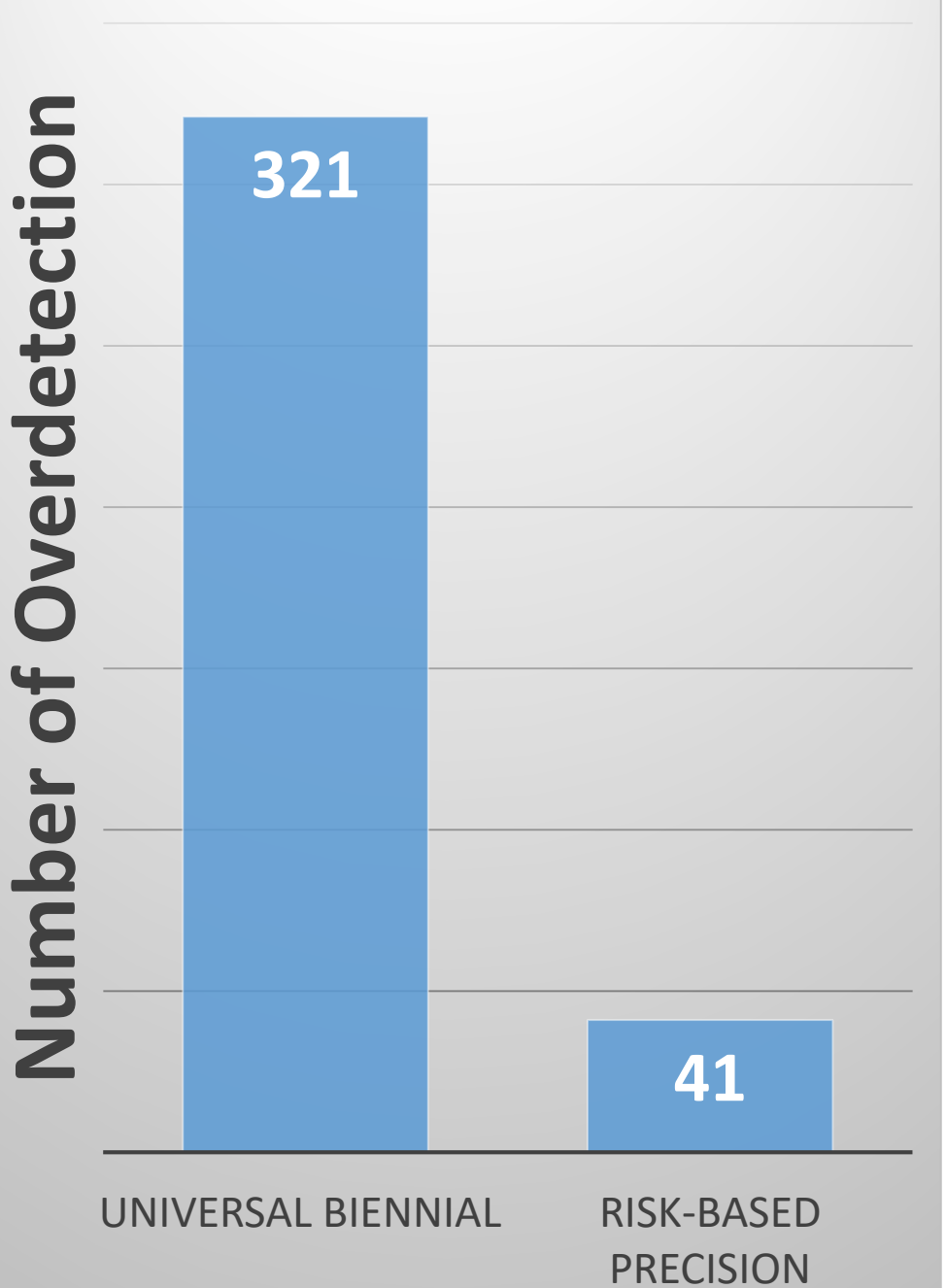
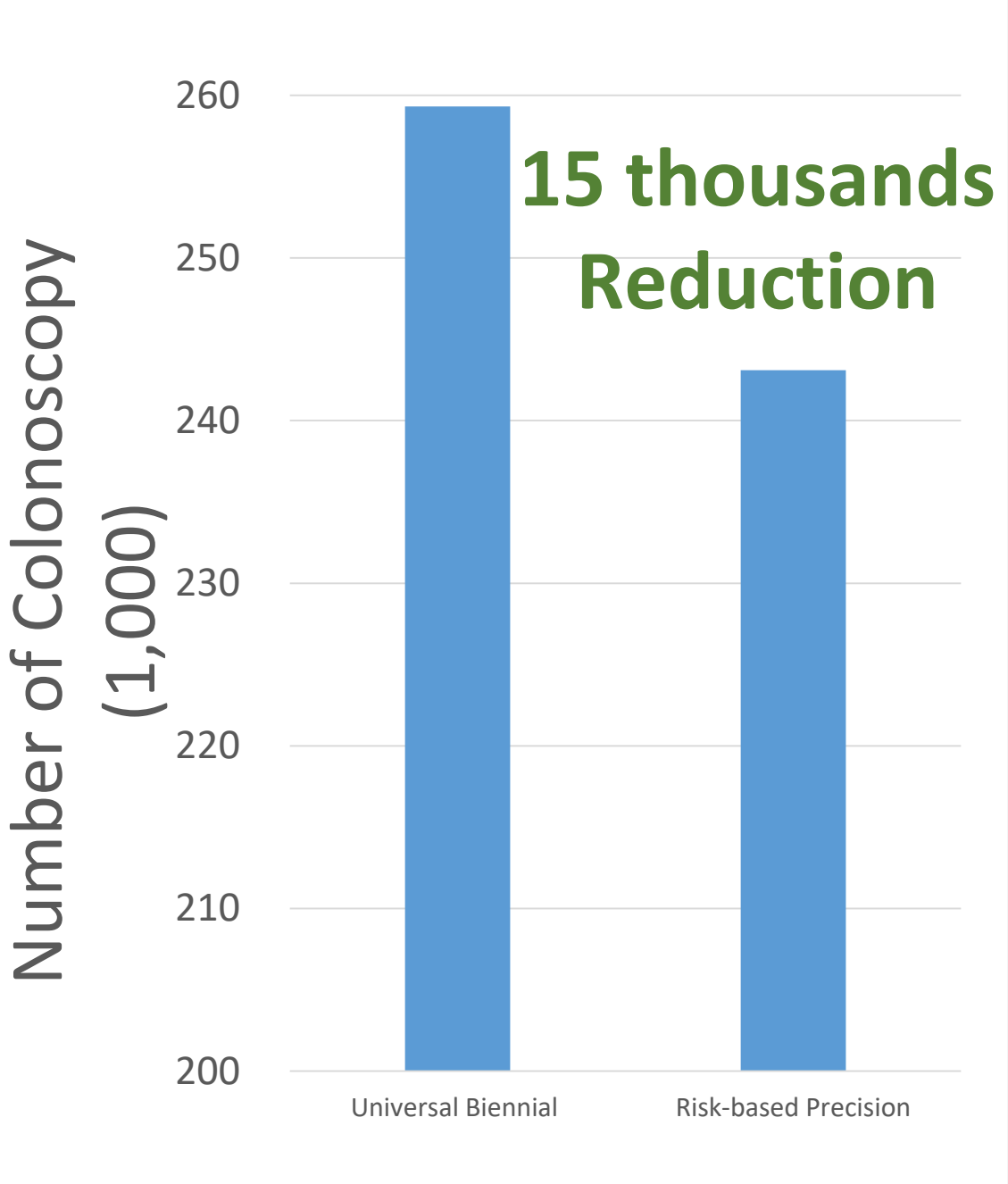
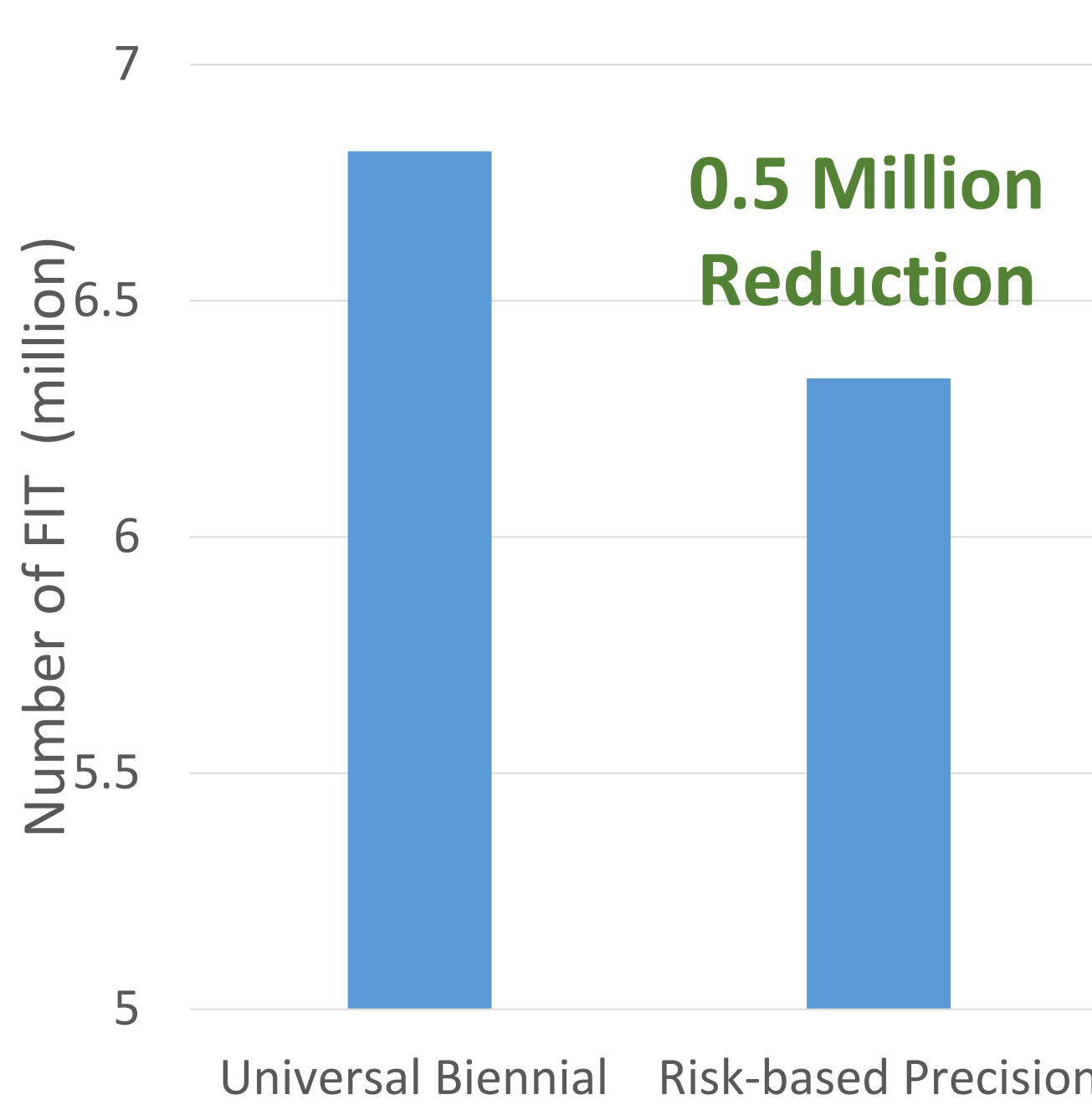
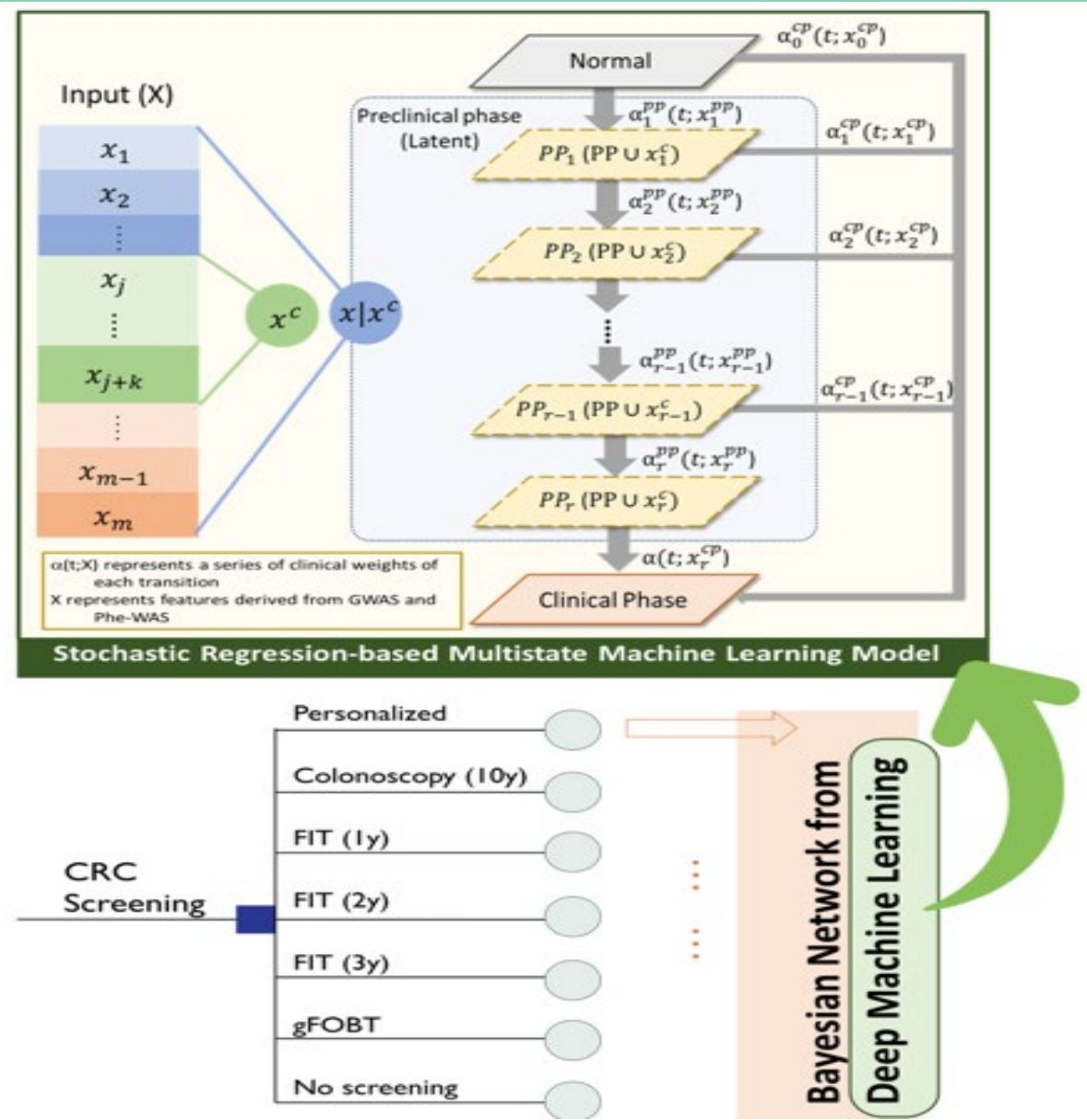
Personalized Screening for Reducing Clinical Capacity and Overdetection



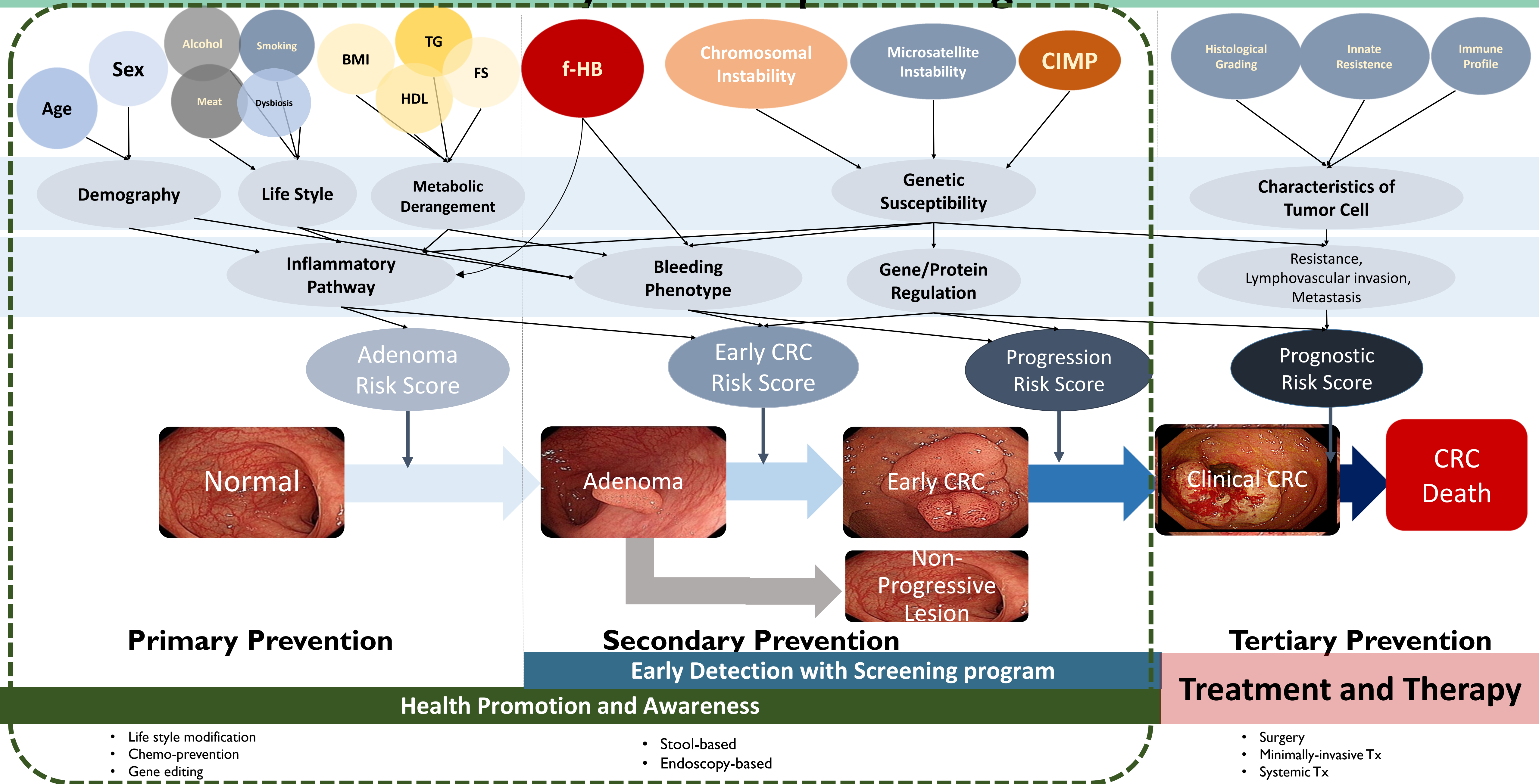
Personalized Screening for Reducing Clinical Burden and Cost-Saving

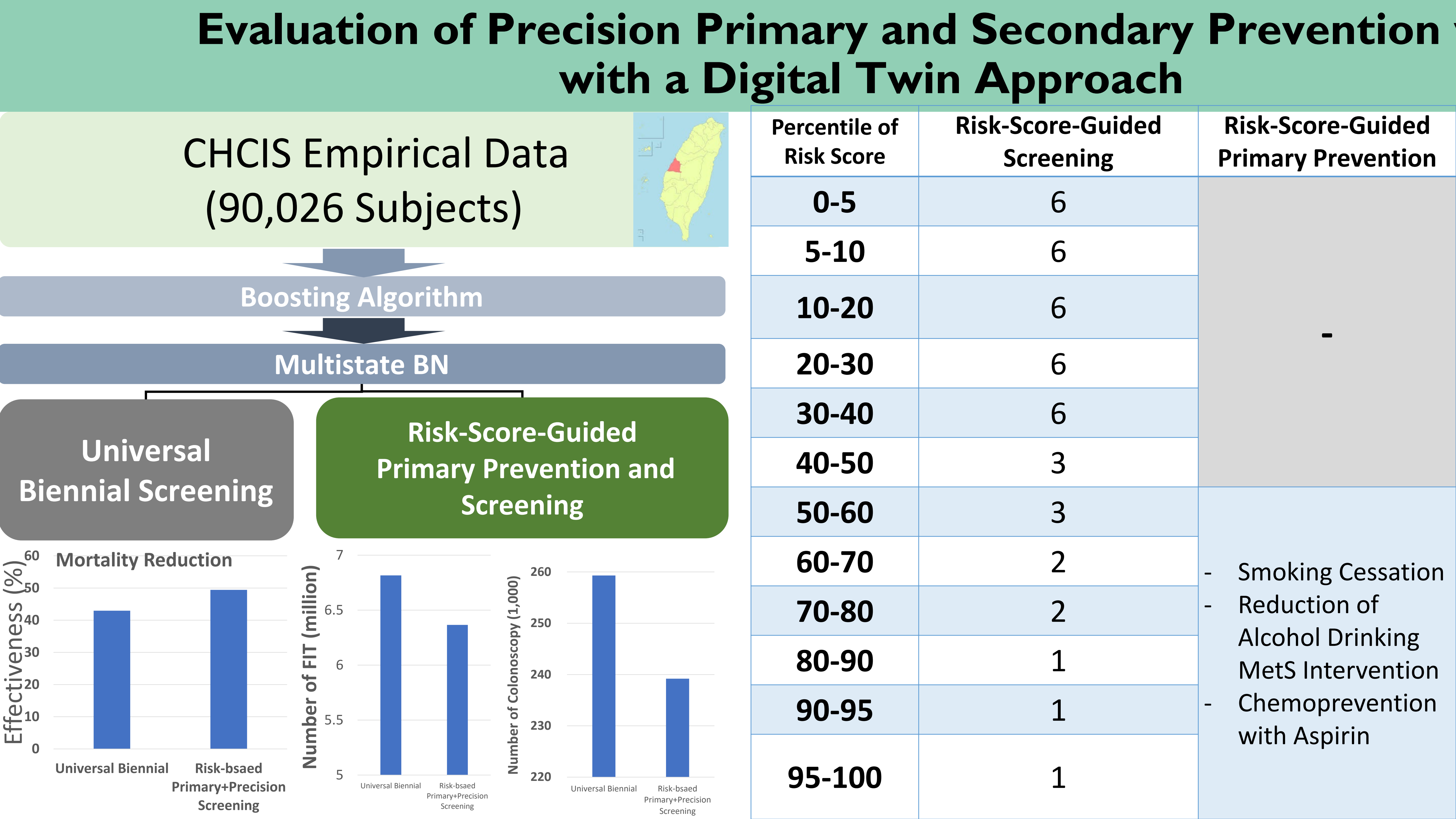


Percentile of Risk Score	Risk-guided Screening Interval
0-5	6
5-10	6
10-20	6
20-30	6
30-40	6
40-50	3
50-60	3
60-70	2
70-80	2
80-90	1
90-95	1
95-100	1

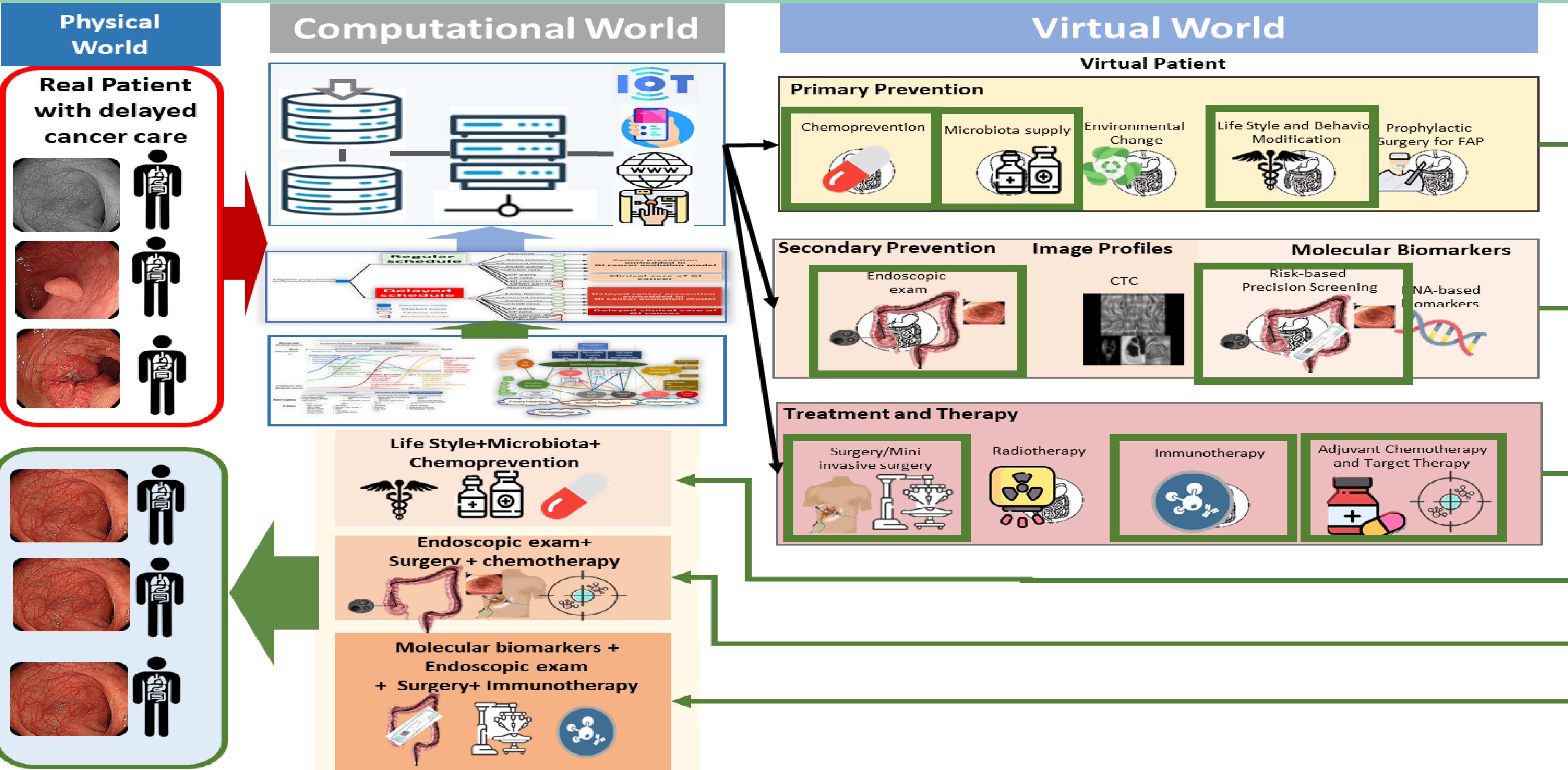


Colorectal Cancer Evolution and Prevention with Bayesian Deep Learning





Digital Twin Design for Precision Colorectal Cancer Prevention

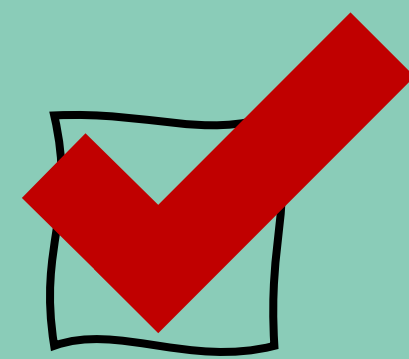


The 14th IACCS Precision Cancer Screening With AI Perspective

TOKYO, JAPAN
2023.12.15-16



Website will be coming soon...



Mark Your
Calendar

THE 14TH IACCS
International Asian Conference on Cancer Screening
**PRECISION CANCER
SCREENING WITH
AI PERSPECTIVE**

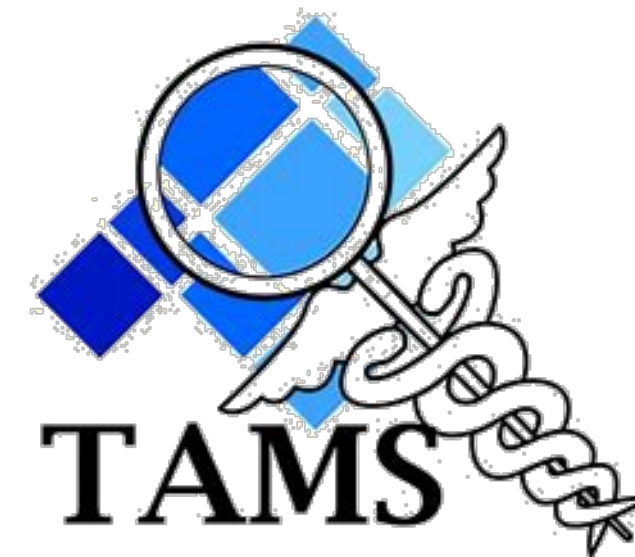


TOKYO, JAPAN
2023,12,15-16



Photograph by Kevin KC Chiu

Taiwan Cancer Screening Evaluation Group





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World Endoscopy
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