Table 1 Comparison of Natural History Model Structures

Property	SimCRC	CRC-SPIN	MISCAN
Adenoma risk			
Mechanism	Logistic function	Poisson process	Poisson process
Risk varies:			
Randomly across individuals	Yes	Yes	Yes
Systematically with age and sex	Yes	Yes	Yes
Adenoma growth			
Mechanism	Time in each size category	Growth curve	Time in each size category
Size modeled as continuous	No	Yes	No
Risk varies:			
Randomly across individuals	Yes	Yes	Yes
Systematically with location	Yes*	Yes*	No
Transition times correlated across size categories	No	Yes	Yes
Transition to preclinical CRC			
Mechanism	Logistic function	Adenoma size at transition	Overall transition probability
Risk varies:			
Randomly across adenomas by size within individuals	Yes	Yes	No†
Systematically with:			
Sex	Yes	Yes	No
Age	Yes	Yes‖	Yes‡
Adenoma size	No	Yes	Yes
Location	Yes*	Yes*	No
Transition times correlated across preclinical stages	No	Not applicable	Yes
Transition to clinical CRC			
Mechanism	Time to transition	Time to transition	Time to transition
Transition times:			
Vary randomly across CRCs within individuals	Yes	Yes	Yes
Vary systematically with:			
Sex	No	No	Yes

Property	SimCRC	CRC-SPIN	MISCAN
Location	Yes§	Yes§	Yes§
Correlated with duration of preclinical CRC	No	No	Yes

* Varies by proximal colon, distal colon, and rectum for SimCRC and by colon and rectum for CRC-SPIN.

† The probability of transition is 0 for all non-progressive adenomas and for adenomas <6 mm, 0.3 for progressive adenomas 6 to <10 mm, and 1 for progressive adenomas ≥10 mm.

‡ The probability that an adenoma is progressive depends on age at adenoma initiation.

‖ Depends on age at adenoma initiation.

§ Varies by proximal colon, distal colon, and rectum for SimCRC and MISCAN and by colon and rectum for CRC-SPIN.

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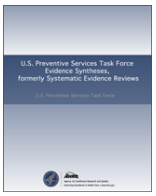

Colorectal Cancer Screening: An Updated Decision Analysis for the U.S. Preventive Services Task Force [Internet].
Technical Report, No. 202s.
Knudsen AB, Rutter CM, Peterse EFP, et al.
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