Health Risk Management in Colorectal Cancer Screening

CORESA Approach

PREVENTION • SCREENING • QUALITY

Apopulation-based approach to prevent, detect and continuously reduce colorectal cancer risk.



COloREctalScreeningAruba

FUNDACION CORESA
ColoRectalScreeningAruba

Fundacion CORESA
Chris Franca MD

Disclosure

F.C. Franca, MD

I have no relevant financial relationships or conflicts of interest to disclose.

PREVENTION • SCREENING • QUALITY

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COLORECTAL SCREENING ARUBA

HEALTHIER PEOPLE BRIGHTER TOMORROW

What is Health Risk Management?

Definition and goals

1 Definition

Astructured approach to identify, assess, reduce and continuously monitor health risks in individuals and populations.

2 Goal

Move the center of gravity from treating established disease toward prevention, early detection and timely intervention.

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SHIFT IN FOCUS

Treat disease

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Detect risk earlier

What is Health Risk Management?

Definition and goals

SHIFT IN FOCUS

Treat disease

Detect risk earlier

Prevent disease

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Why Colorectal Cancer?

Why CRC is highly suitable for health risk management

1 Impact

Major burden for patients, families and healthcare systems.

2 Long development

Usually develops over years, creating a window for intervention.

3 Preventable

Precancerous lesions can be detected and removed before cancer develops.

4 Curable if early

Early detection creates the best chance of curative treatment.

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CRC offers something rare in medicine:

WE CAN MEASURE RISK → INTERVENE → PREVENT DISEASE

Why Colorectal Cancer?

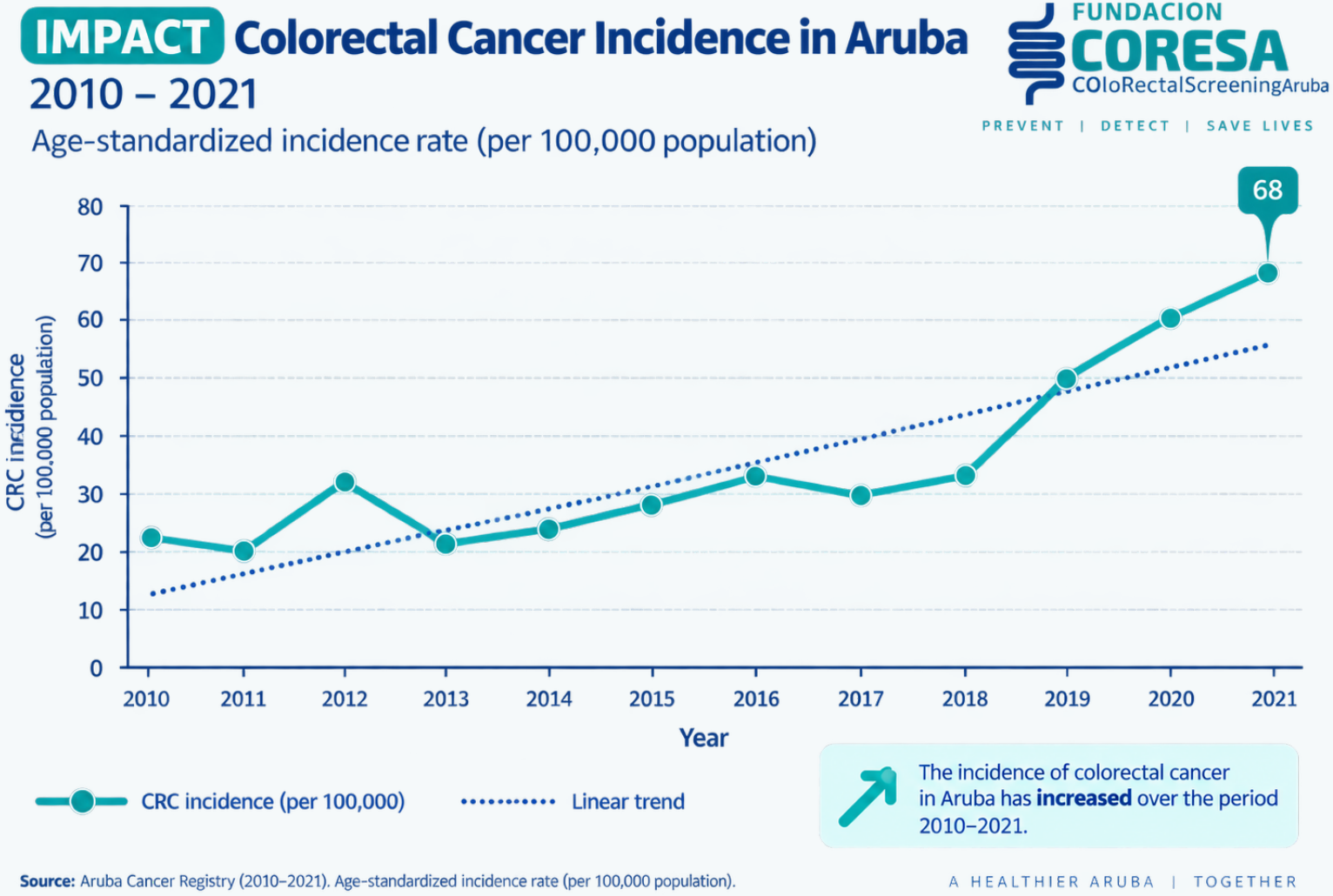
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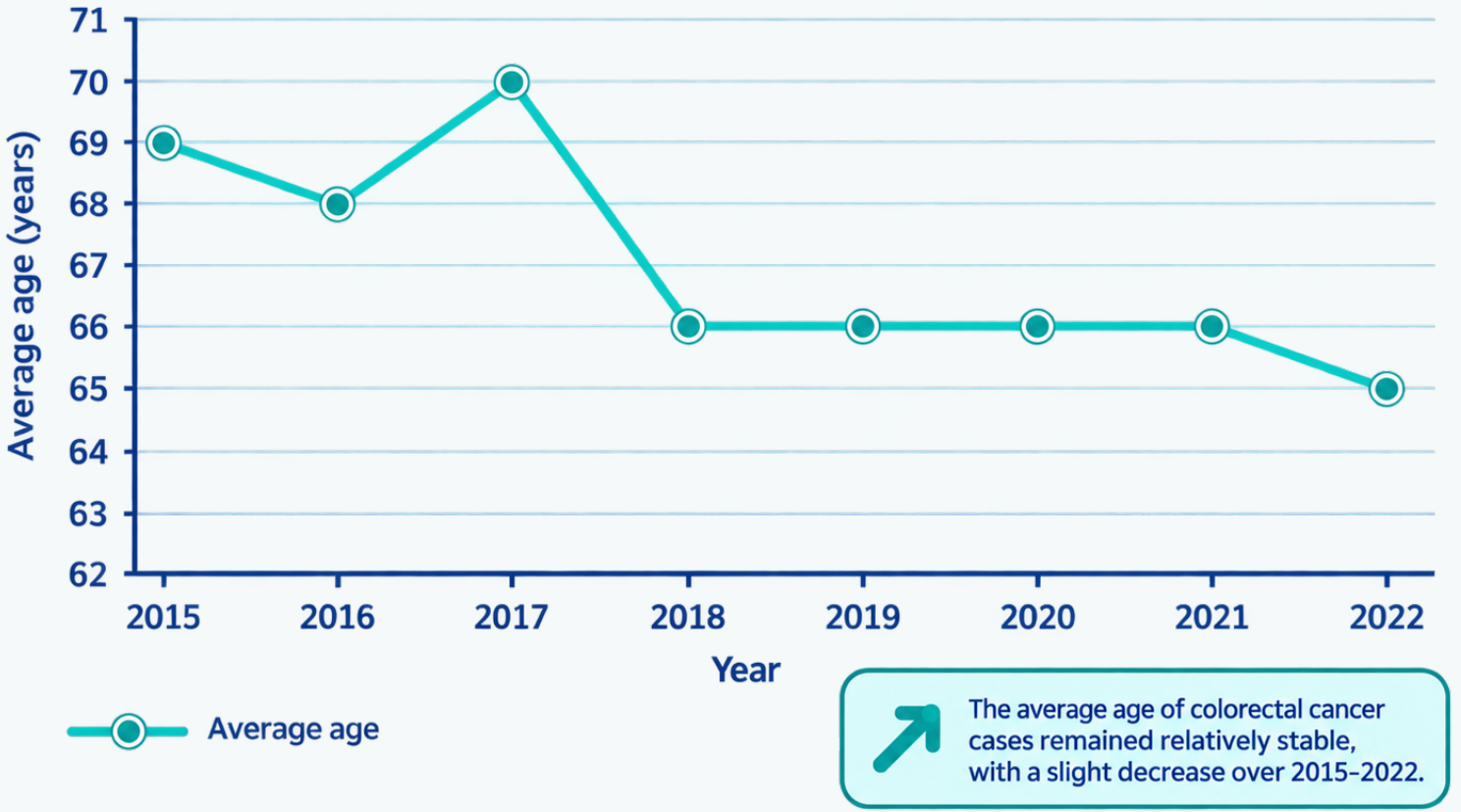
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Why Colorectal Cancer?

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IMPACT Average Age of Colorectal Cancer in Aruba 2015–2022



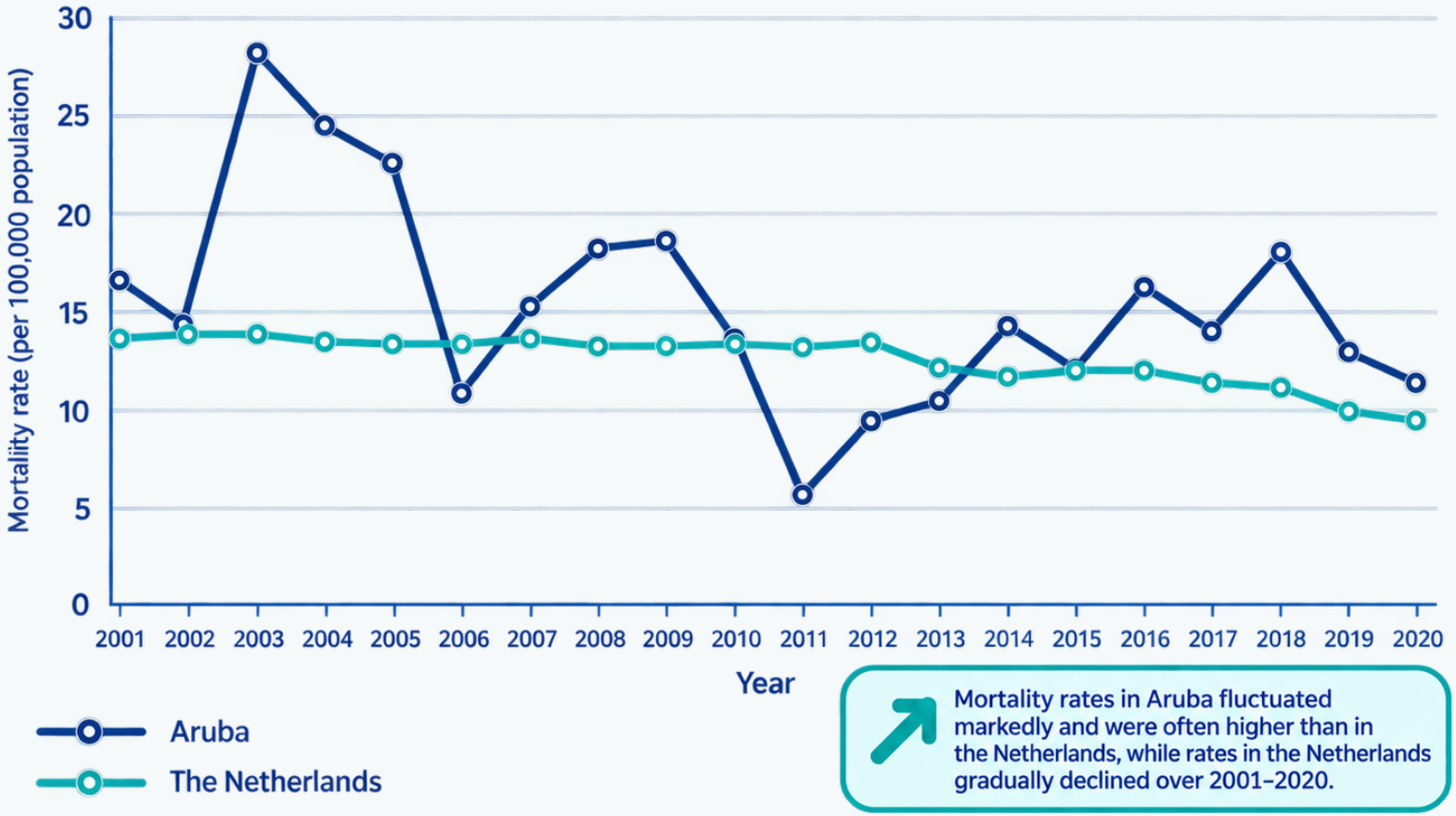
Why Colorectal Cancer?

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IMPACT **Colorectal Cancer Mortality in Aruba vs the Netherlands**

2001–2020

Age-standardized mortality rate (per 100,000 population)



Mortality rates in Aruba fluctuated markedly and were often higher than in the Netherlands, while rates in the Netherlands gradually declined over 2001–2020.

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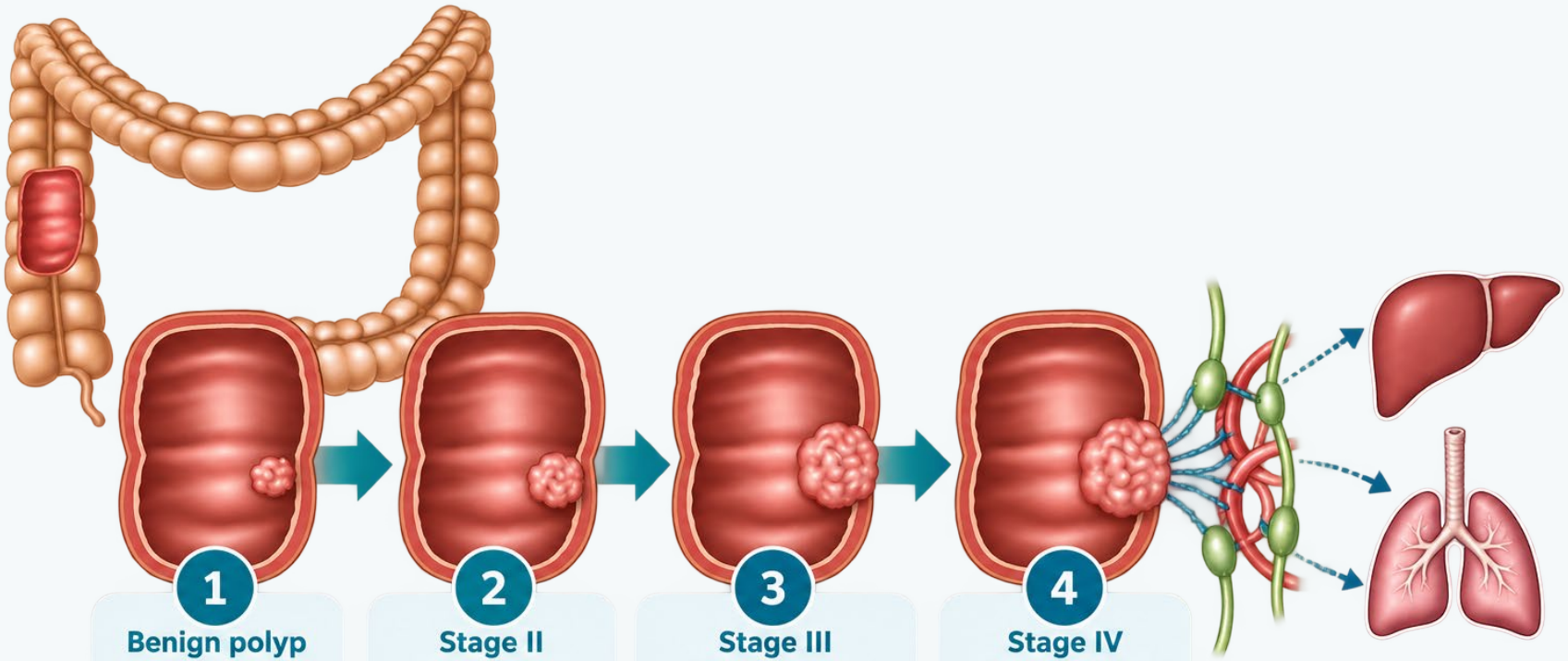
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Why Colorectal Cancer?

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LONG DEVELOPMENT

PREVENTABLE

CURABLE IF DETECTED EARLIER

Leslie et al. 2002 *Br J Surg.* 89:845–860 | **Winawer 1999** *Am J Med.* 106:3–6 | **Zauber et al. 2012** *N Engl J Med.* 366:687–696 | **Dekker et al. 2020** *Nat Rev Gastroenterol Hepatol.* 17:27–42

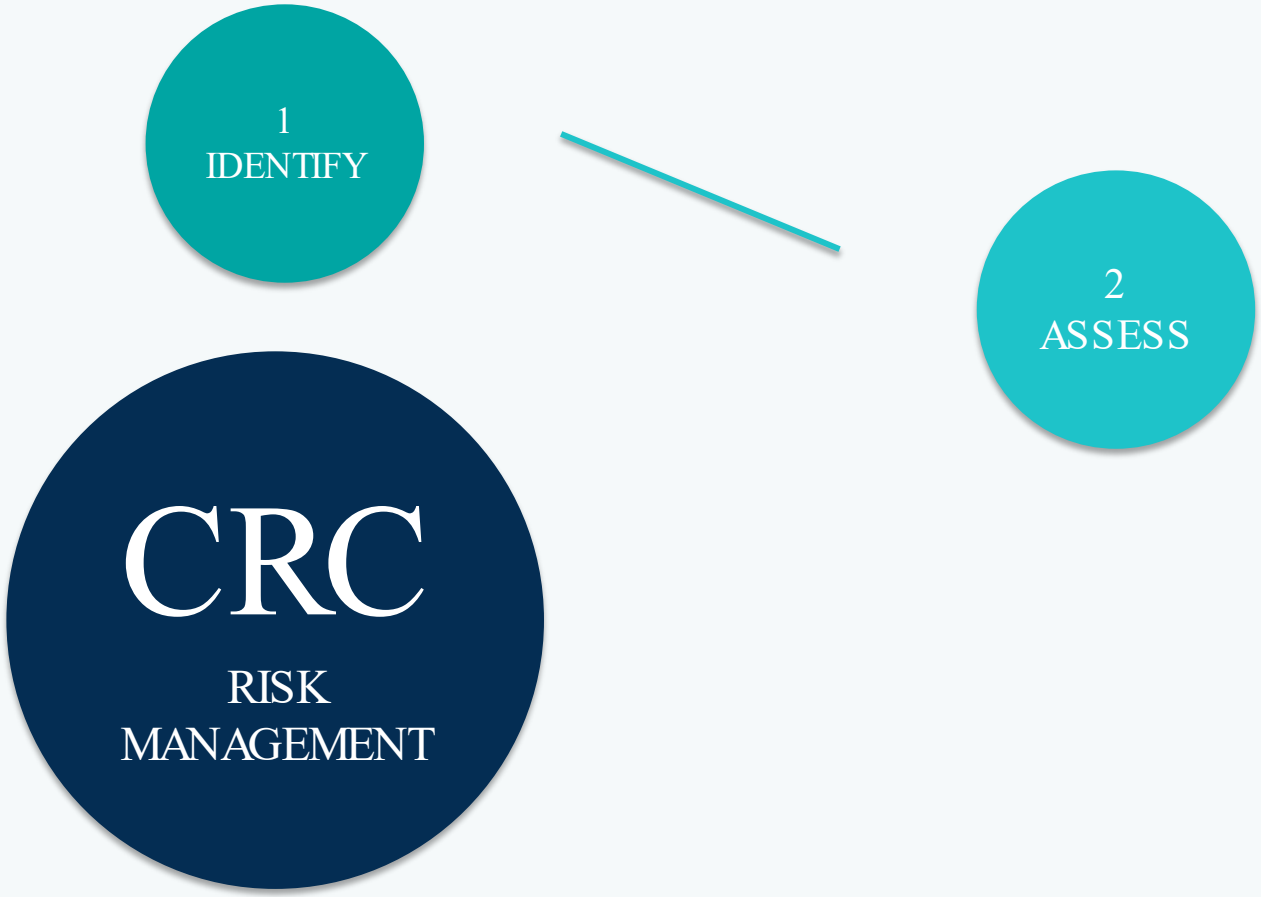
The Risk Management Cycle in Screening

Acontinuous loop—not a one-time test



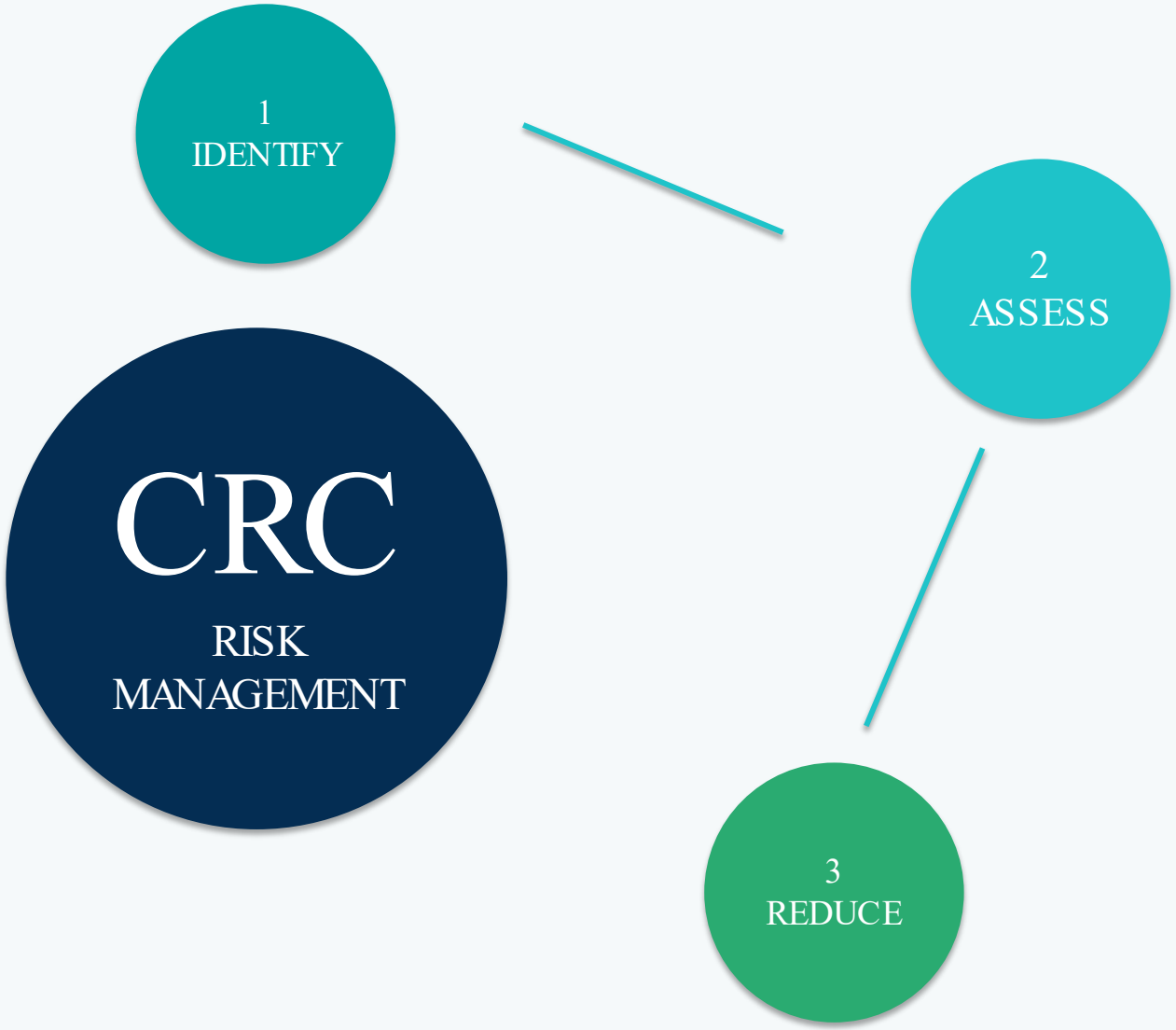
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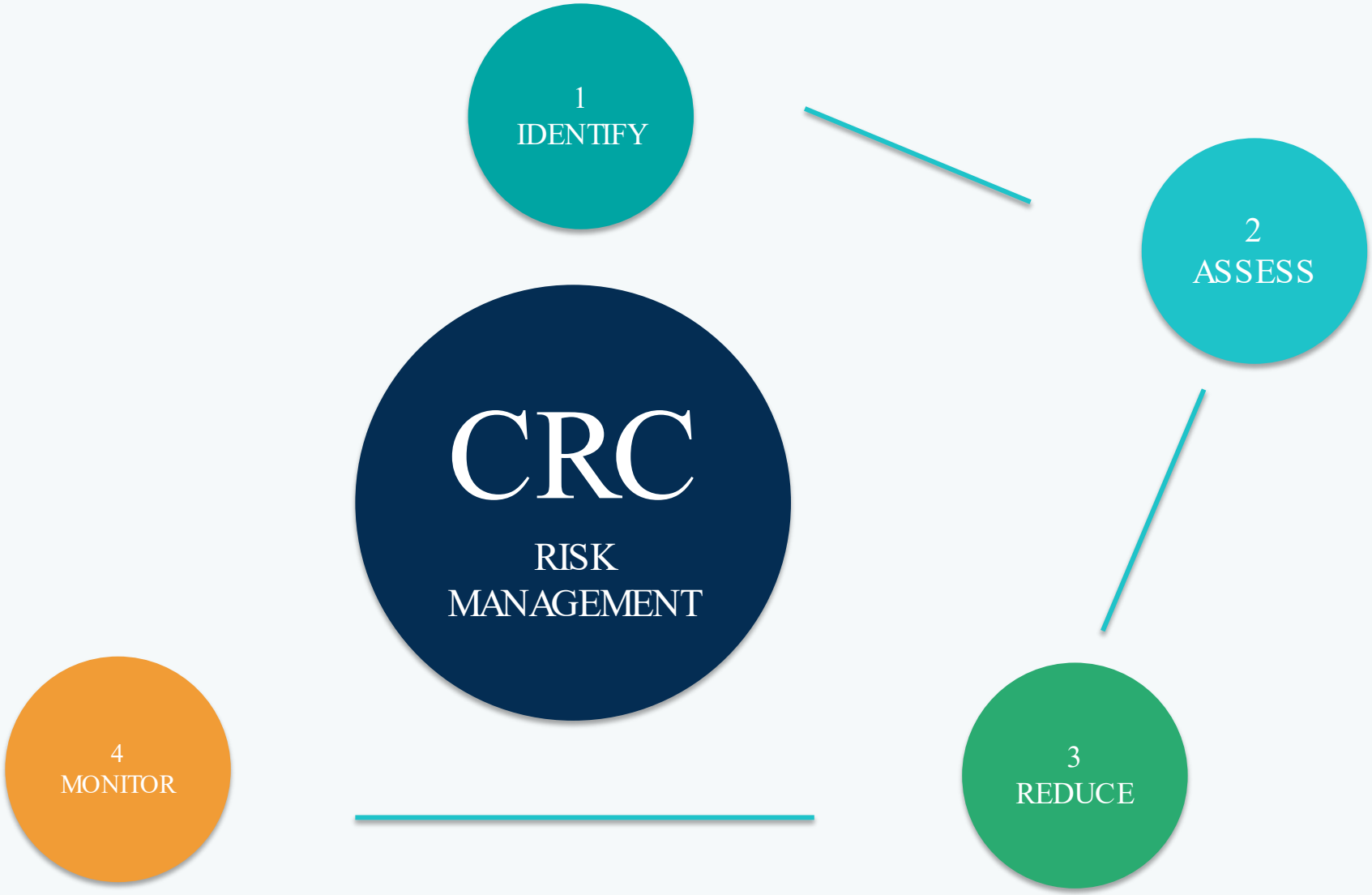
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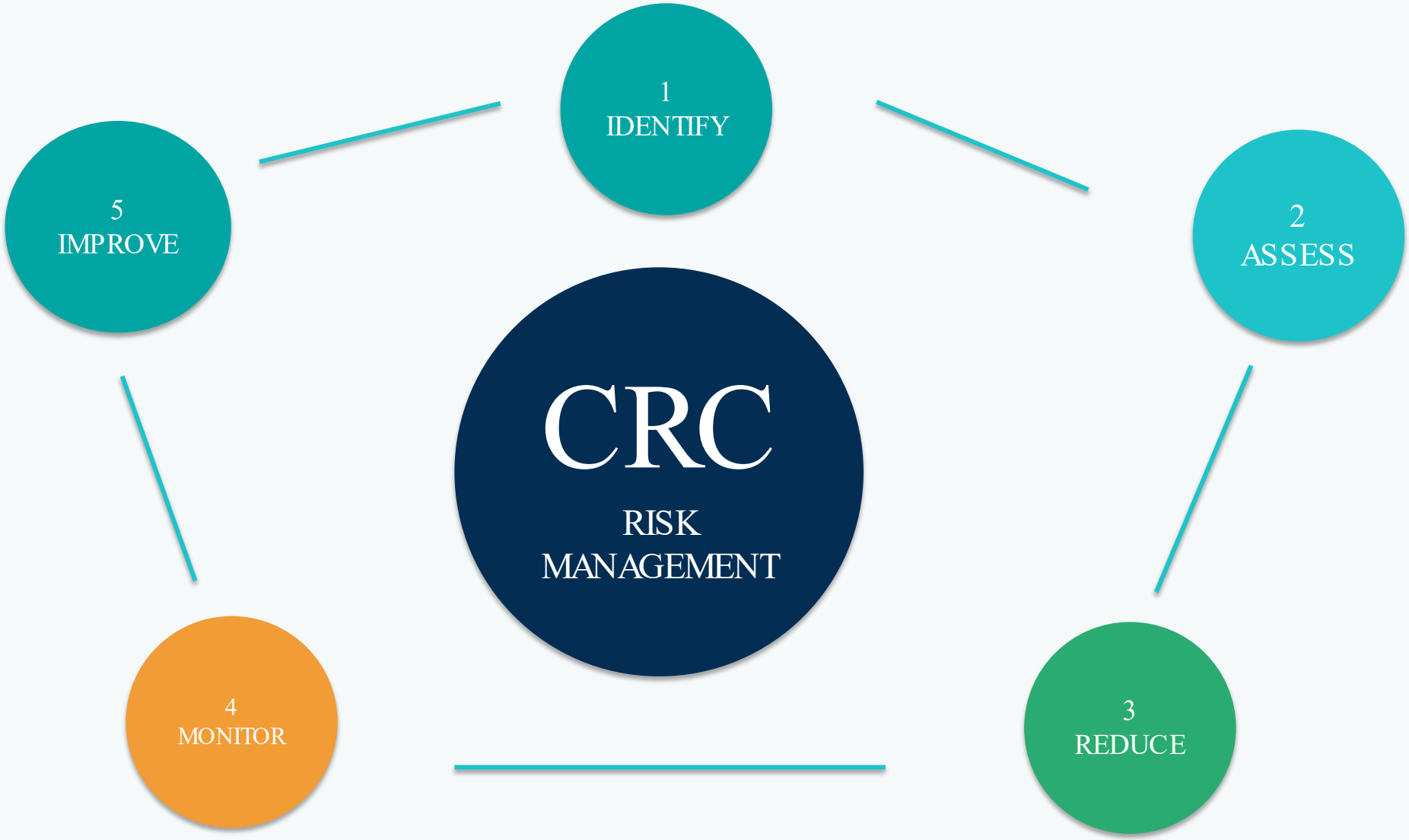
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Step 1 — Risk Identification

Who is at risk?

RISK CATEGORY
Average risk Population screening pathway based primarily on age and screening history.
High risk Dedicated clinical pathway when family history, hereditary syndromes or other major risk factors are present.

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RISK CATEGORY

Average risk

Population screening pathway based primarily on age and screening history.

High risk

Dedicated clinical pathway when family history, hereditary syndromes or other major risk factors are present.

1 Age

Risk rises with age.

2 Family history

First-degree relatives matter.

3 Genetic syndromes

Lynch, FAP, AFAP, MUTYH, and others familiar traits.

4 Lifestyle factors

Smoking, obesity, alcohol, diet, inactivity.

The first management decision is not “Which test?” but “Which risk pathway?”

Step 2 — Risk Assessment

Turn information into an actionable screening decision

1

FIT

Population-level signal of bleeding risk.

A negative or positive result changes the next step in the pathway.



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3 Prior colonoscopy

Previous adenomas, advanced lesions and examination quality influence future surveillance.

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RISK IS DYNAMIC

Risk changes over time, after every FIT round, and after every colonoscopy.

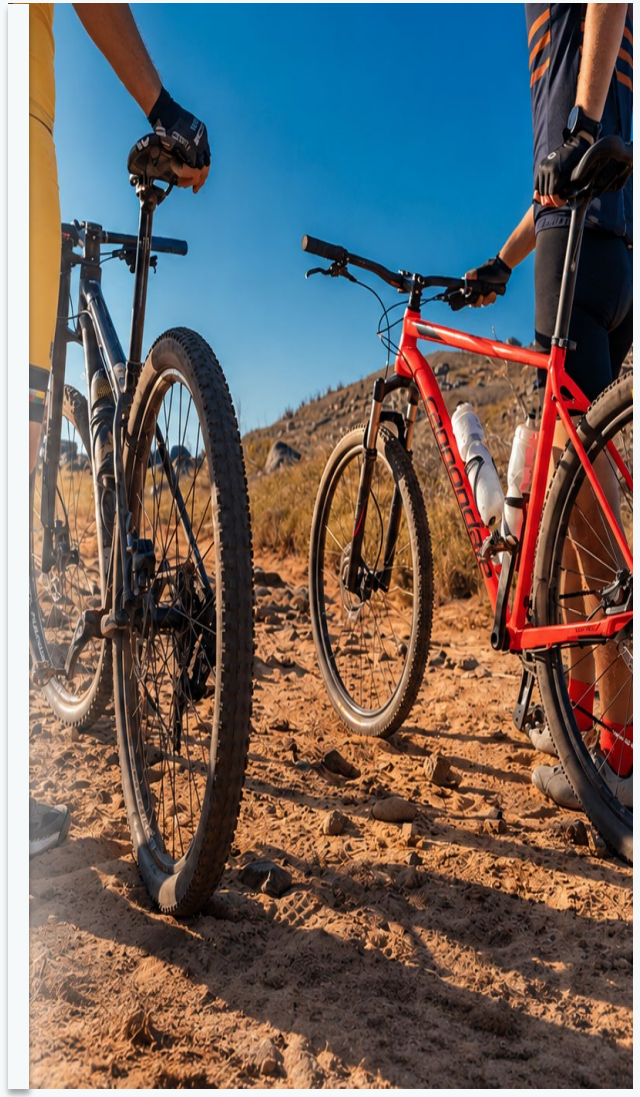
Step 3 — Risk Reduction

Intervene before, during and after disease

1 Primary prevention

Lifestyle measures reduce the probability of disease developing.

Healthy weight
Physical activity
Smoking avoidance
Healthy diet



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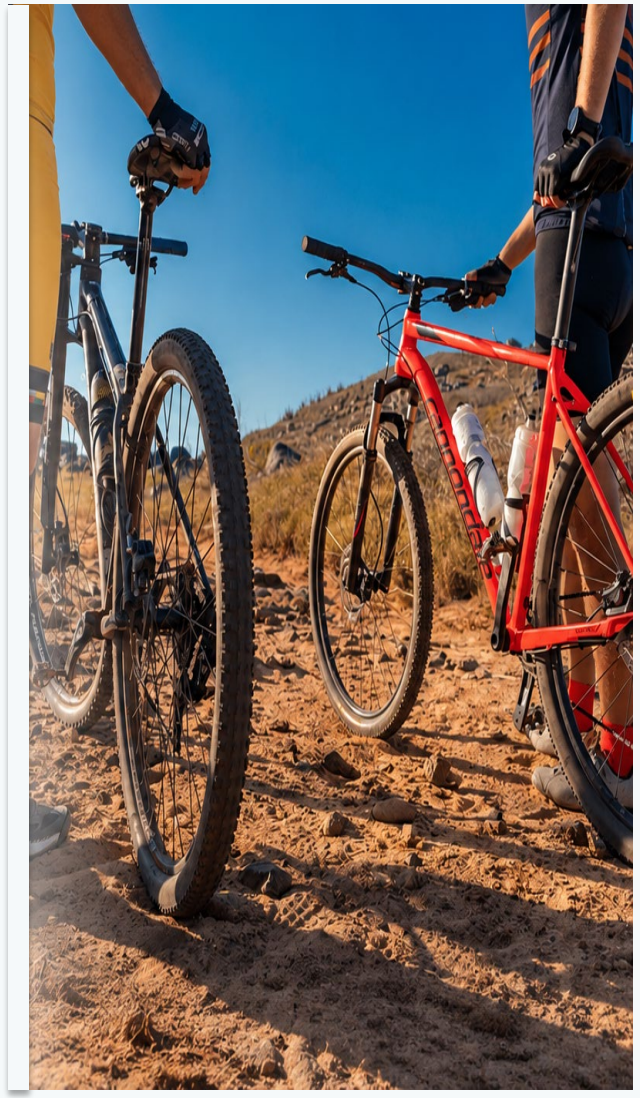
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2 **Secondary prevention**

FIT identifies elevated risk and colonoscopy detects and removes precancerous lesions.



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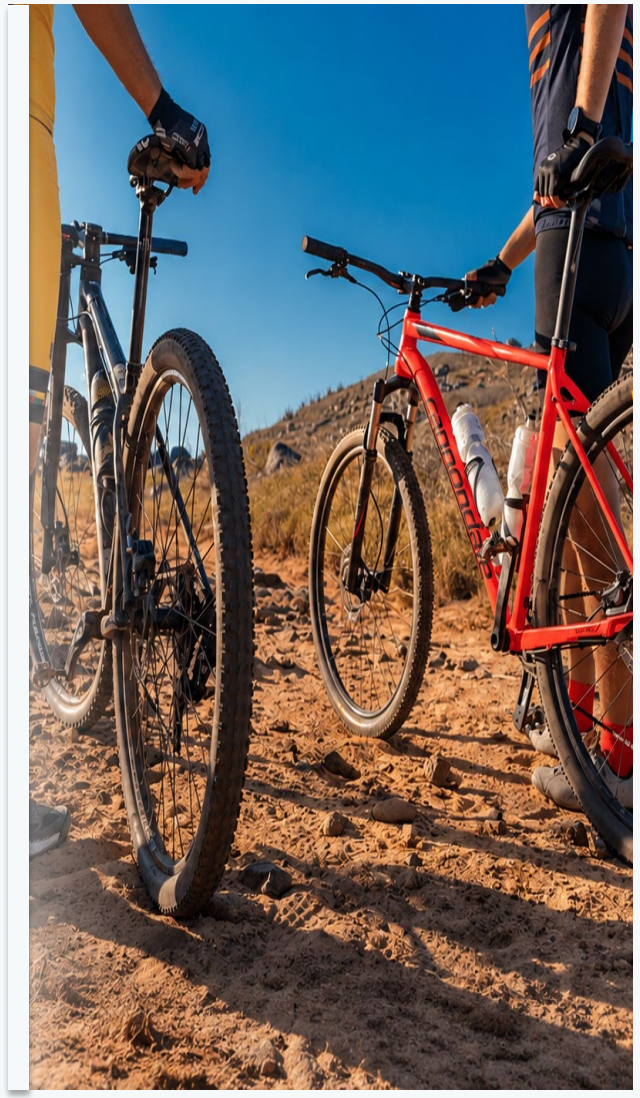
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2 Secondary prevention

FIT identifies elevated risk and colonoscopy detects and removes precancerous lesions.

3 Tertiary prevention

Cancer treatment, structured surveillance and prevention of recurrence or complications.



FIT as a Population Risk Management Tool

A simple population test that directs scarce resources

1
INVITE



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FIT negative

Lower immediate risk → routine recall according to the program interval 2 years.

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Higher probability of significant colorectal pathology → colonoscopy.

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COLONOSCOPY



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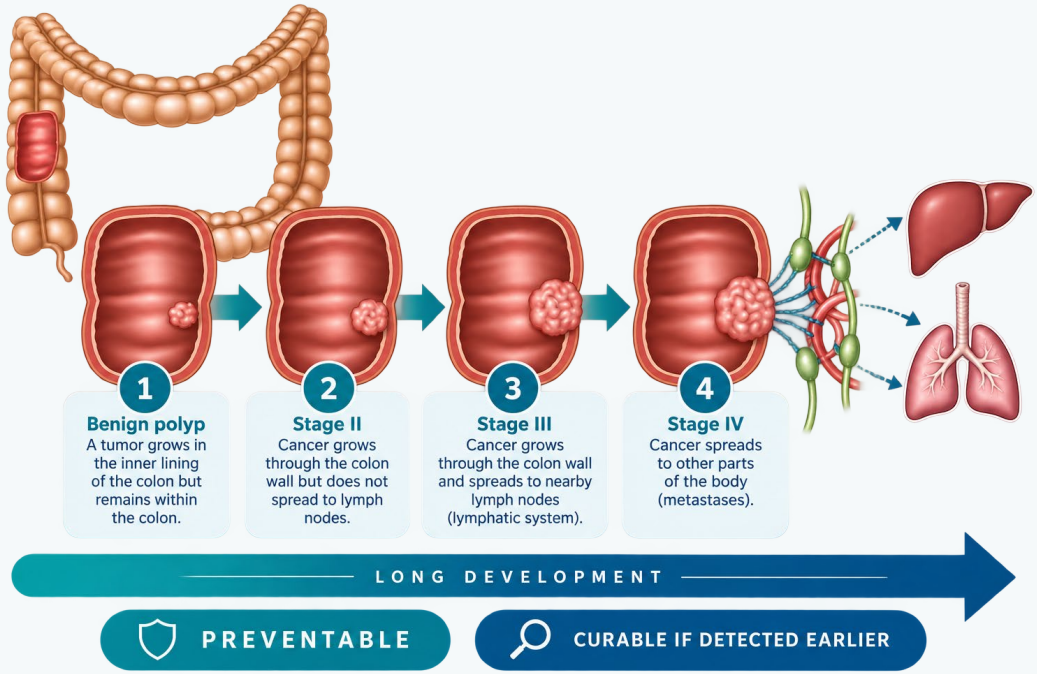


FIT does not diagnose cancer. It stratifies population risk and determines who needs colonoscopy.

Colonoscopy as Prevention

Detection + removal = prevention

Detect adenoma → Characterize lesion → Remove adenoma → Interrupt progression → Prevent CRC



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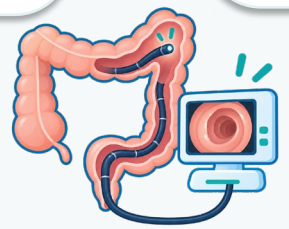
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Adenoma detection

A high-quality examination identifies lesions that carry future cancer risk.

Polypectomy

Removing precancerous lesions converts screening from early detection into true cancer prevention.



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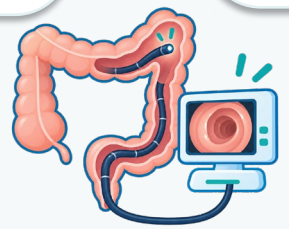
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COLONOSCOPY IS BOTH A DIAGNOSTIC AND PREVENTIVE INTERVENTION

Risk Stratification After Colonoscopy

The colonoscopy result determines the next pathway

1 Normal

Routine screening,
10 years safe!

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Closer surveillance and quality review, usually 3 years

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4 Cancer

Staging → MDT → treatment → surveillance

Increasing surveillance intensity →

Quality Indicators

What gets measured can be improved

Participation

Are eligible people entering the program?

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FIT positivity

Is the test behaving as expected?

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PROGRAM PERFORMANCE = UPTAKE × COMPLETION × QUALITY × SAFETY

Patient Safety

Screening benefit must outweigh screening harm

1 Procedure risks

Bleeding

Perforation

Post-polypectomy events

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2 Sedation risks

Respiratory events

Cardiovascular events

Recovery-related risks

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3 Safety protocols

Patient selection
Informed consent
Standardized procedures
Emergency readiness
Incident review

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Safety is a program outcome—not only an endoscopy-room outcome.

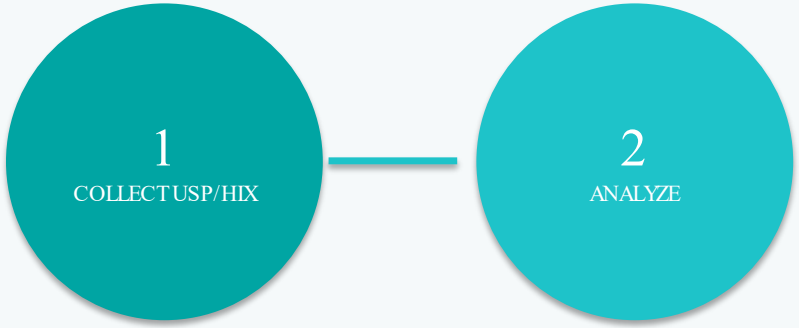
Continuous Improvement

Data → analysis → feedback → better care

1
COLLECT USP/HIX

Continuous Improvement

Data → analysis → feedback → better care



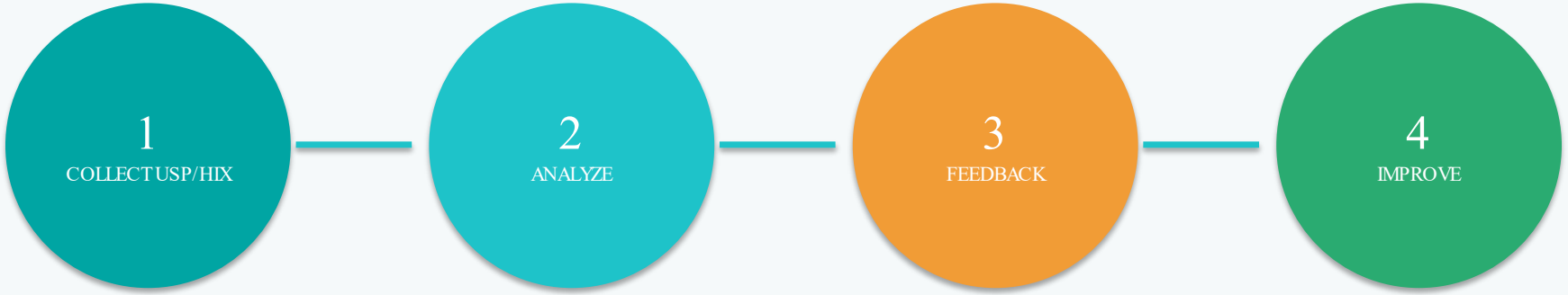
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- Track trends over time and between screening rounds.
- Identify bottlenecks, variation and preventable adverse outcomes.
- Translate findings into targeted operational and clinical changes.

CLOSE THE LOOP

Population Health Management

Screening succeeds only when the whole population can benefit

WHO
IS BEING
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Equity

Are outcomes comparable across groups? Islands?

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Do FIT-positive participants complete colonoscopy?

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Can people reach FIT, intake and colonoscopy?

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Population risk management includes the people who do not participate.

The CORESA Model

An integrated prevention, screening and care pathway



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An integrated prevention, screening and care pathway



feedback to improve the next screening cycle

Population level

Invitation, participation, equity

Clinical level

Diagnosis, MDT, treatment

System level

Quality, capacity, evaluation

Data-Driven Decision-Making

Dashboards turn screening activity into governance

CORESA Screening Dashboard

Participation	Colonoscopy	Polyps	ADVANCED
20 %	209	78 %	37%

Dashboards USP

Make performance visible.

KPIs and Quality Indicators

Define the small set of indicators that matter.

Transparency stakeholders

Share results with clinical and program leadership.

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CORESA Screening Dashboard

Participation	Colonoscopy	Polyps	ADVANCED
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CRC

15 cases (5.2%)

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Effect screening

Progression advanced lesions 2-5% (5-10 years)

Future Directions

From population screening to precision prevention

AI

Support lesion detection, quality assessment and workflow optimization.

Risk prediction

Combine FIT, age, history and previous findings to estimate individualized risk.

EHR integration

Connect invitation, results, colonoscopy, pathology and surveillance in one data pathway.

Personalized screening

Move toward intervals and strategies based on individual risk rather than one-size-fits-all.

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Take-Home Messages

PREVENTABLE

MEASURABLE

IMPROVABLE

Health risk management turns colorectal cancer screening into a continuous system of prevention, measurement and improvement.

SCREENING SAVES LIVES

In Aruba, we need a shift in focus

from only treating disease to **detecting risk early to prevent disease**



PREVENTION

Detect risk early and prevent disease

HEALTHIER PEOPLE TOMORROW



CARE

Support people through the continuum of care

BETTER QUALITY OF LIFE TODAY



CURE

Treat disease effectively when it occurs

MORE LIVES TOMORROW

A HEALTHIER ARUBA TOGETHER

PREVENTION • SCREENING • QUALITY

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COLORECTAL SCREENING ARUBA

HEALTHIER PEOPLE BRIGHTER TOMORROW