Roche Diagnostics

Educational Symposium

Friday, September 13th, 2019

Accurate Diagnosis Enables Value-Based Care: Improving Care & Avoiding Unnecessary Costs

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Improving healthcare decisions

Roche Diagnostics

Educational Symposium

Friday, September 13th, 2019

Accurate Diagnosis Enables Value-Based Care: Improving Care & Avoiding Unnecessary Costs

18:45 – 18:50 - Why do diagnostic tests matter in VBHC?
Karine Ferreira (Roche Diagnostics LATAM)

18:50 – 19:20 - Value-based Care on Heart Failure: right diagnostic tests improve clinical and economic outcomes
Dr. Antonio Leon
Hospital Santa Luzia, Spain

19:20–19:40 - Cervical Cancer Screening: digital solutions, diagnostic tests and an organized program optimize resources and improve outcomes
Dr. Jose Pedroso Neto
Secretaria de Saúde, Prefeitura Indaiatuba, Brazil

19:40 – 19:45 - Q&A

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Disclaimer

This is an educational meeting, organized by Roche Diagnostics LATAM

The content of each presentation is the responsibility of the speaker. The presentation has been reviewed by the sponsor in order to guarantee conformity with local regulation.

The discussion will be conducted by the chairman/speaker and occasionally some study results, combination and/or indication of use that were not approved in your country might be addressed.

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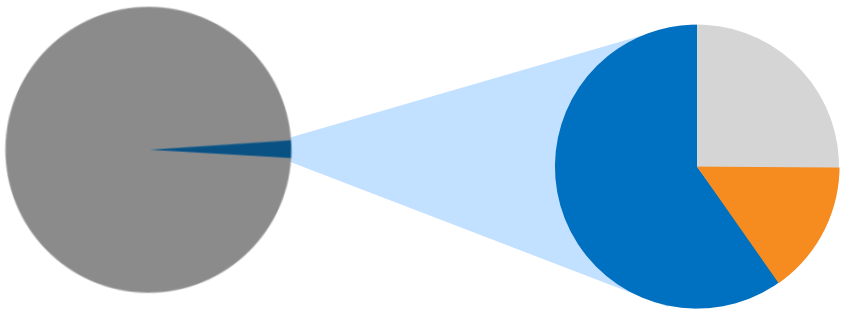
In vitro Diagnostic Tests (IVD)

We play a crucial role in driving effective medical decision making

IVD accounts for
~2%
of worldwide healthcare spending

IVD influences
~70%
of clinical decision-making



1 in 7 of ALL clinical decisions based on Roche Diagnostics insights*

Source: "The Value of In Vitro Diagnostic Testing in Medical Practice: A Status Report", PLOS One 2016
*Asssumes ~20% market share

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Roche Diagnostics continuum of care

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Disruptive Innovation

Explore holistic Disease Management solutions

Disease Management solution

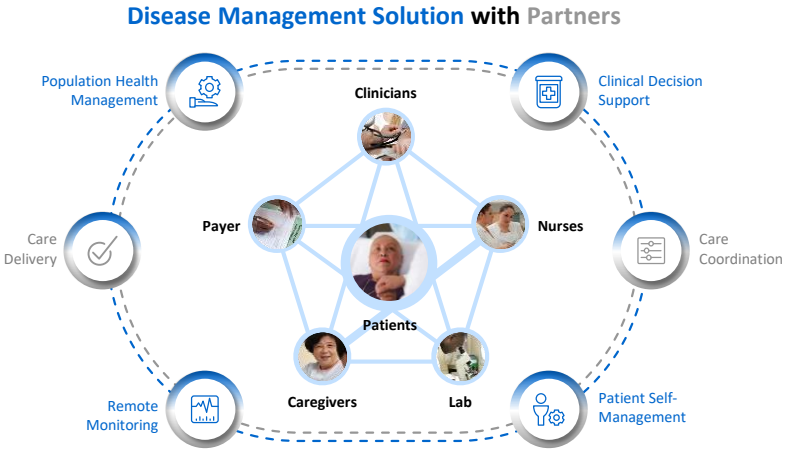
Coordinated healthcare interventions across stakeholders to improve patient outcomes & healthcare sustainability

Initial areas of scope

Cardiology

Cervical Cancer

HIV



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Together we need to guarantee the benefit for patients & Health system

Through integrated care

Disease Management & Value-based reimbursement decisions

Health Outcomes

Access

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Together we can make a difference in the way we deliver Healthcare in Latam

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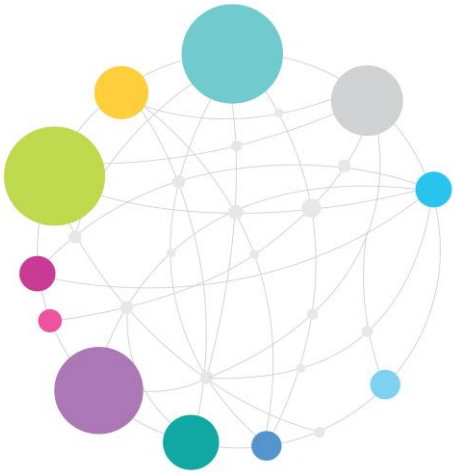

Value-based Care on Heart Failure: right diagnostic tests improve clinical and economic outcomes

Dr. Antonio Leon, PhD
Hospital Santa Luzia, Spain
Macarena University Hospital, Spain

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Roche

Disclosure of Conflict of Interest

- I participate as a speaker of events for the companies: Roche, Werfen and Tosoh
- I didn´t take part as a member of Manufacturer Advisory Boards in the last 5 years
- I collaborate with Clinical studies sponsored by Thermo Fisher Scientific in Spain.
- I don't own stocks of one or more companies from the pharmaceutical or diagnostic industry

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Value-Based Innovation in Heart Failure Patient Management

Antonio León PhD
Macarena University Hospital. Spain
ISPOR Bogota 2019

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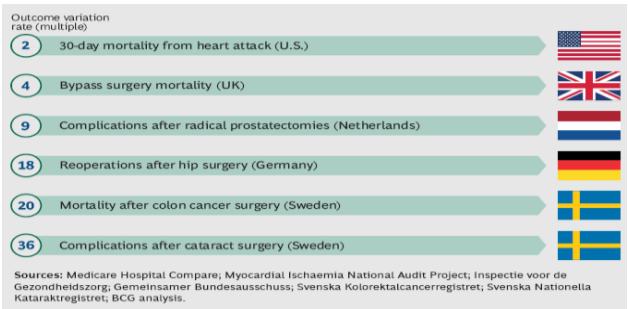
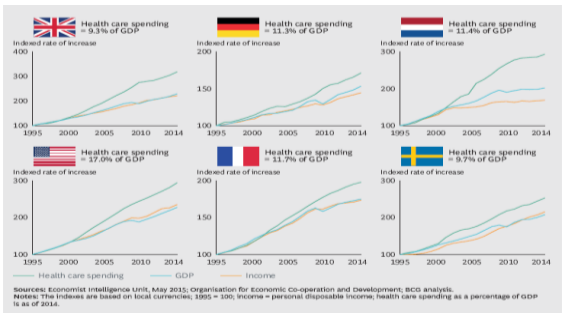
Health Care Landscape

Health care faces two critical challenges

Significant variation in health care delivery



Growth in healthcare spending



Source: Rich Lesser. The Boston Consulting Group 2014

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Value-Based Healthcare

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The focus is increasingly on business models that deliver ***quality*** care ***with demonstrable outcomes*** in a more cost-effective manner.

- ***Value dependes*** **on results, not inputs, value in health care is measured by the *outcomes achieved.***
- **Properly *measure cost* and *compare with outcome is the root* of the incentive crisis of health care**
- ***Value* is defined as *outcomes relative to costs***

Redefining Health Care: creating value-based competition on results. Harvard Business Rewiew 2006

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Challenges

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How to measure patient value

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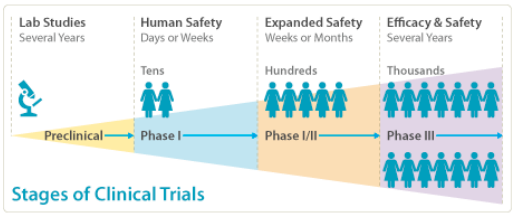
Diagnostic value

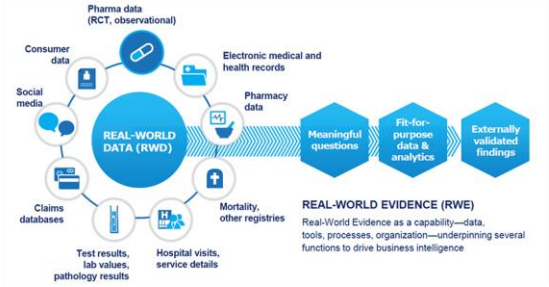
(When is considered the test by itself)



4-Phase approach for Biomarker evaluation.
Clinical Chemistry 2015

Patients value

(When is considered the overall process of care)



Real World Evidence. What is it and What can tell us?
New England Journal of Medicine 2016

RD Clinical Trails

Real World Evidence

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How to measure patient value

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Real world model for patients value evaluation

MEDICAL CONDITION	PROCESS MAPPING	DATA SOURCES	IMPACT OUTCOMES	BENCHMARKING REPORTING
Select Medical Condition	Clinical GAPs Design Intervention (based biomarkers)	Binging together all the information	Evaluate Impact on outcomes	

ICHOM
A GLOBAL STANDARD

COST ANALISYS

Real-World Evidence . What Is It and What Can It Tell Us. N ENGL J MED 2016:75;23

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How to measure patient value

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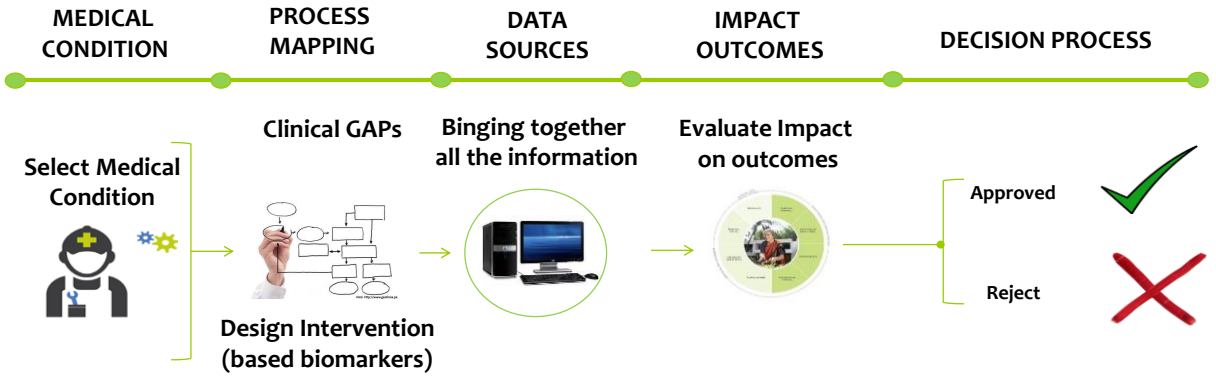
Real world model for interventions decision process



COST ANALISYS

Use of Real-World Evidence to Support Regulatory Decision-Making for Medical Devices. Guidance for Industry and Food and Drug Administration Staff. U.S. Department of Health and Human Services. Food and Drug Administration. August 31, 2017.

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How to measure patient value

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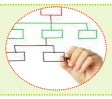
Agenda for creating a patient outcomes measurement model

SELECT MEDICAL CONDITIONS
- ✓Prioritize relevant medical conditions
- ✓Patients point of view
- ✓International recommendations



PROCESS MAPS
- ✓Current scenario analysis
- ✓Auditing the effectiveness at the overall process of care
- ✓Clinical GAPs analysis

PROPOSE A STANDARD SET OF OUTCOMES
- ✓Prospective patient-centered
- ✓Define outcome around the full care cycle
- ✓Identify KPIs (Key Performance Indicators)

DATA COLLECTION
- ✓Make data collection a natural part of the care process and workflow
- ✓Patients should directly be involved in data collection
- ✓Measure the full outcome set – clinical data and patient reported

BENCHMARKING AND PLUBLISHING
- ✓Use data for decision support
- ✓Publish reports transparent
- ✓Develop a learning culture based on data

Agenda to ensure that Clinical Lab is firmly focused on improving health outcomes.
Task Force of clinical management and outcomes. 2015

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Heart Failure: Improve patient value

EDITORIAL COMMENT

Worsening Heart Failure Hospitalization Epidemic

We Do Not Know How to Prevent and We Do Not Know How to Treat!*

Journal of the American College of Cardiology
Vol. 52, No. 6, 2008

1198 Admissions Year

37% Readmissions Year

10% Mortality Year

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Agenda: 2 Process Mapping

Goals HF: ***Reorganizing*** the ***care*** process ***identify*** the ***clinical GAPs*** and ***design*** specific ***intervention*** to ensure**:**

- **Efficient use of resources**
- **Improvement of patients outcomes**

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Agenda: 2 Process mapping

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Second Step: GAPs Analysis

EARLY HF DIAGNOSIS
- ✓HF diagnosis is still a challenging, especially in the early stages
- ✓Preserve Ejection Fraction

PATIENTS FOLLOW UP
- ✓High readmission rates
- ✓High Funcional Scores
- ✓High admission emergency room

STANDARDIZATION OF THE HEART FAILURE PROCESS
- ✓Patients point of view
- ✓Considered over cycle of care

Find the Key Performance Indicators (KPIs)

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Agenda: 2 Process mapping

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Second Step: GAPs Analysis

European Heart Journal
doi:10.1093/eurheartj/ehw128

ESC GUIDELINES

2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

by structured telephone support (STS). The optimal method of monitoring will depend on local organizations and resources and will vary among patients. For example, more frequent monitoring will be required during periods of instability or optimization of medication. Older adults may also benefit from more frequent monitoring. Some patients will be keen and able to participate in self-monitoring.

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Agenda: 2 Process mapping

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Second Step: GAPs Analysis

Chronic heart failure in adults: summary of updated NICE guidance

How to monitor heart failure

All people with heart failure require clinical review and monitoring (box 6). More detailed monitoring will be needed if the person has substantial co-morbidity or if their condition has deteriorated. The frequency of monitoring depends on the clinical status. The monitoring interval should be short (days to two weeks) if the clinical condition or medication has changed, and at least six monthly for people with stable heart failure. Provide people who wish to be involved in monitoring their heart failure with sufficient education and support to do this, with clear guidance on what to do in the event of deterioration.

BMJ 2018;362:k3646 doi: 10.1136/bmj.k3646 (Published 24 September 2018)

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Process Maps: Intervention

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Redesigning the HF follow up

Early HF diagnosis:
- HF diagnosis must be done in one month
- NT-BNP Fist line for HF early diagnosis

Early identification acute decompensation:
- The patient must be evaluated for HF unit in one week

Personalized patient follow up
- NT-BNP Fist line for risk assessment monitoring

2017 ACC/AHA/HFSA Focused Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure

	1st Visit	Follow up
Hight Risk SCORE: >50%	Visit 30 Days	Visit 3 months
Medium Risk SCORE 15-50%	Vist 60 Days	Visit 6 months
Low Risk SCORE: <10%	Visit 90 Days	Visit 12 months

Early diagnosis

HF Unit 1st month

Early detection decompensation

HF Unit 1st Week

HF Nurse, HF Physicians, Primary Care Physicians, ER Physicians
Multidisciplinary approach

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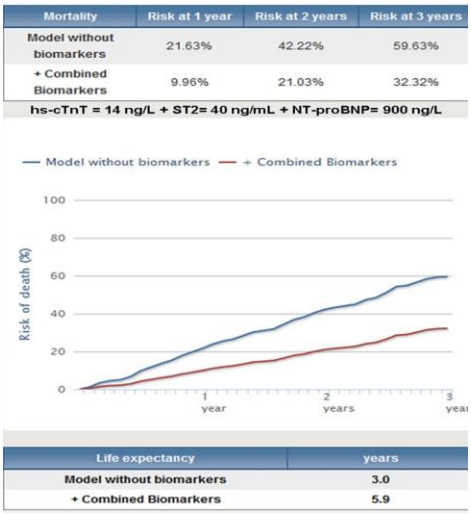
Process Maps: Design Intervention



•Lupón J, de Antonio M, Vila J, Peñafiel J, Galán A, et al. (2014) Development of a Novel Heart Failure Risk Tool: The Barcelona Bio-Heart Failure Risk Calculator (BCN Bio-HF Calculator). PLOS ONE 9(1): e85466. doi:10.1371/journal.pone.0085466
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0085466

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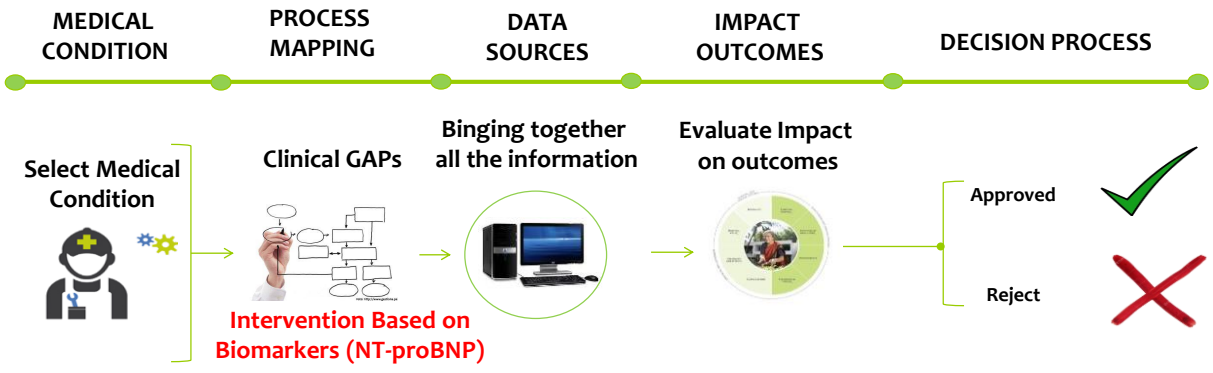
How to measure patient value

HF: Real world model for interventions decision process



COST ANALISYS

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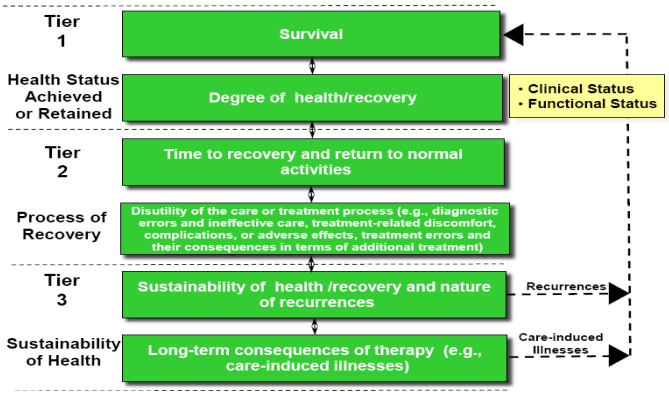
Agenda: 3 Proposed a Standard Set of Outcomes

Various Outcomes Are Measured Over Care Cycle

✓Involve patients and their expectative into the indicator set
✓Include the most relevant health circumstances for patients
✓Define outcome around the full care cycle
✓Take a multidisciplinary approach

The Outcome Measures Hierarchy



M. Porter. What Is Value in Health Care?. N ENGL J MED 2010; 363:2477-2481

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Agenda: 3 Proposed a Standard Set of Outcomes

CaseMix Variables

- **Demographic Factors**
- **Baseline health status**
  - Hypertension
  - Diabetes
  - Renal dysfunction
  - Need for dialysis
  - Smoking status
  - Alcohol use
  - Prior MI
  - Atrial fibrillation
  - Chronic lung disease
  - Body mass index
  - Ejection Fraction
  - HF Diagnostic categories

Treatment Variables

- **Patients receiving device**
- **Patients receiving cardiac surgery**
- **Patients receiving rehabilitation**

Heart Failure Standard Set Outcomes

American Heart Association. life is why™ · Heart Failure Association of the ESC · European Society of Cardiology®

Patient Reported Outcomes

- **Functional Status (PROMIS/KCCQ)**
  - Maximum level of physical exertion
  - NYHA
  - Symptom control
  - Living independently/selfcare
  - Physical Function
  - Employment Patient-reported
  - Peripheral edema
  - Symptom control: Disturbed sleep
- **Psychosocial Status (PROMIS/KCCQ)**
  - Health-related Quality of Life
  - Patient-reported Depression and anxiety
  - Confidence/self esteem
- **Burden of care**
  - Medication side effects
  - Clinician reported Financial burden
  - Complications of treatment
  - Number of hospital appointments
  - Number of hospital readmissions
  - Length of stay
- Survival

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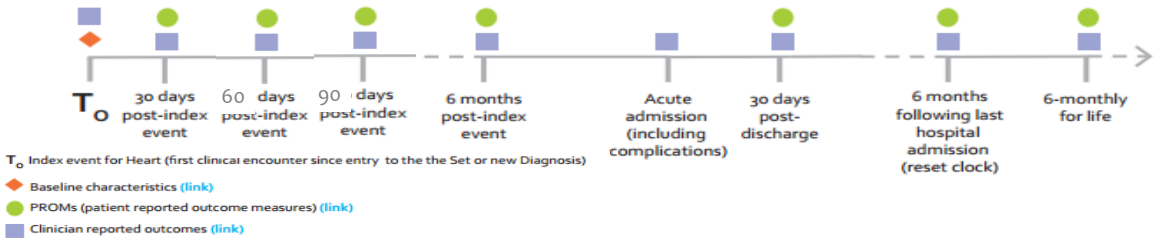
Agenda: 3 Proposed a Standard Set of Outcomes

HF standardization process of care

Measurement Timeline and Sample Questionnaires

The following timeline illustrates when Standard Set variables should be collected from patients, clinicians, and administrative sources.



Source: Harvard Business School. The International Consortium for Health Outcomes Measurement

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Agenda: 4 Data collection

1 Use multiple sources for data collection

✓Measure the full outcome set – clinical data and patient reported

2 Make data collection part of care process and workflow

✓Make data collection a natural part of the care process and workflow

3 Use "customer-centric" forms/tools

✓Patients should directly be involved in the design of all forms and tools for data collection

4 Build multi-step data verification process

✓We recommend using multiple checkpoints to make sure data is correct

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Patients Outcomes. Results

Functional Classification Improvements
New York Heart Association (NYHA)

	Before intervention	*After intervention*
Class I:	***359***	***453***
Class II:	**474**	**443**
Class III:	**161**	**26**

Results: Adjusted rate 1000 patients year
Statistic significant: P< 0.005

286 patients reduced their Functional Classification (NYHA) in one class
Class III patient cost double the one in Class II

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Patients Reported Outcomes

50% items of Patient reported outcomes showed better results (PROMIS/KKCQ)

Functional Status

- Maximum level of physical exertion
- NYHA
- Symptom control
- Living independently/selfcare
- Physical Function
- Employment Patient-reported
- Peripheral edema
- Symptom control: Disturbed sleep

20%

Psychosocial Status

- Health-related Quality of Life
- Patient-reported Depression and anxiety
- Confidence/self esteem

75 → ***87***

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Patients Outcomes

Readmissions

Readmissions 30 days	*Readmissions 6 months*	*Readmissions 1 year*
Patients: From 78 to 10	***Patients: From 203 to 63***	***Patients: From 302 to 167***
ARR From 78 to 10	***ARR From 255 to 73***	***ARR From 411 to 240***
Results: Adjusted rate 1000 patients year Statistic significant: P< 0.005	Results: Adjusted rate 1000 patients year Statistic significant: P< 0.005	Results: Adjusted rate 1000 patients year Statistic significant: P< 0.005
⬇ 88%	⬇ 70%	⬇ 45%

Important reduction in Patients and Readmissions Rates

ARR: Adjusted readmission rates

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Patients Outcomes

Admission Emergency Room

AER 30 days	*AER 6 months*	*AER 1 year*
AER: From 63 to 16	***AER: From 172 to 26***	***AER: From 333 to 94***
Results: Adjusted rate 1000 patients year Statistic significant: P< 0.005	Results: Adjusted rate 1000 patients year Statistic significant: P< 0.005	Results: Adjusted rate 1000 patients year Statistic significant: P< 0.005
⬇ 75%	⬇ 85%	⬇ 72%

Significant reduction in Readmissions Rates and Number of Patient are Readmitted

AER: Admissions Emergency Room

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Patients Outcomes

Group		Z	p
Low Risk (61%)	Readmision 12 months	-1.944 c	.052
	Admission ER	-2.683 c	.007
	NYHA	-4.115b	.000
Medium Risk (33)	Readmision 12 months	-.926 c	.354
	Admission ER	-2.509 c	.012
	NYHA	-2.945 b	.003
Hight Risk (6%)	Readmission 12 months	-1.136 c	.256
	Admission ER	-1.310 c	.190
	NYHA		

We found the best results in low and medium risk groups

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Budget Impact

Hospital Costs

Total number of HF admissions was 1.198

- 770 were mild
- 419 were complex
- 9 not classified

Average cost per hospitalization is <u>4.316€</u>

- Heart Failure hospital admissions cost **<u>7 Million €</u>** <u>per year</u>
- **<u>2 Million €</u>** of which are readmissions

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Budget Impact

	Current Scenario	Scenario 1	Scenario 2	Scenario 3
Admissions	1.198	1.198	1.198	1.198
Readmissions 90 days	37%	28%	19%	9%
READMISSION COSTS	**1.913.252€**	**1.434.939€**	**956.626€**	**478.313€**
		- 478.313€	**- 956.626€**	**- 1.434.939€**
TOTAL POTENTIALSAVINGS		**- 478.313 €**	**- 956.626€**	**- 1.434.939 €**

Intervention: Annual Potential saving

500.000 € Worst scenario

1.000.000 € Medium scenario

1.500.000 € Best scenario

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Budget Impact

	Before	*After*
Total cost	**6.153.009€**	**5.388.016€**
Readmissions cost	**1.775.854€**	**1.034.042€**
Admissions ER cost	**48.333€**	**13.594€**
Biomarkers cost	**13.432€**	**25.282€**

Results: Adjusted rate 1000 patients year
Statistic significant: P< 0.005

Annual Saving for 1000 patient/year about 1 million euros

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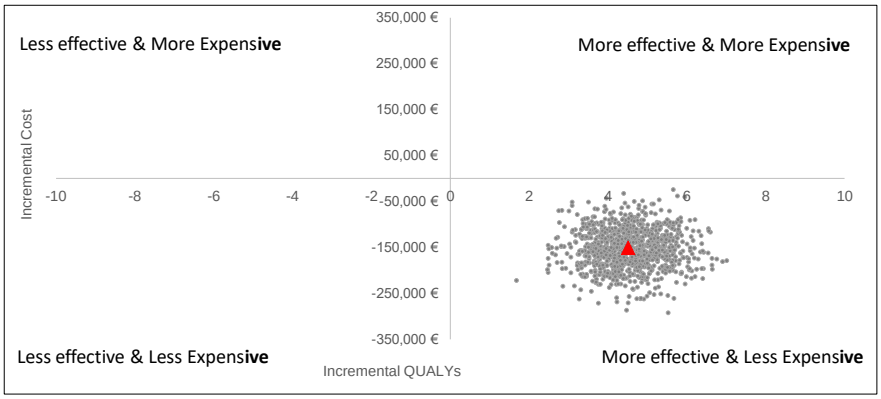
Cost-Effective analysis



Probabilistic sensitivity analysis

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Challenges: Improve patient value

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How do we pay value

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How to link "Value-based Health Care" and "Public Procurement"

TRADITIONAL	PATIENT	PAY for OUTCOMES
Fee for services	Pay per patient	Risk Sharing
		

LOWER	COMPLEXITY/INNOVATION	HIGHER

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How do we pay value

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2014/23/UE y 2014/24/UE Directive
An unexpected driver of Value-Based Health Care

1. The instruction aims to improve procurement by promoting quality and innovation
2. The authorities can factor the full value of a product service or solution into their decision making
3. The instruction promote closer collaboration between the contracting authorities and suppliers in the tender process

The strength of this initiative is to foster dialogue and jointly define relevant criteria for value to the patient and other healthcare actors, ensuring that these - in addition to economic considerations -, are driving evaluation"

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How do we pay value

Moving from traditional Procurement to Innovative Value-Based Procurement:

Go to tender for a solution (rather than just a product)

30% Cost: pay for services

40% Cost: pay for patients

30% Cost: pay for outcomes achieve

Our relationships with industry have to change. We have to stop thinking of them as vendors and more as partners in care. They all have a commitment to a better quality of life for their patients, just as we do." Dr. Wulffhart, Physician Leader, Regional Cardiac Care Program, Southlake Regional Health Centre. Canada

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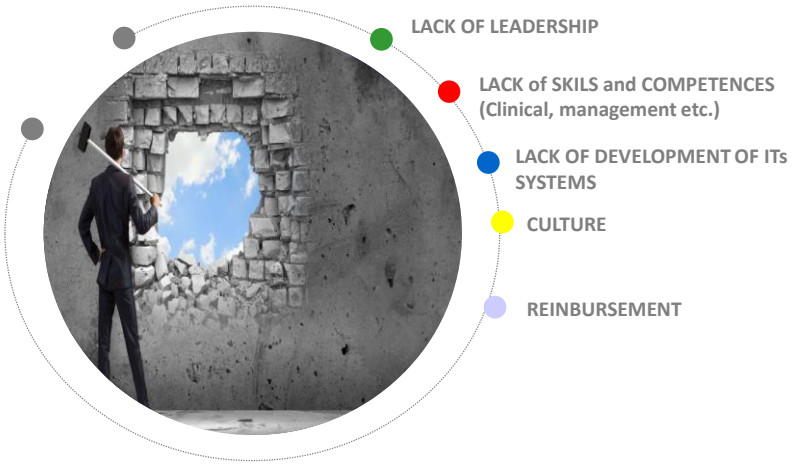
Value Based Laboratory

Barriers to change



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Conclusions

- It is necessary to redirect Lab Innovation towards better healthcare outcomes.
- Patients value Improvement and its evaluation will be disruptive in the upcoming years.
- Roche Healthcare Consulting provide a solid methodology base to develop value-based approaches

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Accurate Diagnosis Enables Value-Based Care: Improving Care & Avoiding Unnecessary Costs

18:45 – 18:50 - Why do diagnostic tests matter in VBHC?
Karine Ferreira (Roche Diagnostics LATAM)

18:50 – 19:20 - Value-based Care on Heart Failure: right diagnostic tests improve clinical and economic outcomes
Dr. Antonio Leon
Hospital Santa Luzia, Spain

19:20–19:40 - Cervical Cancer Screening: digital solutions, diagnostic tests and an organized program optimize resources and improve outcomes
Dr. Jose Pedroso Neto
Secretaria de Saúde, Prefeitura Indaiatuba, Brazil

19:40 – 19:45 - Q&A

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Global Global Strategy towards the Elimination of Cervical Cancer is under public consultation

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WHO CxCa 2030 Targets
Towards the elimination of Cervical Cancer

- **Vision: A world without Cervical Cancer**
- **Goal: incidence < 4 cases of cervical cancer per 100,000 women-years**

2030 Targets[1]

90%	70%	90%*
of girls fully vaccinated with HPV vaccine by 15 years of age	of women are screened with a high-precision test at 35 and 45 years of age	of women identified with cervical disease receive treatment and care

- 90% of women screened positive treated for precancer lesions;
- 90% of invasive cancer cases managed.

*WHO.DRAFT: GLOBAL STRATEGY TOWARDS THE ELIMINATION OF CERVICAL CANCER AS A PUBLIC HEALTH PROBLEM, May 2019.

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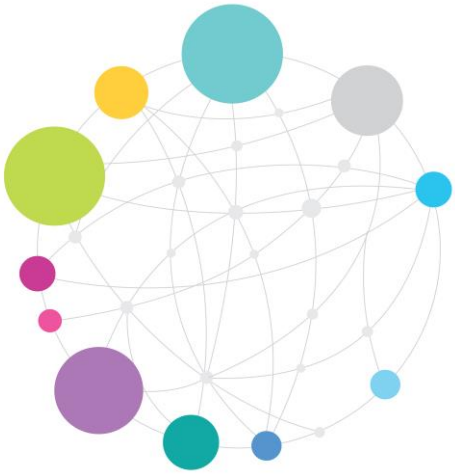

Cervical Cancer Screening: digital solutions, diagnostic tests and an organized program optimize resources and improve outcomes

José Pedroso Neto, MD

Prefeitura de Indaiatuba, Secretaria de Saúde

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Disclosure of Conflict of Interest

According to the 1595/200 resolution from the Federal Council of Medicine and ANVISA's RDC 96/08, I declare that:

- I participate as a speaker of events for the companies: Roche, Dyna Mech
- I don't take part as a member of the Advisory Board
- I collaborate with Investigator Initiate Studies sponsored by Bayer and Roche.
- I don't own stocks of one or more companies from the pharmaceutical or diagnostic industry

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Resultados del programa preventivo año 1

Faculdade de Ciências Médicas

UNICAMP

Júlio César Teixeira
Prof. de Tocoginecologia – Graduação e Pós-graduação (Capes 7)
Diretor da Oncologia do Hospital da Mulher – CAISM – Unicamp
Pres. Comissão Nacional de Vacinas da FEBRASGO
Coord. Comissão de Temas Livres do Evento

Investigator Innitiated Study (IIS) - Proyecto financiado por Roche

INDAIATUBA

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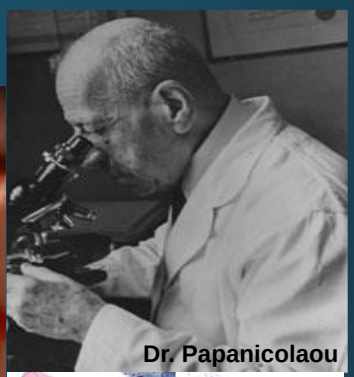
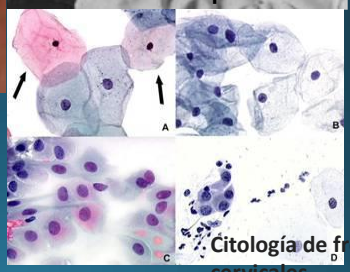
¡Hay suficientes conocimientos y herramientas para acabar con este cáncer!

99.7% de DNA-HPV en Ca del cuello uterino.

Pruebas de HPV
Vacunas





Citología de frotis cervicales

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¿Qué sucedió?

- Significativo Impacto solo en lugares con programas organizados **(80% de caída del cáncer).**

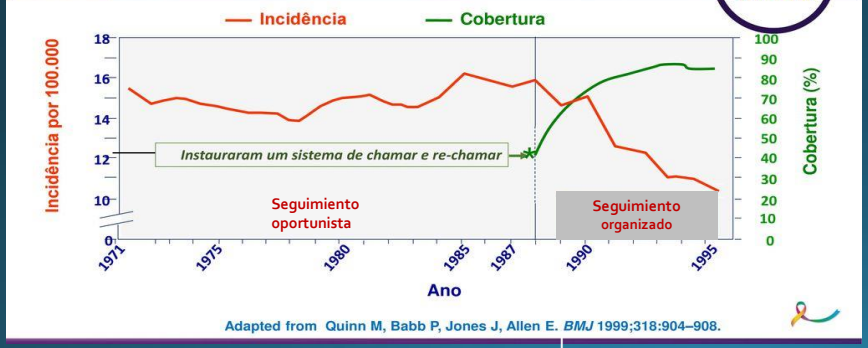
¿Terminamos el cáncer?

54

Cribado citológico en la práctica …

Oportunistas vs. Organizado

Incidencia ajustada de carcinoma cervical y cobertura de detección. Inglaterra, 1971-1995



- **Conjunto de población objetivo.**
- **Registro.**
- **Sistema de información y control.**
- espacio de tiempo.
- faltas
- ex (+)
- **Educacion.**
- **Control de calidad.**

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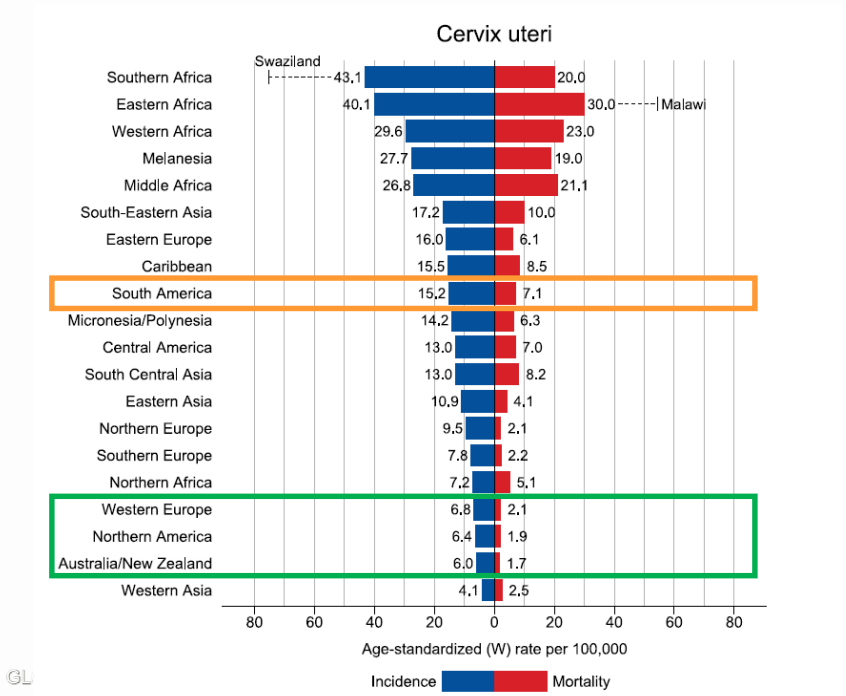

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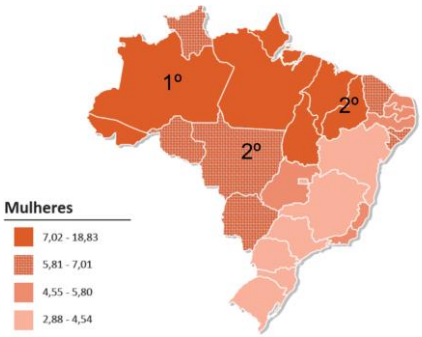
Incidencia de cáncer de cuello uterino por estado (2018)



1 óbito / 90 min ~45 anos

http://www.inca.gov.br/estimativa/2018/estimativa-2018

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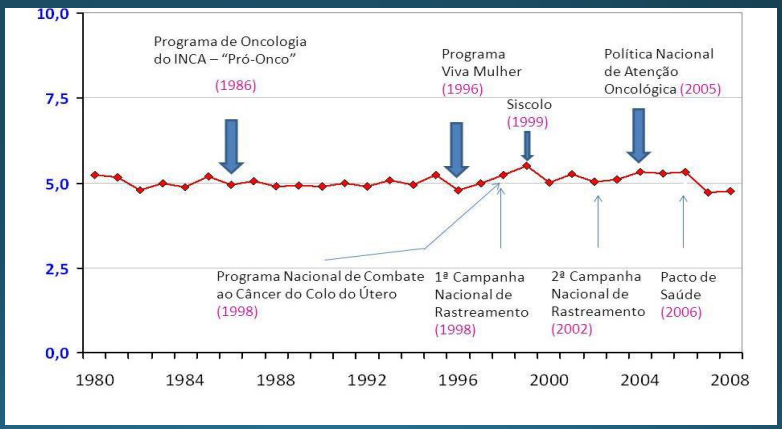
Realidad Brasil - Mortalidad

1 muerte x 90 minutos

- *~45 años.*
- *Impacto social y*

incalculable económico.

6.500 muertes em 2018



INSTITUTO NACIONAL DE CÂNCER. Estimativa 2018 - Disponível em: http://www.inca.gov.br/estimativa/2018/casos-taxas-brasil.aspc

58

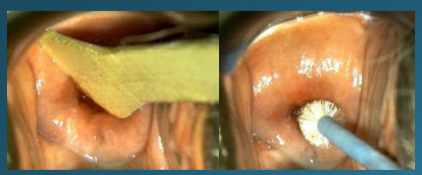
✓ ¿Como explicar?

Hy pautas actualizadas

Papanicolaou -Citología anual pagada → **cubre el 80%.**

REAL → Cobertura estimada **~30%**

→ No hay registro u organización.



Programa Nacional de Tamizaje Brasil

- Metodologia: Papanicolaou
- Edad: **Igual que el programa oficial (25-64 a).**
- **Intervalo**: 3 años.

INDAIATUBA

José Pedroso Neto - septiembre 2019

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Requisitos previos conocidos para cambiar el escenario

Necesidad de cambio

- ➔ Organizar lo cribado.
- ➔ Registro de población.
- ➔ Evite las pruebas excivas.
- ➔ Cambio de comportamiento.
- ➔ Lograr cobertura real >80%.

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Proyecto para organizar las herramientas

Por dónde empezar ?

¿y como?

Limite el área de acción - Consulta con Secretaria de Salud (2012).

➔ "Tarjeta SUS" ➔ Ciudad con el registro más alto.

- ➔ Mejor desarrollo (red básica).
- ➔ Sistema de informacin desplegado.
- ➔ Registro de población, ...

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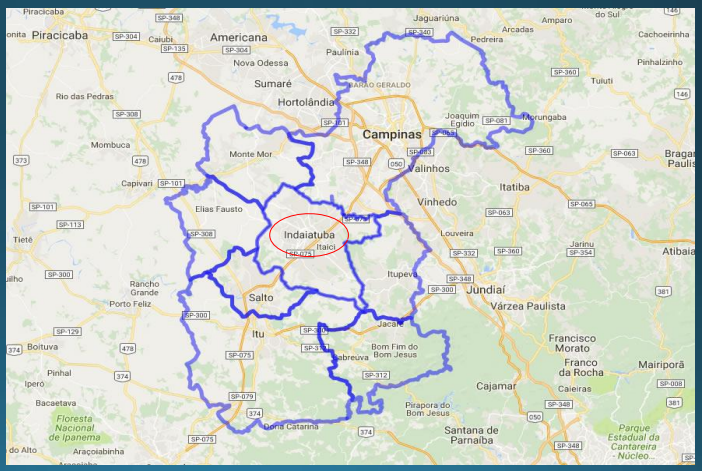
Indaiatuba (SP)

- 240 mil hab (4ª ciudad de la región).
- 98,2% de escolaridad (6-14a).
- 98% saneamiento.
- IDH 0,79 – 76/5570 ciudades (alto)
- Seguimiento de la población objetivo.
  - ✓20-24 a → 9.012
  - ✓25-64 a → 55.843
  - ✓>65 a → 7.718



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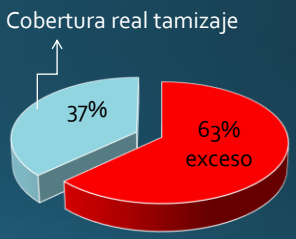
Indaiatuba: Resultados
Tamizaje com Papanicolaou

Frecuencia de examen de seguimiento (2012 n=9.038)

Edad	1° examen		1 año		2 años		3 años		4-5 años		> 5 años	
(años)	n	%	n	%	n	%	n	%	n	%	n	%
< 20	332	60,7	146	26,7	51	9,3	11	2,0	5	0,9	2	0,4
20-24	182	20,6	429	48,5	174	19,7	56	6,3	33	3,7	11	1,2
25-29	29	3,4	457	52,8	219	25,3	84	9,7	55	6,4	21	2,4
30-34	17	1,9	494	54,6	212	23,5	95	10,5	54	6,0	32	3,5
35-39	8	0,9	469	55,5	214	25,3	72	8,5	48	5,7	34	4,0
40-49	18	1,0	1008	53,8	463	24,7	144	7,7	128	6,8	111	5,9
50-64	16	0,7	1214	51,3	577	25,4	206	9,1	142	6,2	121	5,3
> 64	7	1,2	270	46,3	133	22,8	51	8,7	54	9,3	68	11,7

20%



SEGUIMIENTO OPORTUNISTA
- **63% pruebas inecesarias**

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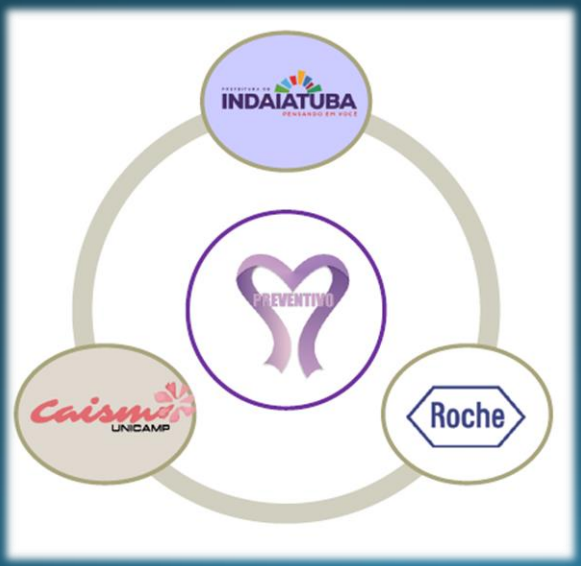
Definió un nuevo Programa de Tamizaje y estrategias



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Nuevo Programa de Tamizaje (2017) y estrategias

- Modificación sustancial, actual y total (Papanicolaou)
- **Nueva prueba**: DNA - HPV.
  - Cobas: HPV16 – HPV18 – Outros 12 HR-HPV.
- **Intervalo**: 5 años.
- **Programa Organizado: management system (Tracking for life) & controles**
  - **Edad: Igual que el programa oficial (25-64 a).**
  - **Vacunas:** 9 – 11 anos

- **Mantenimiento del proceso existente**

(Fluxo, Personal, recogida, transporte de muestras, etc).

Mejoras…
Recoge menos mano de obra.
Menos papeles y mejor registro
Comunicación y formación.
Ordenanza Municipal.
Set 2017

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Diagrama de flujo

Objetivos:

- **Costo beneficio**
- **80% de cobertura**

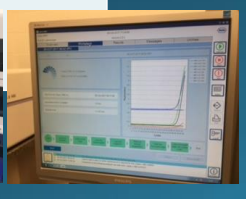
Población objetivo = 56 mil

50% Salud privada.

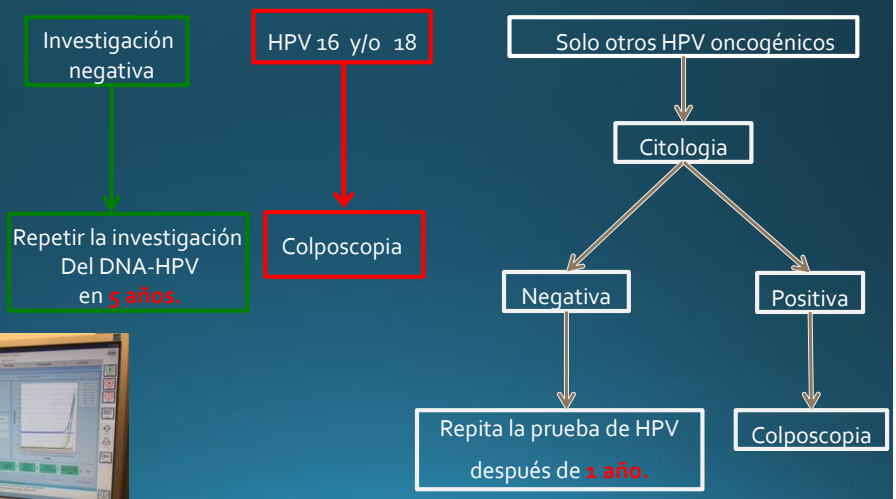
80% de Cobertura.

En 5 años

- **5.000 pruebas / año.**



➔ Alineado con los más modernos (2017)



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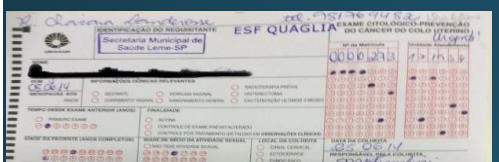
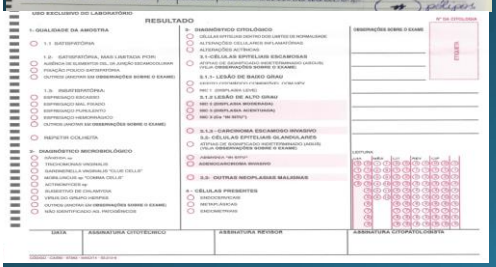
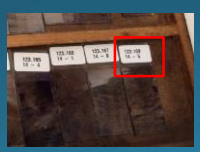
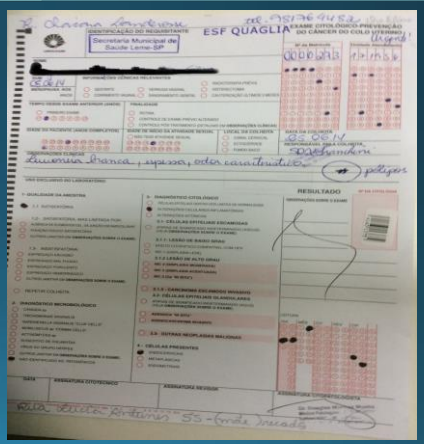
Solicitud del cliente y beneficios
Flujo de trabajo anterior

Completar Formulario → Identificación de muestra → Informe









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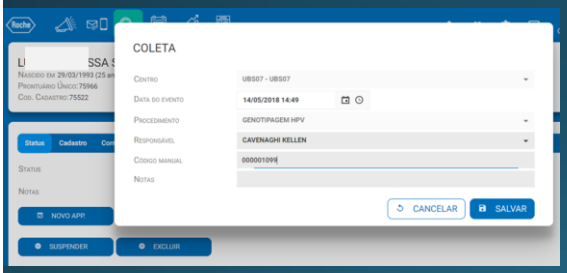
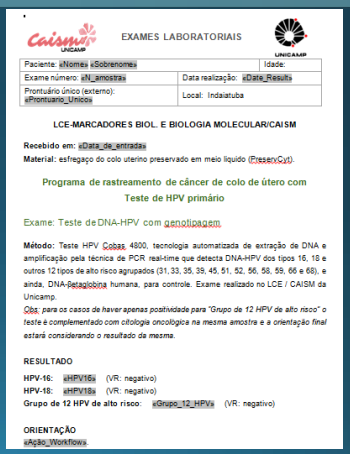
Solicitud del cliente y beneficios flujo de trabajo actual

Completar Formulario → Identificación de muestra → Informe





EXAMES LABORATORIAIS

Paciente: «Nome» «Sobrenome»	Idade:
Exame número: «N_amostra»	Data realização: «Date_Result»
Prontuário único (externo): «Prontuario_Unico»	Local: Indaiatuba

LCE-MARCADORES BIOL. E BIOLOGIA MOLECULAR/CAISM

Recebido em: «Data_de_entrada»
Material: esfregaço do colo uterino preservado em meio líquido (PreservCyt).

Programa de rastreamento de câncer de colo de útero com Teste de HPV primário

Exame: Teste de DNA-HPV com genotipagem

Método: Teste HPV Cobas 4800, tecnologia automatizada de extração de DNA e amplificação pela técnica de PCR real-time que detecta DNA-HPV dos tipos 16, 18 e outros 12 tipos de alto risco agrupados (31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66 e 68), e ainda, DNA-Betaglobina humana, para controle. Exame realizado no LCE / CAISM da Unicamp.
Obs: para os casos de haver apenas positividade para "Grupo de 12 HPV de alto risco" o teste é complementado com citologia oncológica na mesma amostra e a orientação final estará considerando o resultado da mesma.

RESULTADO

HPV-16: «HPV16» (VR: negativo)
HPV-18: «HPV18» (VR: negativo)
Grupo de 12 HPV de alto risco: «Grupo_12_HPVs» (VR: negativo)

ORIENTAÇÃO
«Ação_Workflow»

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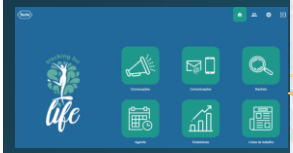
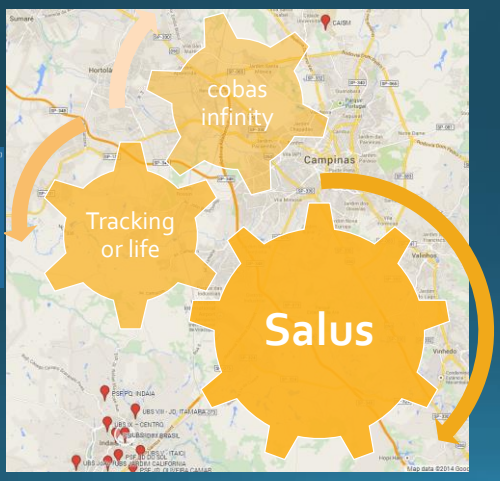
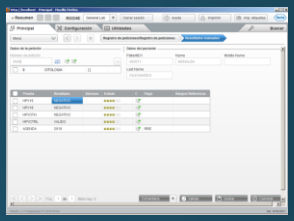
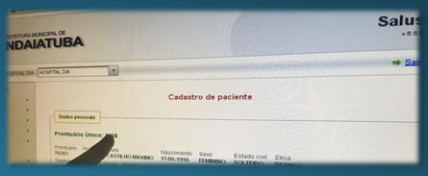
Integración de sistemas Salus y soluciones TI Roche









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Nuevo Flujo de Trabajo

1. Integración de sistemas.
2. Adopción de registro unico con identificador estándar en todas los UBS(unidades básicas de salud).
3. Control del pacientes y trazabilidad.
4. Productividad mejorada.
5. El logro de resultados va de meses a semanas.
6. Concéntrese en la programación correcta y los procedimientos estandarizados para casos positivos.

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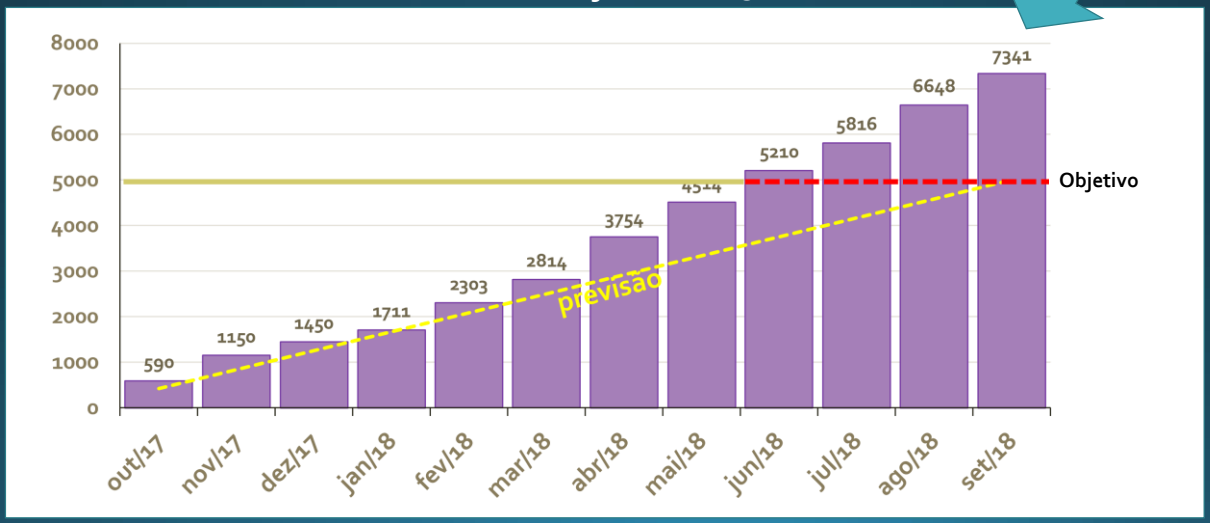
Indaiatuba: Resultados

Tamizaje con HPV DNA test & Organized Program

Numero de Pruebas en el ano uno (Tamizaje > 80% = 5000/ano)



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Resultados después de 18 meses

Inicio
Octubre 2017

9.974 muestras
Hasta el 30 marzo 2019

	Prueba de HPV OCT 2017 a SEP 2018 (n = 9.9874)		Programa de Citologia 2011 a 2016 (n= 50.708)	
	n	%	n	%
Edad de detección				
Predeterminado: 25-64 a (padrão)	9.896	99,2	39.215	77,33
<25 a	78	0,78	8.410	16,59
<20 a	0	zero	3.254	6,42

Negativos (8.732) ➔ **Ret 5 a**

3,3% HPV16+ e/ou 18+ ➔ Colpocp

2,5% 12HR+ →Cito + ➔ Colpocp

6,6% 12HR+ →Cito neg ➔ Ret 12M

Total

9,1% (911) Citologias realizadas
5,8% (585) Colposcopias *vs. 1,7% Cito*

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VACUNAS CONTRA EL HPV
Piloto en Indaiatuba 2018

- ✓ Soporte do PNI/MS.
- ✓ Escuelas Municipales 83% → 9-11 años.
- ✓ Misma edad para cualquier género.
- ✓ Dosis anuales.

Resultado
Ano1
>80%
Dose 1

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Programa Indaiatubano de Rastreamento do Câncer de Colo de Útero com teste de HPV

DESAFÍO

Mantener el control sobre población rastreada

Ampliar cobertura

Comprobar la rentabilidad

Sostenibilidad

↓

Expansión

Ganancia correcta → *la organización será (inicio de todo)*

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PROGRAMA INDAIATUBANO DE RATREO DE CANCER DEL CUELLO UTERINO CON PRUEBAS DNA HPV

INDAIATUBA

José Pedroso Neto - septiembre 2019

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¡En camino a terminar con el cáncer cervical!

Felicitaciones Indaiatuba !

PERSONALES:

Alcalde - Nilson Alcides Gaspar
Vice alcalde - Dr. Túlio José Tomass do Couto
Sec.de salud - Graziela Drigo Bossolan Garcia
Subsec. de salud - Luciana Mori
Dir. de Atención primaria - Dra. Thais Helena Wilmers Perini
Enf. – Carla Sofia de Meneses Faria.
Doctores:
Ana Paula Spadella
Karim Regina Barbieri
José Pedroso Neto
Asesor de comunicación(periodista) - Lais Fernandes de Sá
Investigador - Prof. Dr. *Júlio César Teixeira*

Gracias

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juliotex@fcm.unicamp.br

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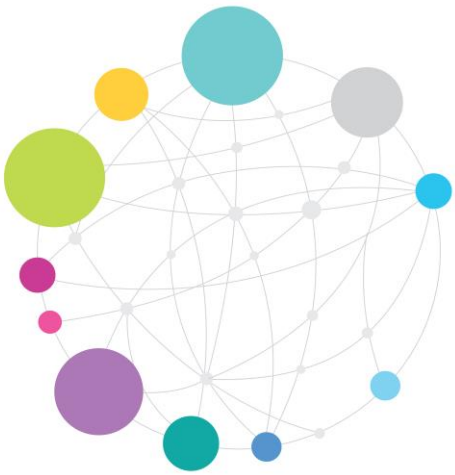
ISPOR
Improving healthcare decisions

Roche



Roche Diagnostics Educational Symposium

Q&A

Thank you !

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