Improving health outcomes

Improving health outcomes

> Improving health outcomes through continuous improvement cycles



SESSION 3 Improving health outcomes

Example: Santeon's key stages in the improvement cycle



Implementing outcome measurement in clinical practice **SESSION 3** Implementing outcome measurement in clinical practice

What to measure?

Implementing outcome measurement in clinical practice

Example: Santeon's scorecard for hip arthrosis

OUTCOMES

1. PROMs: Quality of life

2. PROMs: Pain

- 3. PROMs: Functional status
- 4. Complications during admission (%)
- 5. Complications after discharge (%)

	6. Reoperation of the same hip within 2 years post-surgery				
COSTS	1. OR-time per patient (min)				
	2. Cost price hip (€)				
	3. Treatment days per patient(#)				
	4. Admission on the day of surgery(%)				
	5. Diagnostic activities (MRI, arthrography, ultrasound, x-ray) per patient(#)				
	6. Outpatient visits per patient(#)				
	7. Discharge destination(%)				
PROCESSES	1. Days between outpatient visit and operation(#)				
	2. Cancellation of hip replacement surgery				

CITATION: Okunade O, Arora J, Haverhals A. "Collaborating for value: the Santeon Hospitals in the Netherlands", ICHOM, June 2017

ICHOM

ICHOM GLOBAL BENCHMARKING PLATFORM

Connecting leaders in value-based healthcare to improve patient outcomes

ENQUIRE TODAY



session 3 HIV360



HIV360 core outcome set





The aims of Phase 1

- Create a core outcome set that can be used in daily clinical practice
 - This should be the minimum possible set
 - Using this set should not add additional burden to practicing clinicians/systems
 - Where possible, select outcome measures that are free of charge and are available in multiple languages
- Produce materials that will support the implementation of the set



Publish an article in a peer-reviewed journal, documenting the process of creating the core outcome set



This program is the result of a collaboration between experts and organizations... To ensure successful implementation on a global scale, the HIV360 coalition has working group representation and organizational buy-in from a number of institutions and societies. All organizations and working group members are considered equal partners and co-creators during this process.





The initiative is coordinated by a team with experience in value-based health care

The working group+steering committee has representation from 14 countries across 5 continents



* STEERING COMMITTEE



The program is being sponsored by Gilead Sciences





Methodology used to identify outcomes

Literature review



Interviews with working group & steering committee

Patient input



Existing national measurements

HIV360

OUTCOME N.

- Biomarkers 271
- Adherence 160
- Health-Related Quality of Life 121
 - Mental Health 120
 - Disease Progression 87
 - Adverse Events 83
 - Symptoms 67
 - Physical Function **66**
 - Physical Health 57
 - Social 45
 - Neurological Health 19
 - Pregnancy 18
 - Other 17
 - Pain **17**
 - Fatigue 16
 - Sleep 15
 - Sexual Health 10
 - Activities of Daily Living 8

Outcomes from literature review HIV360

PREVIOUSLY IDENTIFIED OUTCOMES

Biomarkers	Social (stigma, unemployment, relationship functioning, loneliness)
Adherence	Neurological Health
Health-Related Quality of Life	Pregnancy
Mental Health (depression, anxiety & stress)	Other (satisfaction with care, drug/alcohol, health literacy, nutrition)
Disease Progression (survival)	Pain
Adverse Events	Fatigue
Symptoms	Sleep
Physical Function	Sexual health (libido, pleasure)
Physical Health	Activities of Daily Living

NEWLY IDENTIFIED OUTCOMES

Medication (willingness to take, switch) Concentration issues Care organisation & patient-doctor relationship Access to care Weight loss

Outcomes from interviews



REVIEW OF PATIENT-SPECIFIC OUTCOME IN HIV ARTICLE PATIENT-REPORTED OUTCOMES TO ENHANCE PERSON-CENTRED HIV CARE, KALL ET AL, 2020

Quality of life

Anxiety & depression

Pain

Adherence

Disease progression

ONGOING CONSULTATION WITH PPIE MEMBERS

Social outcomes Clinician-patient relationship Medication

Outcomes from patient input HIV360

Outcomes from existing national efforts Virologic failure Immunologic failure HIV-related diseases Weight (bmi) Kidney function Cardiovascular risk Osteoporosis Sexual wellbeing STD Hepatitis B/C Tuberculosis Mental wellbeing Depression Anxiety Work Discrimination Pregnancy

Summary of outcomes voting





OUTCOME %

- Willingness to take medication **77**
- Comorbidity Dyslipidaemia 77
- Comorbidity Metabolic Diseases 77
- Comorbidity Neurological Health 77
 - Discrimination 77
 - Disease Progression 77
 - Emotional Health 77
 - Risky Behaviours 77
 - Alcohol Consumption 74
 - Comorbidity Cancer 74
 - Comorbidity Respiratory Health 74
 - Hospitalisations 74
 - Patient-Clinician Relationship 74
 - Self-Care 74
 - Self-Esteem 74
 - Comorbidity Hepatic Health 71
 - Employment Status 71
 - Mortality **71**
 - Self Image 71
 - Sexual Dysfunction 71
 - Smoking 71
 - Toxicity of Drugs 71
 - Transmission to Partner 71
 - Weight Gain 71
 - Comorbidity Neoplastic Disease 73
 - HIV Status Disclosure 70

OUTCOME %

- Adherence to Medication Overall 97
 - Comorbidities 97
 - Adverse Events 94
 - Quality of Life 94
 - Viral Load 94
 - Sexual Health 91
 - Depression 91
- Comorbidity Cardiovascular Risk 89
 - Drug Use **89**
 - Ability to work **86**
- Adherence to clinic appointments 86
 - Intolerance to treatment 86
 - Overall mental health 86
 - ART Initiation 83
 - Comorbidity Diabetes 83
 - Comorbidity Renal Health 83
 - Anxiety 83
 - Psychiatric Disorders 83
 - Satisfaction with care 83
 - Medication side effects 83
 - Cognitive Impairment 80
 - Life Satisfaction **80**
 - Loss to follow-up 80
- Relationship quality with care team 80
 - Stigma **80**
 - Suicidal ideation 80

Outcomes that were voted to be included







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EDITORS Brian Gazzard Jens Lundgren



DAIG Deutsche AIDS-Gesellschaft e.V.

BHIVA

WILEY

AIDS Clinical Society

SESSION 3 *Implementing outcome measurement in clinical practice*

How to implement?

Implementing outcome measurement in clinical practice

Typical project phases for implementation of an outcome set will vary by organization



Implementing outcome measurement in clinical practice



Efficient data collection is determined by four key criteria

Implementing outcome measurement in clinical practice

⁻¹ Молтн	⁻¹ Молтн	O -3 TO 6 MONTHS	
PREPARATION	DIAGNOSTIC	IMPLEMENTATION	MEASUREMENT
Engaged leadership and clinical staff	Assess starting point by completing a gap	Adapt IT infrastructure and deploy e-PROM	Collect data on every patient
Identify a project manager and form a multidisciplinary steering committee	analysis Develop an implementation plan to guide the project	tool Establish and refine a process for data capture	Ensure data completeness and validity Analyze and report
Understand relevant laws and regulations in your country/region	Identify and secure IT resources for capturing patient-reported outcomes	Ensure all data elements meet definitions and conventions	back to clinicians and teams

Gap analysis

SESSION 3 *Implementing outcome measurement in clinical practice*

	1	What are the outcomes set variables that we need to collect?
	2	At what time-points do we need to collect them?
	3	In which format should each variable be collected?
	4	Are we already collecting these variables? And in the right format?
Why do we need	5	If yes, is data easy to extract?
to perform a gap analysis?	6	What are the barriers we envision in collecting them?

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Example: ICHOM Coronary Artery Disease Standard Set Age 🗸 DEMOGRAPHIC All patients Sex 🗸 Gap Analysis All patients Previous AMI V BASELINE HEALTH Heart failure Hypertension \checkmark CHOM **STATUS** CORONARY Stroke 🗸 ARTERY DISEASE REFERENCE GUID Diabetes 🗸 Insulin dependence 🗸 Peripheral arterial disease \checkmark Dialysis dependence X Baseline creatinine X Chronic lung disease 🗸 Liver cirrhosis 🗸 Captured Dementia 🗙 Captured but not in a structured way Body Mass Index 🗸 × Not captured

Implementing outcome measurement in clinical practice

Example: ICHOM Coronary Artery Disease Standard Set: Sources and types of data that we intend to collect across the care pathway

	ADMINISTRATIVE	CLINICAL	REPORTED
WHAT?	 Demographics Acute complications of Treatment (CABG & PCI) Cardiovascular Disease Progression variables Survival 	 Baseline Health Status Prior Treatments Treatment Variables Major Surgery Complications Major Interventional Cardiology Complications 	• Patient-Reported Health Status
WHEN?	 See data collection refere diagnosis, during hospital hospitalisation, etc. 	nce guide: at time of CAD isation, within 30 days of	 30 days after entry event, then annually up to s years
WHERE? (e.g.)	ClinicConsultant, Nurse	Clinic, Hospitalisation wardConsultant, Nurse	• Clinic, at home, etc.
HOW? (e.g.)	 Extract from / entry onto medical health records 	 Review and enter to health record (e.g. during consultation) 	• Questionnaire: Paper/electronic

ΡΔΤΙΕΝΤ

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Which indicators (admi

- Which indicators (administrative, clinical and patient reported) can be feasibly collected during:
- Clinic Visit
- Ward round
- At home
- Is the ideal person available and able to collect the selected indicator? (i.e. BMI in absence of a carer)



- Who is best placed to issue questionnaires?
- Are additional tools required? (i.e. scales to measure BMI)
- When to issue questionnaires/ collect data efficiently?

Determining where and how to collect indicators

Implementing outcome measurement in clinical practice

ing point Adapt IT inf ng a gap and deploy	nfrastructure Collect data on every y e-PROM patient
tool Establish an tion plan to a process fo	and refine completeness and for data
oject capture	Analyze and report data back to clinicians and meet teams
	secure IT Ensure all r capturing elements r

Process mapping



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Example: The Dubai Bon and Joint Center and the ICHOM Hip and Knee Osteoarthritis and Lower Back Pain Standard Sets



Implementing outcome measurement in clinical practice

		KEY STEP	DETAIL
	STAFF	Staff member, assigned task of process mapping the service by Project Manager	Using a clipboard and pen, observe a typical care session and make a note of the current workflow as detailed below
Process	DATA	Movement of notes or use of electronic programs during consultation, i.e. at the clinic, ward round or home visit	How is data currently being collected, i.e. handwritten notes, standardised forms, electronic forms? Is data being used to inform care? How?
mapping can be split	PATIENT	Observe the patient from a distance and follow their pathway through a service, i.e. a clinic/ ward, or home setting	For example: patient enters clinic, reports to reception, sent to waiting room, called into clinic room, undergoes observations, leaves clinic
into a number of	PROVIDER	Observe the clinician/nurse and follow their pathway through the consultation process	Note clinical reporting practices. How is clinical and patient data recorded? Is there sufficient time to record and review PROMs during the consultation?
specific steps	TIMINGS	Observe the clinician/nurse and follow their pathway through the consultation process	Is there sufficient time to complete questionnaires during the patient visit?

Implementing outcome measurement in clinical practice

Typical project phases for implementation of an outcome set will vary by organization



Implementing outcome measurement in clinical practice

The amount of time spent on each phase will depend on a number of contextual factors

1. ORGANIZATION	 What is your hospital's annual patient volume? Are you a single or multispecialty hospital? Part of a large hospital system? What are the scope of the project?
2. INFORMATION TECHNOLOGY	 Is your hospital using an electronic health record (EHR) system? Does your hospital have IT support? Data warehousing capability? Are the different systems compatible with each other?
3. RESOURCES	 Does your hospital have statisticians and data analysts in house? Does your hospital have a project manager who is capable of driving the process? How to present data back?
4. CULTURE	 Does your organization have an established culture of guality improvement? Is your hospital currently measuring PROs for other conditions? How to educate patients?
5. SETTING	• Are any local/national initiatives in place to support measurement (e.g., a registry)? Are financial incentives available from payers to support measurement?
	 Are we able to use value based health care for reimbursement?

Implementing outcome measurement in clinical practice

		ROLE	FREQUENCY	COMPOSITION
	STEERING COMMITTEE	 Advise and take key decisions Ensure awareness of key stakeholders Demonstrate involvement/commitment of leadership 	• Weekly at first, then monthly or as needed	 Executive Committee member Head of Department Head of Quality (if any) Head of Nursing (Dpt) Head of Adm in (Dpt) Head of IT
Focused teams	PROJECT TEAM	 Drive project on a daily basis Manage budget and project plan Report to SteerCo 	• Weekly or biweekly	 Project leader/manager Clinical leader Quality team representative Admin. representative Nurse representative IT representative
and governance structures are critical	PROJECT SUPPORT RESOURCES	 Provide expertise when required Support discrete analyses/ provide subject matter input to specific questions 	• Ad hoc basis (as needed)	• e.g., IT expert, data analyst, statistician, business analyst, etc.

Implementing outcome measurement in clinical practice

Examples of project team composition



CONDITION: Parkinson's Disease

SCOPE: initally to pilot ICHOM Standard Set with 2 physicians; expand to include all movement disorder specialists across its 3 locations (MN, FL, AZ)

CORE PROJECT TEAM (SIX TOTAL):

- . Physician Champion (ICHOM WG Lead)
- . Administrative Director

. Experienced Project Manager with expertise in health IT

. Senior Statastician, Junior Statastician, and Data Analyst



CONDITION: Low Back Pain

SCOPE: collect ICHOM Standard Set for all patients of its Neurological Spine Clinic (120-150 patients/day)

CORE PROJECTTEAM (12 TOTAL):

- . Physician Champion
- . Executive Director of Service Line
- . Representatives from each of the following departments: Business, Clinical, Quality, IT/Analytics, and Administative

Implementing outcome measurement in clinical practice

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Understand relevant laws and regulations in your country/region	Identify and secure IT resources for capturing patient-reported outcomes	Ensure all data elements meet definitions and conventions	back to clinicians and teams

IT & e-PROM tool



Infrastructure requirements, including IT, were ranked the top implementation barrier in both 2018 and 2020. Data integration was ranked lowest among the barriers to implementing value-based reimbursement models. However, one clinician finds it a huge barrier, saying, «Our data integration is very poor. It's September 2020 and we are just finding out what our shared savings are for 2019.»

CITATION: Feeley, Thomas W. "COVID-19 Hasn't Been a Tipping Point for Value-Based Care, but It Should Be."NEJM Catalyst Innovations in Care Delivery 2, no. 1 (January 2021).

value-based

models?

reimbursement

Implementing outcome measurement in clinical practice





Implementing outcome measurement in clinical practice

1	EHR?	RECOMMENDED IT SOLUTIONS	SELECTION RATIONALE
	×	• Registry	Only scalable option to collect full outcome set in sites without an EHR
			 Browser-based interface
			 Secure "Cloud" storage
			 Complete solution for collecting and storing all indicators
	~	3 primary options:	
		1 EHR+ e-PROM (standalone)	 EHR for clinical data; standalone 3rd party software for e-PROMs
IT obtione			 Low cost option for low capability EHRs (i.e., no option for PROMs)
for collecting		2 EHR+ e-PROM (integrated)	 EHR is fully integrated with 3rd party software for e-PROMs
JUI CUIICUIIIg			 Higher cost option for low capability EHR (integration cost & services)
indicators		3 EHR alone	 EHR offers complete solution; capable of administering e-PROMs
<i>maicalors</i>			• Assume no incr. cost to existing EHR

SESSION 3 *Implementing outcome measurement in clinical practice*

Examples Stanford's Seamless Data Collection Solution





KEY FACTS

NEUROLOGICAL SPINE CLINIC

- Academic hospital
- 600 beds
- 500,000 patients/year
- >10,000 staff

- 5 doctors
- 120-150 patients/day
- Treat over 15 neurological spine disorders

Implementing outcome measurement in clinical practice

Data map created for ABUHB Parkinson's information collection based on process mapping and IT mapping



Implementing outcome measurement in clinical practice

5. DATA NEEDS TO BE ACCESSIBLE AND ACTIONABLE

Data should be timely, accessible, and actionable

Data needs to be reported in a way that enables improvement

1. LEADERSHIP IS CRITICAL TO SUCCESS

Implementation takes time and commitment

A physician/clinician leader who is willing to champion the cause is necessary but not sufficient

2. OUTCOMES MEASUREMENT IS A TEAM EFFORT

All stakeholders need to understand the "why" and should be involved in the implementation process

Five major themes have emerged from our experience with implementation to date

4. MEASUREMENT DOESN'T HAVE TO BE BURDENSOME

It is possible to seamlessly integrate measurement into the workflow

Effectively leveraging health information technology (HIT) can minimize the burden

3. THERE IS NO "ONE-SIZE-FITS-ALL" SOLUTION

Different organizations have different goals, budgets, starting points, EHRs / IT systems, ...

Implementing outcome measurement in clinical practice

Key questions in the development of an outcomes-focused ecosystem

GOVERNANCE

Who are the stakeholders?

How will all stakeholders be represented?

- Patients?
- Service providers?
- Funders?

INFRASTRUCTURE

How will data be collected and verified?

- Chart abstraction?
- Electronic integration?

Is there opportunity for linkages across data sources

What will be the funding model?

• Will participation be tied to reimbursement?

REPORTING

ANALYSIS/

Who will perform the analyses?

What level of transparency should there be to start and how should it evolve?

DRIVING CHANGE

Who will organize QI activities?

• Will organizations be required or incentivized to participate?

How will individual clinicians be engaged to drive change?

Implementing outcome measurement in clinical practice



¹ Percutaneous coronary intervention. ² on angiography and PCI. ³. Riks-HIA

Source: SVT.se; Aftonbladet 2007-03-08; DN 2009-05-06; Dagens Medicin 2008-08-26; Läkartidningen nr 44 vol. 104, 2007; Värmlands Folkblad 10 Oct 2007

Thank you joao. gomes@novasbe.pt