VALues In Doing Assessments of health TEchnologies - VALIDATE Experience
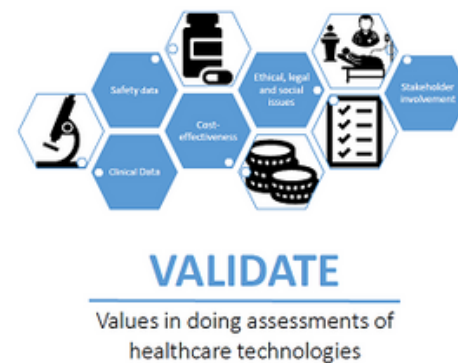
Health Technology Assessment International - HTAi 2021

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Fernández-Barceló C.

Outline of the presentation

1. Personal background

2. My experience with VALIDATE through the e-learning course

3. My experience with VALIDATE through the internship

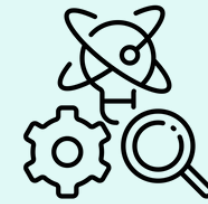4. Overall VALIDATE learnings

1. Personal background

Education

2013 - 2017: Bachelor in Biomedical Sciences

2018: Post-graduate studies in Healthcare Innovation
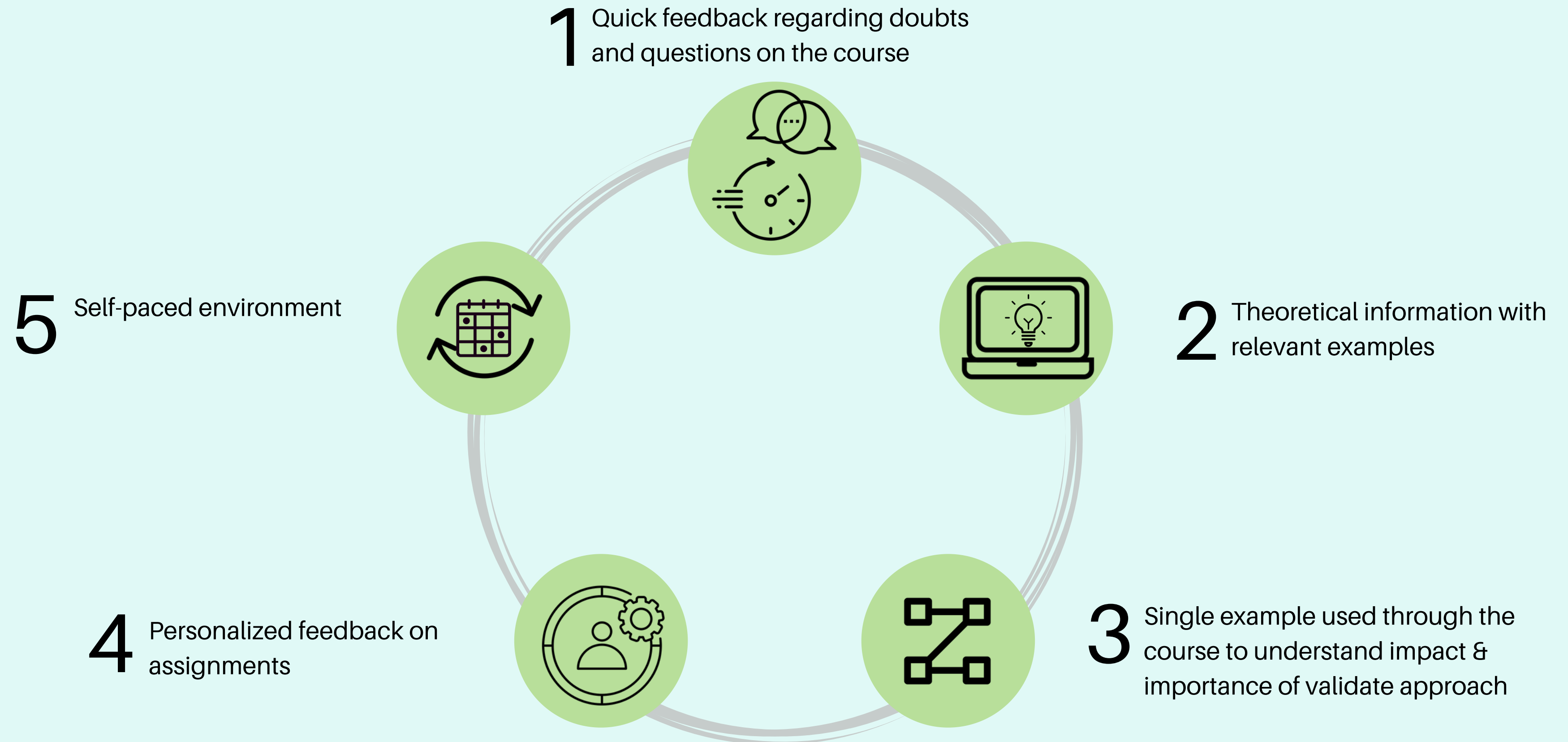
2020-2021: **Validate**

Experience

2015 - 2017: Biomedical researcher (Universitat de Barcelona)

2019 - currently: Health Technology Assessment Scientist (HTA Unit at Hospital Clínic Barcelona)

2. My experience with VALIDATE through the E-learning course: Benefits

1 Quick feedback regarding doubts and questions on the course

2 Theoretical information with relevant examples

3 Single example used through the course to understand impact & importance of validate approach

4 Personalized feedback on assignments

5 Self-paced environment

2. My experience with VALIDATE through the E-learning course: Challenges

1 Need to be disciplinated and self-motivated, no one follows you
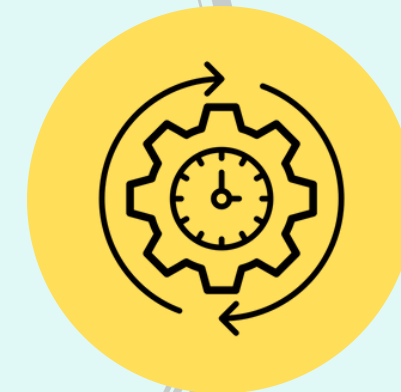
2 Time management, need to create a schedule to avoid procrastinating

3. My experience with VALIDATE through the Internship: OntoPharma®

Introduction

Clinical Decision Support System (CDSS). CDSS are **tools** that **provide** clinicians, administrative staff, patients, caregivers, etc. with

information targeted to a specific person or situation, intended to **improve care quality, avoid errors or adverse events**, and allowing

for a more efficient care.

Ontopharma® is a CDSS based on ontologies to improve medication adequacy. Its main focus is the **prescription** of pharmacological

compounds by physicians. It is currently being developed at Hospital Clínic and includes a multidisciplinary team to develop the system

according to everyone's needs, aiming to prevent alert fatigue.

3. Internship: Objectives

1. To provide an integrative framework to assess medication adequacy CDSS using VALIDATE approach.

<u>What does the literature review say?</u>

- Efficacy: gather information on the level of consensus on the existing empirical evidence of CDSSs' effectiveness in hospital settings

- Acceptability & values: gather information on the level of consensus on the value and acceptability of CDSSs within the healthcare professional's community

<u>What do stakeholders say in Hospital Clinic's context?</u>

- Gather a deeper understanding of the different stakeholders' perspective and values (nurses, physicians, patients, pharmacists, IT) regarding CDSSs

2. To apply the developed VALIDATE approach framework to assess and develop recommendations on OntoPharma®.

3. Internship: Main results & outstanding learnings

What does the literature say: PubMed, Cochrane, Web of Science (2000-2020)

- Systematic review of the literature regarding:

  - <u>Facts</u>: effectiveness (ADEs prevented, Changes due to Contraindicated

    Medication, LoS) & cost-effectiveness (€/ADR prevented), CDSS adoption

    metrics, barriers and facilitators

  - <u>Values</u>: stakeholders' perspectives on the problem

- Reconstruction of interpretive frames from each stakeholder's view

Facts: Interesting information to discuss later with stakeholders. Are the outcomes being mesured relevant to them?

Values: All information from the physician's perspective. What is similar & what differs when interviewing other stakeholder profiles?

My learnings

- There is a high amount of evidence: CDSSs have evolved a lot through time

- Most studies are observational (low quality)

- Most information from the physician's perspective: difficult to reconstruct the interpretive frames from other stakeholders

3. Internship: Main results & outstanding learnings

What does the literature say: Gap Analysis

Missing information used to populate the semi-structured interviews with stakeholders

		Physicians	Nurses	Clinical pharmacists	Medical informatics	CDSS companies	EHR vendors
Reasons for overridden alerts	Clinically irrelevant alert	3					
	Benefit assessed to be greater than risk	3					
	Patient allergy: took previously without allergic reaction	2					
	Drug-drug interactions: combination therapy indicated	1					
	Will monitor or take precautions	2					
	Others	2					
Barriers	Training is time consuming and low quality	3	1	1	1		
	Knowledge management & continuous update	1	1	1	1	1	1
	Interoperability and customizability of CDS with EHR	6				1	
	Access to metrics of use and effectiveness of CDSS	1	1	1	1		1
	Too many irrelevant alerts being displayed (alert fatigue)	8	2				
	Lack of a strategic implementation plan from the hospital side	2	1	1			
	Lack of financial incentives	1					
	Lack of time and being behind the schedule	1	1	1	1	1	1
	Loss of autonomy	1					
Facilitators	Communication between CDSS stakeholders	3	1	1	1	1	1
	Early involvement of end-users in the alert design	3	2				
	Provision of extra information (references, links to publications)	2					
	Inclusion of context factors for risk assessment	5					
	Usability of the CDSS interface and workflow integration	7	4	3	2	1	2
	Increase trust in the CDSS through feedback to users	1					
	Real time information searching for ADE prevention	1					

3. Internship: Main results & outstanding learnings

What do the stakeholders say: qualitative research

- Stakeholders' semi-structured interviews

- Content analysis

- Develop a framework for Ontopharma®'s evaluation once implemented

- VALIDATE report: framework for asssessing CDSSs for medical adequacy & posterior application to Ontopharma®'s evaluation

My learnings

- People are generally very open to give out their opinion on a topic that is relevant to them

- The project's PI was very interested in the VALIDATE approach, since she is a clinical pharmacist by training and has never seen an approach like VALIDATE to her projects

- There are big differences between what is published and what the different stakeholders bring from their perspective to the problem definition and evaluation framework

3. My experience with VALIDATE through the internship's project: Benefits

**1** Wide variety of projects to choose from depending on your interests, expertise & feasibility

2 Ease of contact with all project's stakeholders

3 Ontopharma's project PI was very on board with the Validate approach

- Contact with intra/extra-hospital stakeholders for interview performance

- Collaboration in data analysis, abstract submission & paper drafting

4 Novel approach with generation of new evidence that has never been published

5 It is a project that is being currently evaluated by the HB-HTA unit
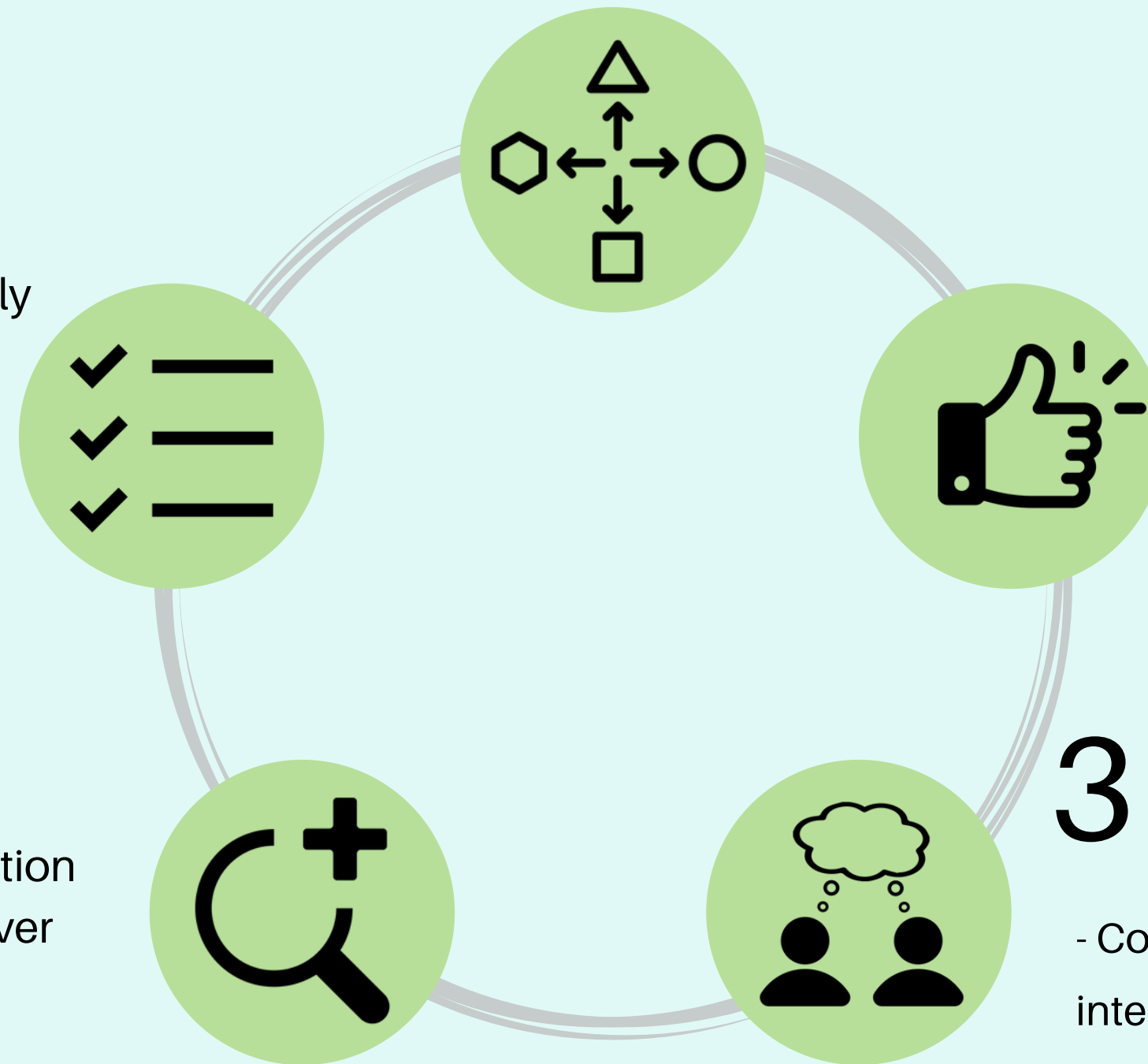
3. My experience with VALIDATE through the internship's project: Challenges

1 Complex topic to understand at the beginning

2 Large amounts of information to retrieve. Long period of data review and extraction

4. Overall VALIDATE learnings

Critical Thinking & Problem Solving

Broader view of HTA & Policy analysis

Use concepts and methods from policy science that are relevant to HTA

Ability to identify policy relevant questions to be addressed in assessment

Choose an appropriate type of policy analysis to address the question

Understand how stakeholder's views affect the definition of the problem

Decide on the appropriate scope of HTA

4. Overall VALIDATE learnings

Attitude & Professional Behaviour

Use of Initiative & Positive Contribution

Interpersonal Relationship & Team Building

Intercultural, Community or Global Knowledge
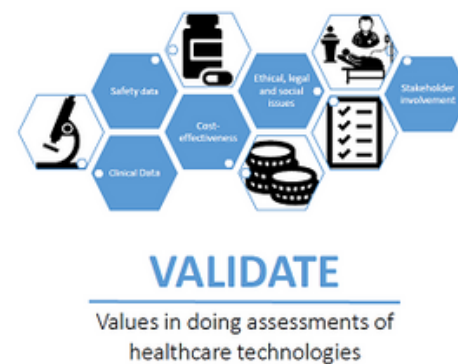
Dependability & Flexibility

Ability to Accept & Incorporate Feedback

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Thank you!

Fernández-Barceló C.