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A principle-based approach to the ethical evaluation of digital and AI-based healthcare applications

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Overview

- I. Introduction
- II. Exploring Prof. Valmed
- III. Ethical analysis of Prof. Valmed
- IV. Compiling the results
- V. Closing remarks



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Generic AI ethics vs. medical ethics principles

Generic AI ethics frameworks ask:

- Is the system transparent?
- Is there a human in the loop?
- Is it fair?

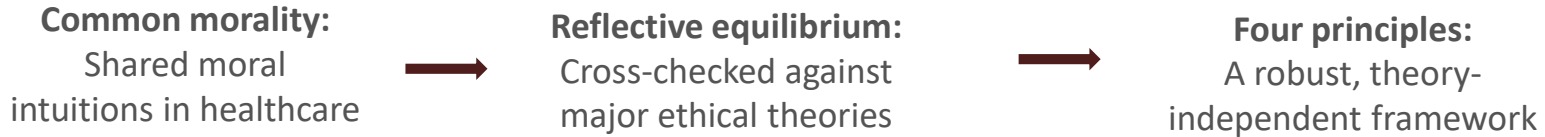
Clinical ethics requires:

- What does transparency require for this patient, in this context, at this decision point?
- Whose interests are at stake and what do they specifically need?
- A framework built from the inside out, from medicine's own ethical obligation

Beauchamp & Childress — the four principles

- **Autonomy** = Respect the patient's right to decide and be informed
- **Non-maleficence** = Do not cause unnecessary harm or risk
- **Beneficence** = Act in the patient's best interest; prevent harm
- **Justice** = Ensure fair access and fair distribution of care and/or of benefits and burdens

How they were established:



The prima facie rule: Each principle is a genuine obligation. All four must be considered. In cases of conflict, one may outweigh another, which requires reasoned justification.

Prof. Valmed - The AI-powered medical co-pilot



PROF. VALMED®

**CE CLASS IIb CERTIFICATION
CONFIRMED**

✓ MDR (EU 2017/745, Class IIb) ✓ ISO 13485:2021

 **CLINICAL
VALIDATION**  **AI
GOVERNANCE**  **QUALITY
ASSURED**  **DEPLOYMENT
READY**

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Worksheet A: Getting to Know Prof. Valmed

Explore Prof. Valmed using the company website and any other sources you find useful (profvalmed.com)

Worksheet A: either download individually or work together in the shared Google Doc.

Make sure you have at the end:

- A brief description of what the tool is and does
- Who it is intended for
- At least 2 potential benefits and 2 potential concerns

Worksheet B: the three-step approach

Step 1: Who is affected?

- Identify stakeholders — their interests, rights, and duties Map the landscape. No judgements yet.

Step 2: What is ethically at stake?

- Apply the four principles as analytical lenses (Autonomy, Non-maleficence, Beneficence, Justice)
- Each applies prima facie — all four must be worked through.

Step 3: Overall assessment

- Part A: Strongest arguments for and against
- Part B: Recommendations addressed to specific actors

The three-step approach — a reusable tool

The structure stays the same. The content changes.

Apply it to any digital health technology:

- A diagnostic algorithm in radiology
- A symptom checker app
- A wearable monitoring device
- A telehealth platform
- An AI triage tool in emergency care

What changes: the specific stakeholders, harms, benefits, access questions

What stays: the analytical structure

Thank you very much for your attention!

Brief (!) Survey



Next lecture: Virtual dissection tool for anatomy learning



03/06/2026 at 11:00



Prof. Dr. Paola Alberti