

Molecular Tumor Board

Prof. Dr. Léon van Kempen

Maastricht University Medical Center +
Department of Pathology

Disclosures

Speaker fees:	Amgen, AstraZeneca, Roche.
Advisory board:	AstraZeneca, Bayer, MSD, Protion, Cyclomics.
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Educational grant:	Roche.
Shares/ options:	Cyclomics.

Molecular Tumor Boards in the Dutch tertiary oncology care centers



- 1  **umcg**
- 2  **ANTONI VAN LEEUWENHOEK**
NEDERLANDS KANKER INSTITUUT
- 3  **Amsterdam UMC**
Universitair Medische Centra
- 4  **Leids Universitair Medisch Centrum**
- 5  **UMC Utrecht**
- 6  **Erasmus MC**
University Medical Center Rotterdam
- 7  **Radboudumc**
- 8  **Maastricht UMC+**

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Core members: oncologists, (molecular-oriented) pathologists, clinical molecular biologists, clinical geneticists.

Open to experts from peripheral hospitals in the region (video conferencing).

Cancer agnostic and operates independently of the conventional cancer type–specific boards.

Primary source of information for interpreting (rare or complex) molecular diagnostic results in oncology.

Recommendation for targeted therapeutic options (standard of care, clinical trial, off label) or other therapeutic options.

MTB recommendation is recorded in the electronic patient record.

Local registry of MTB cases (preferentially with clinical follow-up) to evaluate effectiveness of the recommendations.

Molecular Tumor Board - Dutch ring study (2020)

- 8 MTBs in tertiary referral centers in the Netherlands.
 - 10 comprehensive sequencing results with anonymized clinical data.
 - NSCLC, CRC, melanoma.
- All identified the alteration(s) for targeted therapy as well as resistance mechanisms.
- Differences in prioritisation of targeted therapy.

Molecular Tumor Board at OncoZON MUMC+

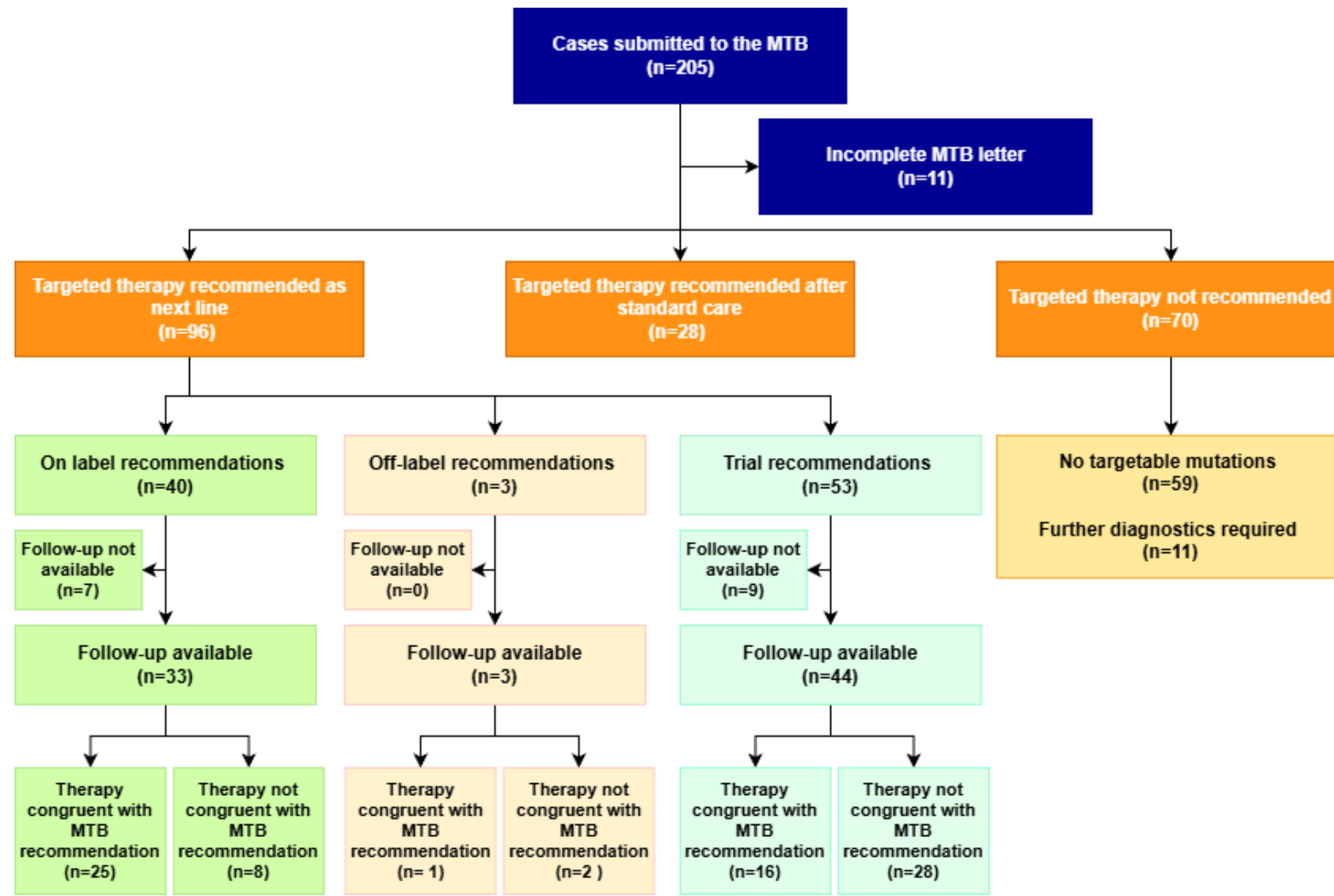


OncoZON:

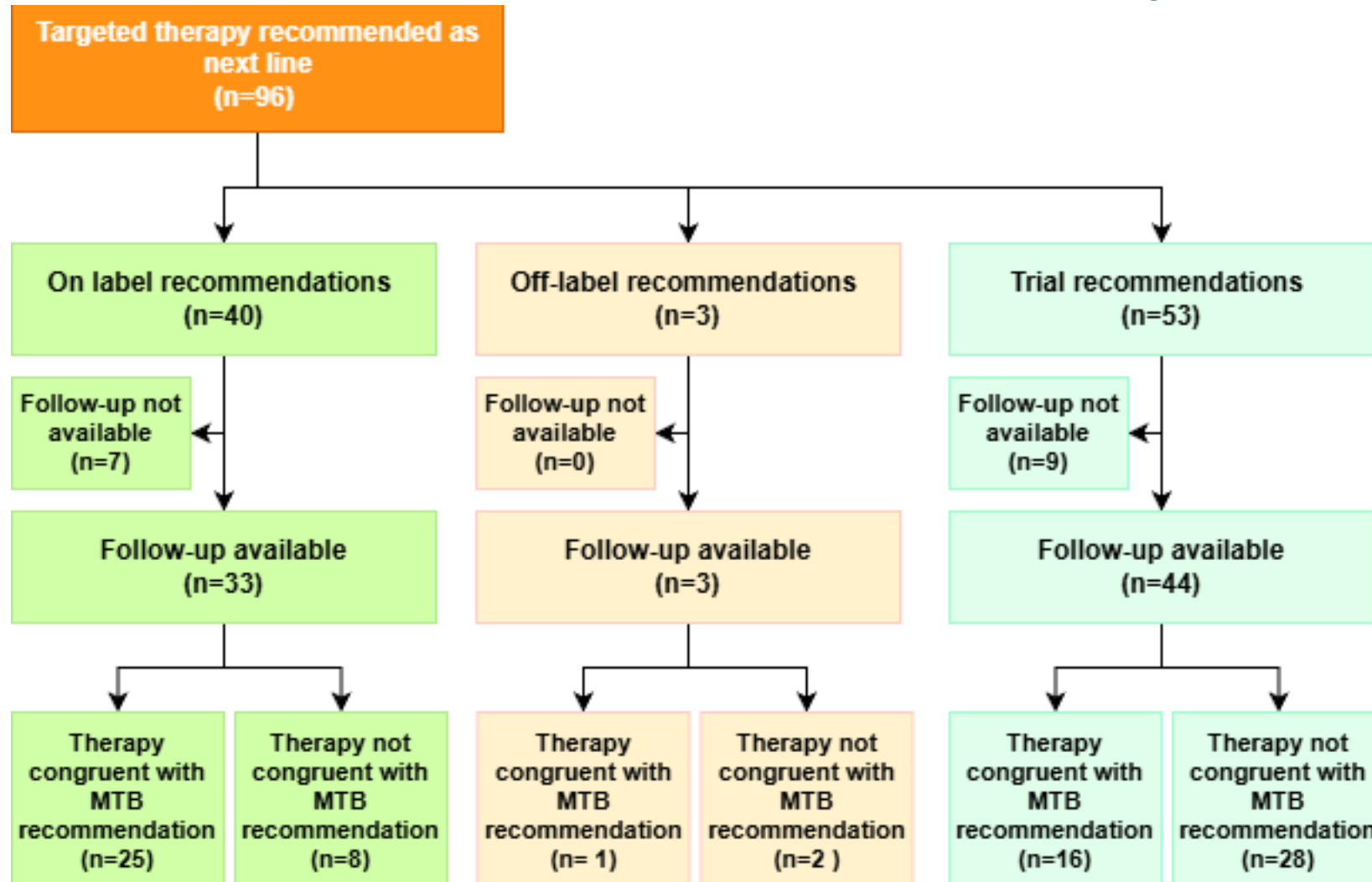
- 1 Academic hospital (MUMC+)
- 4 Top-clinical (teaching) hospitals
- 4 Peripheral hospitals
- 1 Independent center for radiotherapy

Serves approximately 2M inhabitants

Molecular Tumor Board at OncoZON MUMC+: January 2024 – August 2025

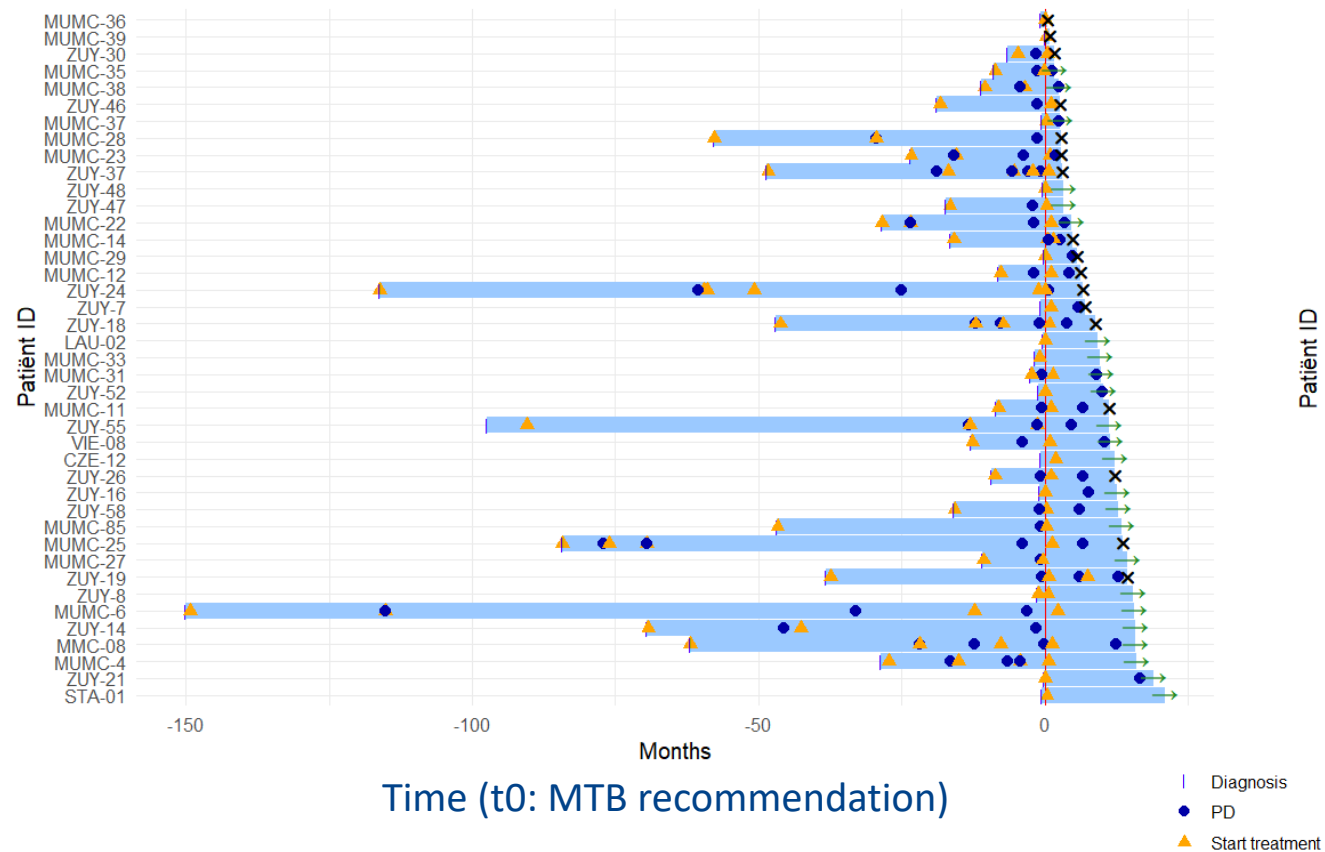


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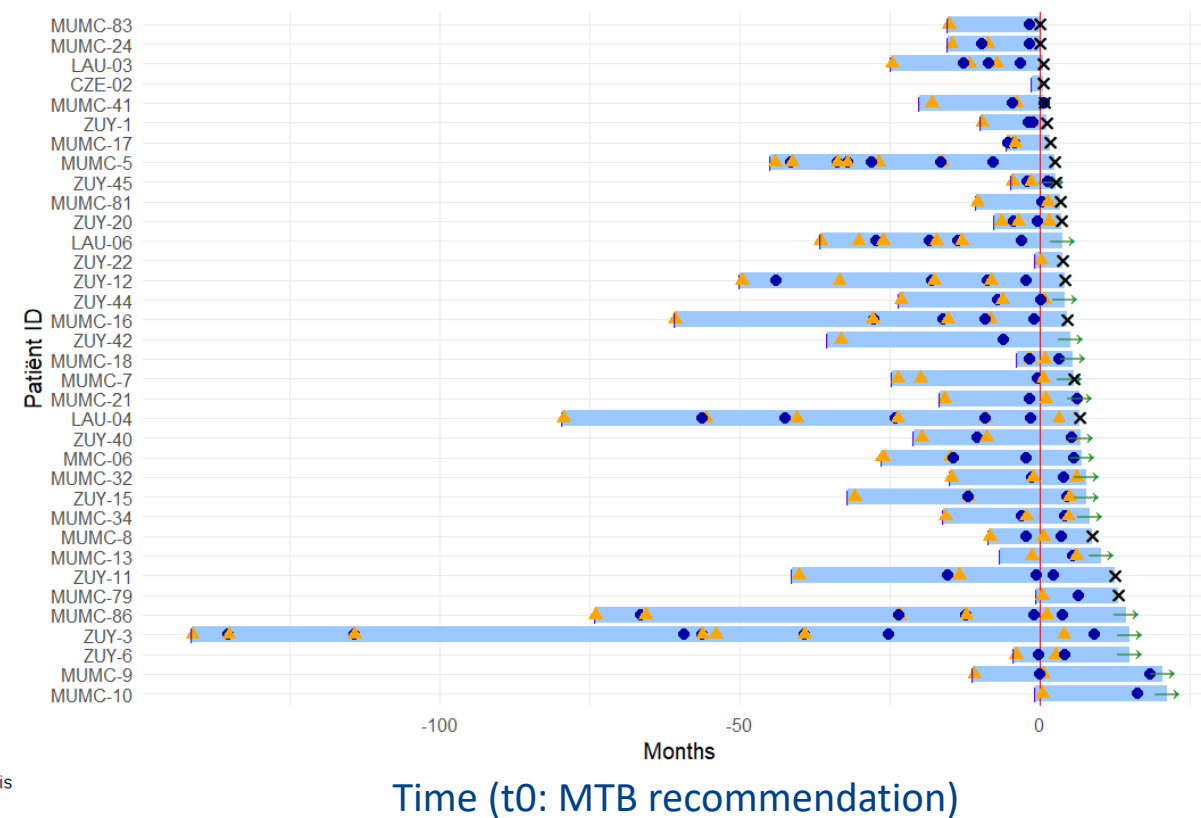


Molecular Tumor Board at OncoZON MUMC+: January 2024 – August 2025

Adherence to MTB recommendation



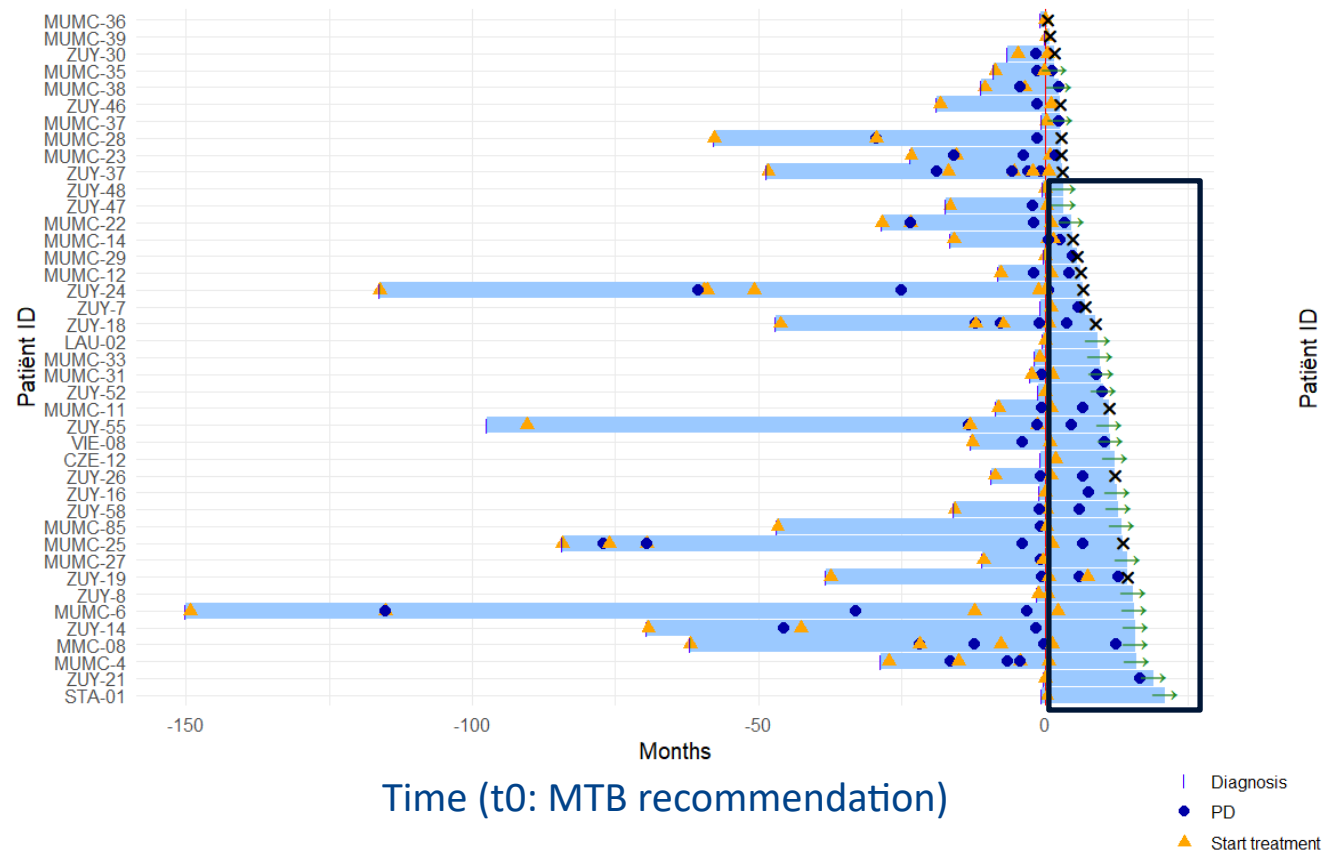
No adherence to MTB recommendation



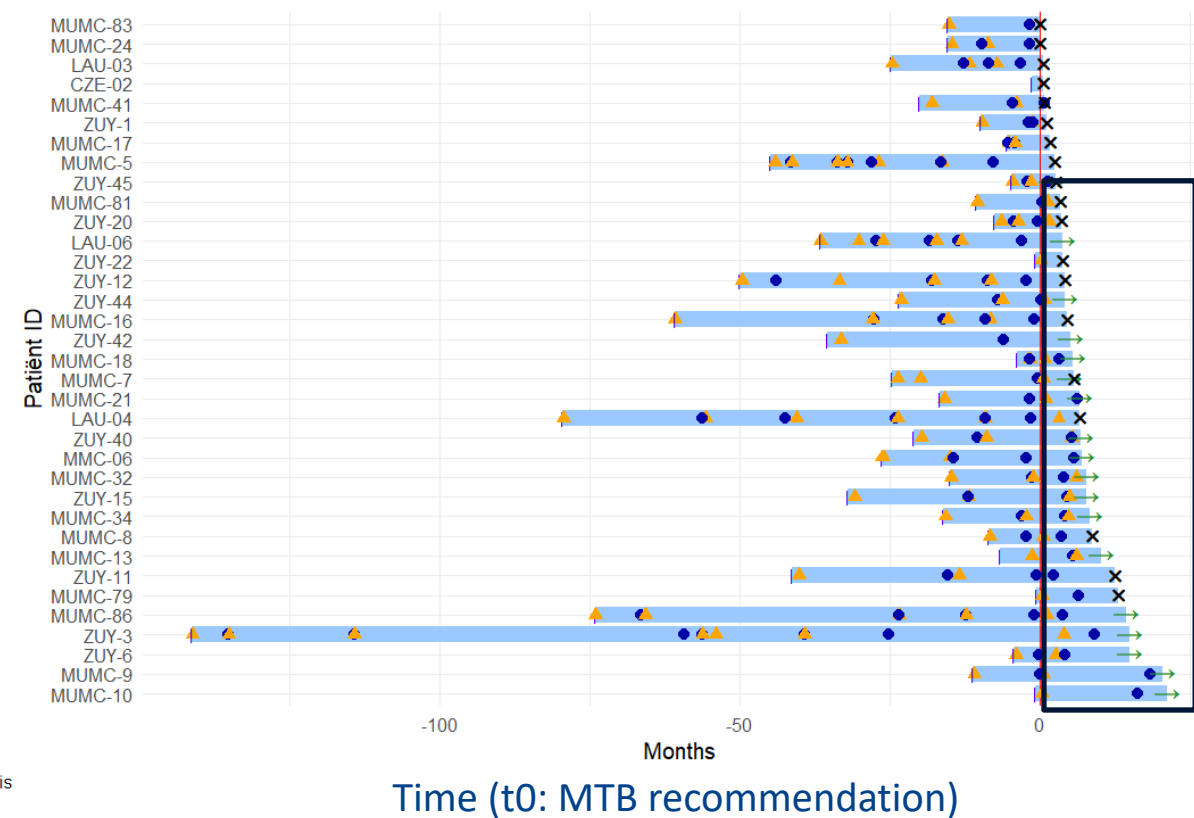
Molecular Tumor Board at OncoZON MUMC+: January 2024 – August 2025

Adherence to an MTB recommendation is associated with improved OS

Adherence to MTB recommendation



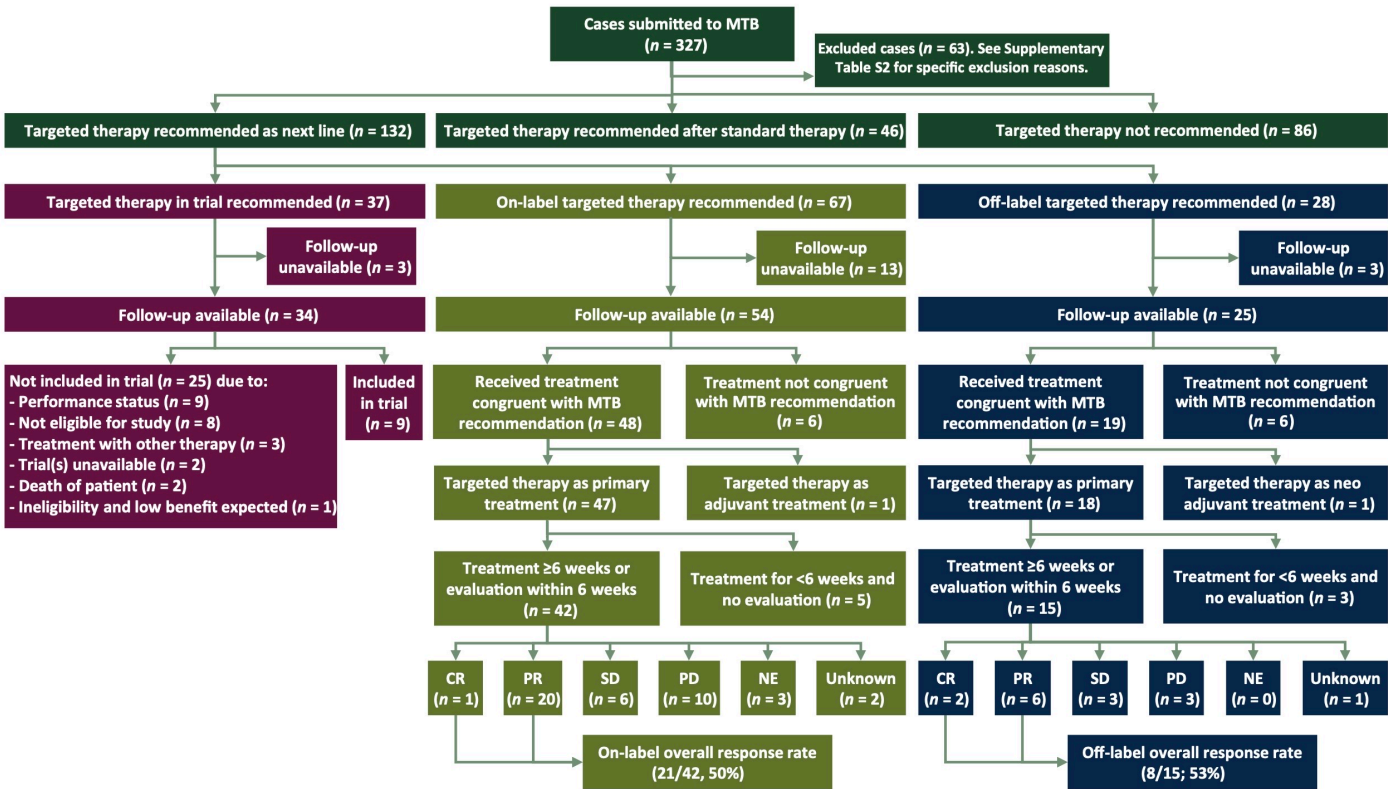
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Molecular Tumor Board - University Medical Center Groningen

2019-2020

1



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Comprehensive Cancer Center



Oncologisch Netwerk
Zuidoost-Nederland

De Jager et al. *ESMO Open* 2024; ;9 (11)

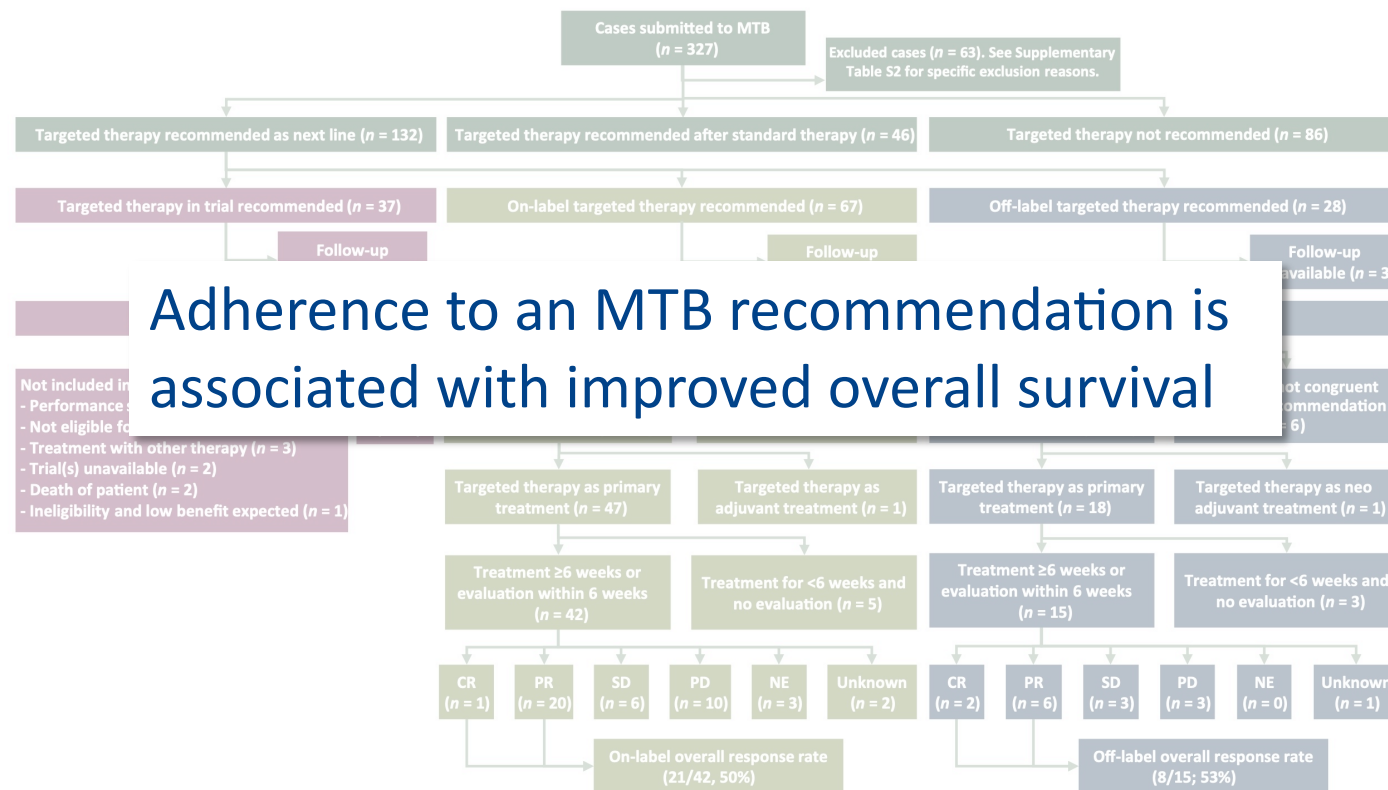
<https://doi.org/10.1016/j.esmoop.2024.103966>

Molecular Tumor Board - University Medical Center Groningen

2019-2020



1



Molecular Tumor Boards: Institutional differences



umcg

Cases submitted to MTB
(*n* = 327)

Excluded cases (*n* = 63). See Supplementary
Table S2 for specific exclusion reasons.

Targeted therapy recommended as next line (*n* = 132)

Targeted therapy recommended after standard therapy (*n* = 46)

Targeted therapy not recommended (*n* = 86)

Targeted therapy in trial recommended (*n* = 37)

On-label targeted therapy recommended (*n* = 67)

Off-label targeted therapy recommended (*n* = 28)

28%

51%

21%

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Maastricht UMC+

Targeted therapy recommended as
next line
(n=96)

Targeted therapy recommended after
standard care
(n=28)

On label recommendations
(n=40)

Off-label recommendations
(n=3)

Trial recommendations
(n=53)

42%

3%

55%



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Marijnissen et al. 2026. In preparation for publication

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What drives choice for type of therapy?

Drug registration: Off-label therapy in 2019 became on-label therapy in 2024.

→ True off-label treatment is often an educated guess of effectivity.

Interviews: Treating physicians have different views on off-label targeted therapy.

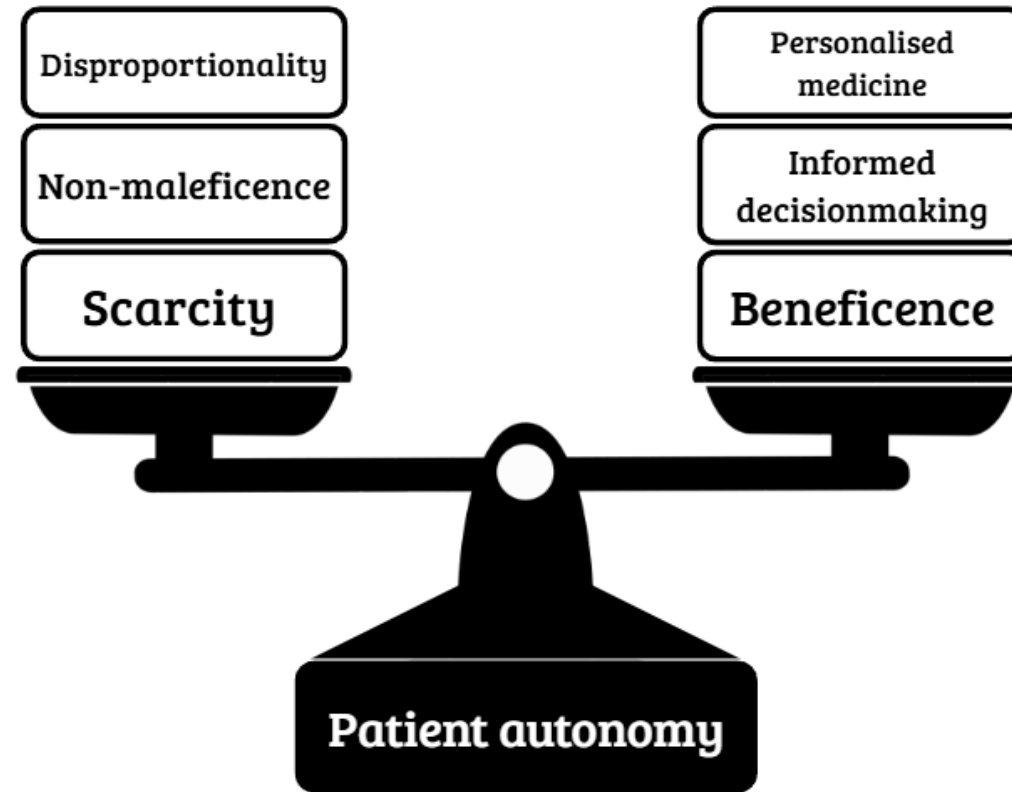
→ Principle of beneficence *versus* Principle of non-maleficence.

Interviews: Position of the hospital regarding off-label therapy.

→ Off-label therapy can be difficult to realize (time to treatment, financial resources and organizational effort).

Conclusion

- Adherence to an MTB advice is associated with improved overall survival



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