

Weight change & length of stay among patients living with HIV at a rehabilitation centre

Background

- Mildmay Mission Hospital provides structured pathways of rehabilitation and care for patients with complex HIV.
- MUST is completed on admission and weekly to identify adult patients who are malnourished and at risk of malnutrition (undernutrition)¹. With this tool obesity presence is also recorded¹.
- Patient HIV diagnosis have been shown to have higher risks of obesity².
- Introduction of antiretroviral therapy have also been shown to increase overweight and obesity³.
- MUST audits suggested that 2/3 of patients gained more weight while they were admitted, for this reason the MUST screen was modified to identify people at risk of gaining excess weight: + 1 for gain >5% body weight (bw); +2 for gain >10% bw

Aim

- To review weight change and length of stay (LOS) of patients living with HIV to identify possible service improvements.

Methods

- Retrospective audit of all patients admitted between 1st April 2023 to 9th March 2024 and were screened using MUST.
- Electronic patient records were used to extract reports on MUST screening.
- Data collected at admission and discharge included: dates, weight, height, BMI, MUST score, and weeks of admission.
- Data was cross checked, analysed and presented using descriptive analysis
- The data presented here is focused on patients on the HIV pathway.

Results

A total number of 74 patients were admitted; 32/74 (43.2%) were patients on the HIV pathway.

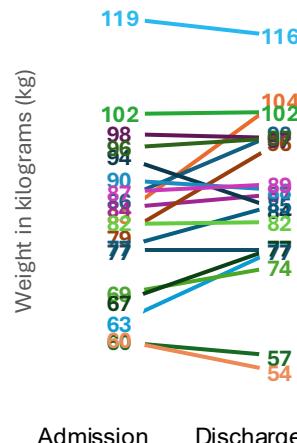
Table 1 MUST scores on admission and on discharge related to weight change and length of stay.

On admission		On discharge/Last MUST while on site		Weight change (kg)	Weight change (%)	Length of stay (weeks)
MUST score (%)		MUST score (%)		Mean (range)	Mean (range)	Mean (range)
Score 0:	19 (61.3)	Score 0:	16 (51.6)	6.93 (-9.8 : +22.55)	11 (1-47)	15.6 (1-33)
Score 1:	3 (9.7)	Score 1:	8 (25.8)*	3.84 (-2.88 : +11.05)	8 (2-26)	10.25 (3-20)
Score ≥ 2 :	9 (29.0)	Score ≥ 2 :	7 (22.6)*	8.69 (+5.35 : +13.7)	14 (9-22)	19.5 (8-32)

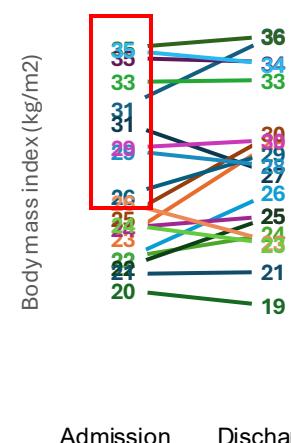
* The increase in MUST scores of 1 or 2 reflected weight gain of > 5 or >10%

Graph 1.1 illustrate the weight and BMI at baseline/ admission and endpoint/ discharge for MUST score of 0 and 1 on admission

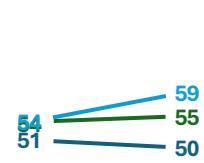
a) MUST SCORE 0



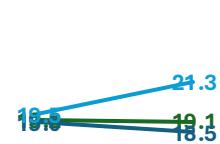
b) MUST SCORE 0



c) MUST SCORE 1

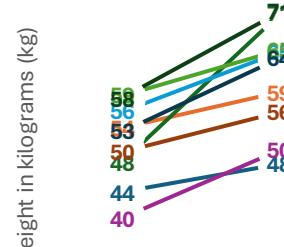


d) MUST SCORE 1

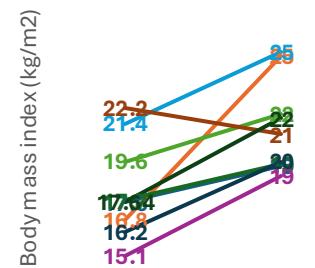


Graph 1.2 Weight and BMI at baseline/ admission and endpoint/ discharge for MUST score >2 on admission

e) MUST SCORE>2



f) MUST SCORE >2



Discussion

- This audit suggests most patients gained weight during their admission, this was positive for severely underweight and underweight patients.
- There were also significant difference in weight loss from overweight or obese patients.
- Weight increases of >5% or >10% over admission reflected the increase in patient numbers with a MUST score of 1 or 2.

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References: 1. British Association of Parenteral and Enteral Nutrition (BAPEN) Malnutrition Universal Screening Tool (MUST) Assessed 14/10/24: <https://www.bapen.org.uk/pdfs/must/must-full.pdf>

2. Duncan A. D., Peters B. S., Rivas C. and Goff L. M. (2010) Reducing risk of Type 2 diabetes in HIV: a mixed-methods investigation of the STOP-Diabetes diet and physical activity intervention. *Diabet Med.* 2020 Oct;37(10)

3. Tate T, Willig AL, Willig JH, Raper JL, Moneyham L, Kempf MC et al. HIV infection and obesity: where did all the wasting go? *Antivir Ther.* 2012;17(7):1281–9. doi: 10.3851/IMP2348.

- Overweight and obesity are present in 2/3 of people living with HIV, which increases the risk for developing Type 2 diabetes up to 4 times higher than the HIV negative population².
- Generally, the HIV pathway covered funding of 4-6 weeks with extensions if it benefits the patient.
- The overall average LOS was 13.37 weeks, ranging from 1 to 33 weeks. Majority of patients had extended length of stay due to complication, rehabilitation goals and for discharge allocation.

Conclusion

- This audit demonstrated the weight gain of patients living with HIV and indicated that most had stayed beyond their referral pathways.
- It remains unclear if these findings are linked or if there are other factors that need to be addressed. Further investigation is needed.



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