

Value Based Reimbursement Decision Making Parameters for Acute on Chronic Liver Failure – Potential Evaluation Framework on Acute Rare Diseases

Authors

Wijaya K

Affiliations

Versantis, Zurich, ZH, Switzerland

INTRODUCTION

Acute-on-chronic liver failure (ACLF) is a life-threatening clinical syndrome associated with multiple organ failures, high short-term mortality, and no approved therapeutic interventions. Given the lack of approved treatments, high in-patient mortality, and the significant cost associated with hospitalization, there is a huge unmet need for ACLF patients.

OBJECTIVE

Acute on Chronic Liver Failure (ACLF), occurring in approximately 6 to 20 per 1'000 person years, is an acute orphan disease with a high short-term mortality and high unmet medical need. There is no approved treatment for ACLF and standard medical treatment has only remained supportive of disease-defining organ dysfunction and failures. We have investigated and identified potential key parameters required for access and reimbursement decision-making for ACLF treatment.

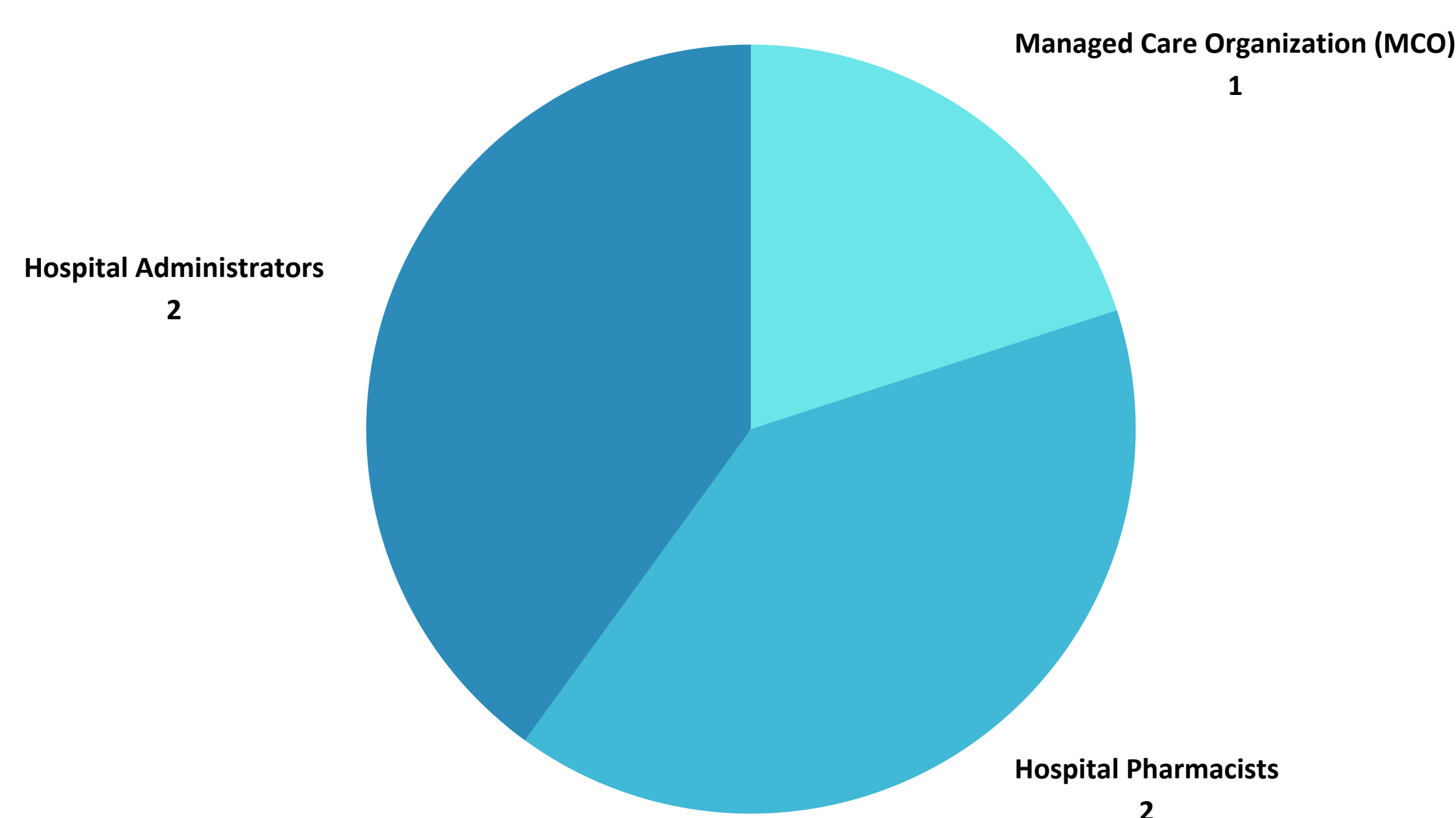
METHODOLOGY

Healthcare payer and administrators were interviewed in November 2021 on health economics parameters between current ACLF treatment and hypothetical blinded potential new drugs. Results were analyzed to identify key reimbursement and access parameters.

RESULTS/FINDINGS

In total, five US healthcare payer and administrator professionals participated, which consisted of one Managed Care Organization (MCO), two Hospital Pharmacists, and two hospital administrators. All participants enumerated that reduction in ICU stay is important (5 out of 5). Length of hospital stay, and transplant-free survival were deemed important by 4 of 5, while disease progression was mentioned by 3 of 5. Hospital readmission rates within 90 days and drug listed in medical guidance. In addition, potential new drug might be considered for a faster reimbursement if it was deemed a breakthrough treatment (i.e., orphan drug designation).

US Hospital-Based Payers Interviews



including pharmacists and administrators with direct experience managing hospital budget, formulary, and billing decisions

Important Key Parameters for Value Based Reimbursement for ACLF in US



- Hospital readmission rates within 90 days
- Drug listed in medical guidance

CONCLUSION

Reduction length of stays (days in ICU and hospital), transplant-free-survival, disease progression, hospital readmission rates, drug listed in medical guidance, and reduction in the number of organ failures were deemed key parameters for ACLF treatment access and reimbursement decision-making. These parameters should be further considered and developed as evaluation framework for acute orphan disease access and reimbursement evaluation in ACLF. Furthermore, future research needed in creating both ICD and DRG codes in ACLF.

REFERENCES

- Back Bay prior work, BBSA payer interviews (n = 5)
Zaccherini, G., Weiss, E., & Moreau, R. (2021). Acute-on-chronic liver failure: Definitions, pathophysiology and principles of treatment. In *JHEP Reports* (Vol. 3, Issue 1). Elsevier B.V. <https://doi.org/10.1016/j.jhepr.2020.100176>
- El Sayed, M. L., Gouda, T. E. S., Khalil, E. L. S. A. M., al Arman, M. M. E. S., & Mohamed, I. E. (2021). Clinical profile and outcome among patients with acute-on-chronic liver failure admitted in the intensive care unit. *The Egyptian Journal of Internal Medicine*, 33(1). <https://doi.org/10.1186/s43162-021-00061-0>
- Arroyo, V., Moreau, R., Kamath, P. S., Jalan, R., Ginès, P., Nevens, F., Fernández, J., To, U., García-Tsao, G., & Schnabl, B. (2016). Acute-on-chronic liver failure in cirrhosis. *Nature Reviews Disease Primers*, 2, 1–18. <https://doi.org/10.1038/nrdp.2016.41>
- Allen, A. M., Kim, W. R., Moriarty, J. P., Shah, N. D., Larson, J. J., & Kamath, P. S. (2016). Time Trends in the Health Care Burden and Mortality of Acute on Chronic Liver Failure in the United States A HE STUDY OF LIVER D I S E ASES T MERICAN ASSOCIATION FOR. 2165 HEPATOLOGY, 64(6). <https://doi.org/10.1002/hep.28812/supinfo>
- Hernaez, R., Kramer, J. R., Liu, Y., Tansel, A., Natarajan, Y., Hussain, K. B., Ginès, P., Solà, E., Moreau, R., Gerbes, A., El-Serag, H. B., & Kanwal, F. (2019). Prevalence and short-term mortality of acute-on-chronic liver failure: A national cohort study from the USA. *Journal of Hepatology*, 70(4), 639–647. <https://doi.org/10.1016/j.jhep.2018.12.018>
- Hirode, G., Saab, S., & Wong, R. J. (2020). Trends in the Burden of Chronic Liver Disease among Hospitalized US Adults. *JAMA Network Open*, 3(4). <https://doi.org/10.1001/jamanetworkopen.2020.1997>
- Asrani, S. K., Hall, L., Hagan, M., Sharma, S., Yeramani, S., Trotter, J., Talwalkar, J., & Kanwal, F. (2019). Trends in Chronic Liver Disease-Related Hospitalizations: A Population-Based Study. *American Journal of Gastroenterology*, 114(1), 98–106. <https://doi.org/10.1038/s41395-018-0365-4>