



## WHAT IS AN ESCALATION?

Sometimes, a HaH patient needs to be transferred to the brick and mortar hospital for stabilization. We call this transfer an **escalation**.

## BACKGROUND

Our HaH Program in Victoria, British Columbia, Canada started in 2020. It operates like an inpatient unit of the hospital, providing a mixture of hands on and virtual care by a multidisciplinary team of physicians, nurses, pharmacists, and allied health. In 2024, we noticed that our escalation rate rose above target.

To understand why, we did a chart review of the last 6 months of escalated cases and noticed something interesting: many of these patients were in an advanced stage of decline, whether from cancer or chronic organ failure.

We wondered, are advanced comorbidities a risk factor for escalation? To answer this question, we did this study.

## METHODS

We reviewed 990 cases, noting the patient's comorbidities, age, gender and whether he/she lived alone.

We subjected each characteristic into a logistic regression analysis to determine if it is a risk factor for escalation. After identifying the risk factors, we applied the logistic regression model to generate a percentage likelihood of escalation for each combination of risk factors.

## ACKNOWLEDGEMENTS

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## RISK CALCULATION TOOL

An online risk prediction tool was implemented to provide physicians a calculation of risks involved for individual new patients, based upon their risk factors.



Try the calculator

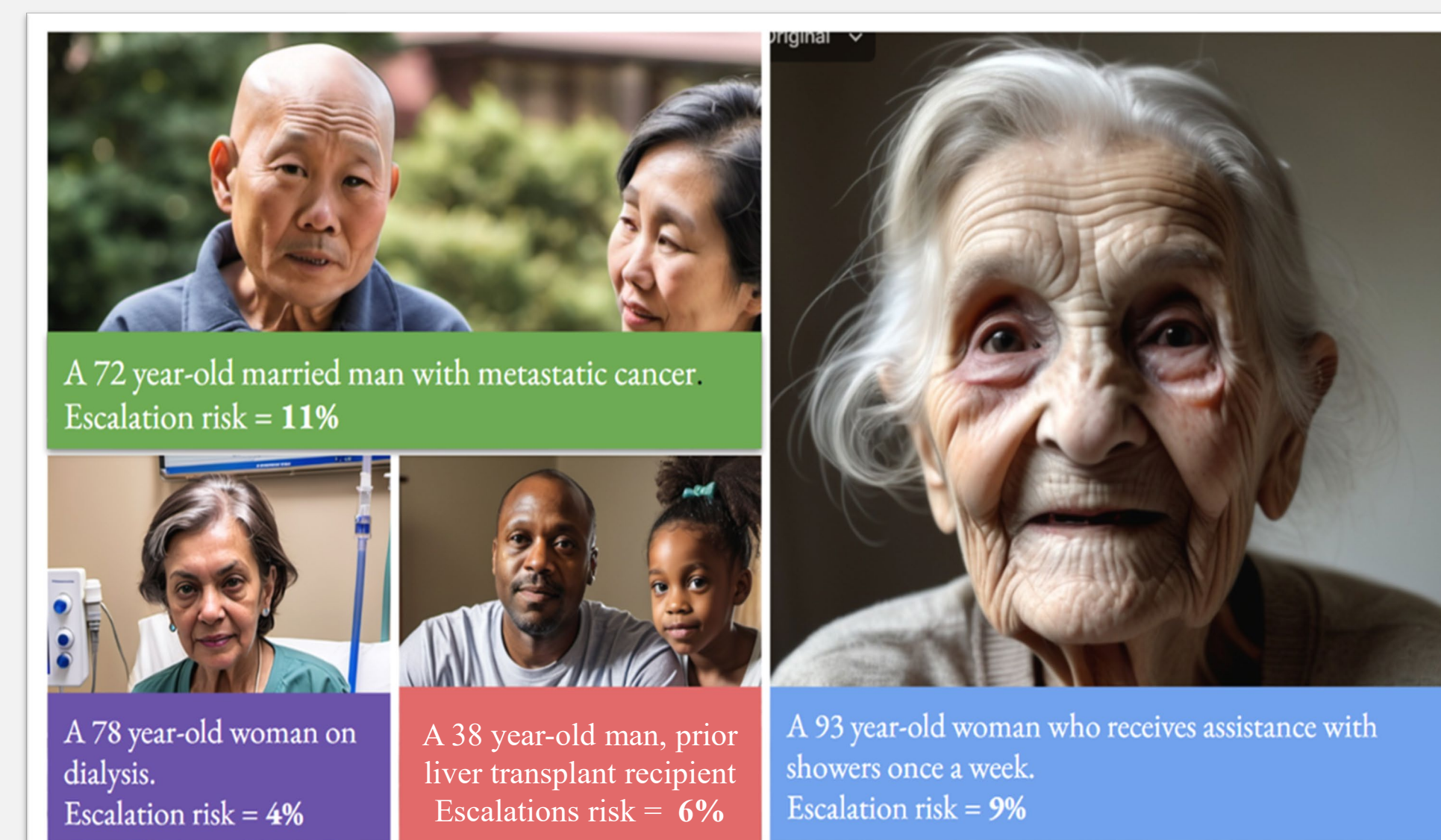
Low Risk	0-10%
Medium Risk	11-20%
High Risk	>20%

## RESULTS

The following 5 patient characteristics **ARE** risk factors for escalation:

- **severe heart failure** - (LVEF < 30% or severe valvular dysfunction or severe pulmonary hypertension)
- **metastatic cancer**
- **at least moderate frailty** - (Clinical Frailty Scale score of at least 2)
- **male gender**
- **end stage cirrhosis** - (MELD-Na score of at least 20)
  - (independent risk factor for escalation; was found to be over 50%)

A patient lacking all risk factors has an escalation risk of only 4%.  
A patient with all 5 risk factors has an escalation risk of 95%!



The following 6 patient characteristics **ARE NOT** risk factors for escalation:

- living alone
- age 90 or above
- end stage lung disease
- severe renal failure
- transplant status
- being on chemotherapy

## ESCALATION RISK TABLE

End Stage Liver Disease	Severe Heart Failure	Frailty	Metastatic Cancer	Gender	Risk
End Stage Liver Disease	Severe Heart Failure	Frailty	Metastatic Cancer	Male	95%
End Stage Liver Disease	Severe Heart Failure	Frailty	Metastatic Cancer	Female	93%
End Stage Liver Disease	Severe Heart Failure	Frailty	No Metastatic Cancer	Male	91%
End Stage Liver Disease	Severe Heart Failure	Frailty	No Metastatic Cancer	Female	87%
End Stage Liver Disease	Severe Heart Failure	Not Frail	Metastatic Cancer	Male	89%
End Stage Liver Disease	Severe Heart Failure	Not Frail	Metastatic Cancer	Female	84%
End Stage Liver Disease	Severe Heart Failure	Not Frail	No Metastatic Cancer	Male	82%
End Stage Liver Disease	Severe Heart Failure	Not Frail	No Metastatic Cancer	Female	75%
End Stage Liver Disease	No Severe Heart Failure	Frailty	Metastatic Cancer	Male	87%
End Stage Liver Disease	No Severe Heart Failure	Frailty	Metastatic Cancer	Female	81%
End Stage Liver Disease	No Severe Heart Failure	Frailty	No Metastatic Cancer	Male	78%
End Stage Liver Disease	No Severe Heart Failure	Frailty	No Metastatic Cancer	Female	70%
End Stage Liver Disease	No Severe Heart Failure	Not Frail	Metastatic Cancer	Male	74%
End Stage Liver Disease	No Severe Heart Failure	Not Frail	Metastatic Cancer	Female	65%
End Stage Liver Disease	No Severe Heart Failure	Not Frail	No Metastatic Cancer	Male	60%
End Stage Liver Disease	No Severe Heart Failure	Not Frail	No Metastatic Cancer	Female	55%
No End Stage Liver Disease	Severe Heart Failure	Frailty	Metastatic Cancer	Male	45%
No End Stage Liver Disease	Severe Heart Failure	Frailty	Metastatic Cancer	Female	35%
No End Stage Liver Disease	Severe Heart Failure	Frailty	No Metastatic Cancer	Male	31%
No End Stage Liver Disease	Severe Heart Failure	Frailty	No Metastatic Cancer	Female	23%
No End Stage Liver Disease	Severe Heart Failure	Not Frail	Metastatic Cancer	Male	26%
No End Stage Liver Disease	Severe Heart Failure	Not Frail	Metastatic Cancer	Female	19%
No End Stage Liver Disease	Severe Heart Failure	Not Frail	No Metastatic Cancer	Male	16%
No End Stage Liver Disease	Severe Heart Failure	Not Frail	No Metastatic Cancer	Female	11%
No End Stage Liver Disease	No Severe Heart Failure	Frailty	Metastatic Cancer	Male	22%
No End Stage Liver Disease	No Severe Heart Failure	Frailty	Metastatic Cancer	Female	15%
No End Stage Liver Disease	No Severe Heart Failure	Frailty	No Metastatic Cancer	Male	13%
No End Stage Liver Disease	No Severe Heart Failure	Not Frail	Metastatic Cancer	Female	9%
No End Stage Liver Disease	No Severe Heart Failure	Not Frail	Metastatic Cancer	Male	11%
No End Stage Liver Disease	No Severe Heart Failure	Not Frail	Metastatic Cancer	Female	7%
No End Stage Liver Disease	No Severe Heart Failure	Not Frail	No Metastatic Cancer	Male	6%
No End Stage Liver Disease	No Severe Heart Failure	Not Frail	No Metastatic Cancer	Female	4%

## EVIDENCE INTO PRACTICE

Because the risk of escalation with end stage cirrhosis is so high (over 50%), we no longer accept patients with this condition.

Patients with other risk factors are not automatically ineligible for HaH. Instead, we use their calculated escalation risk to have a meaningful conversation about their GOALS OF CARE in the event of decompensation at home. Would they want to be escalated to the hospital, or would they want palliative care at home?

It may be decided that HaH is not the best option for patients who are wanting transfer back to hospital and have a high calculated escalation risk.