Mixed-Methods Exploration of a Pilot for Semi-Automated System-Wide Clinical Care Pathway for Hepatocellular Carcinoma Screening for Cirrhosis

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Background

Adherence to hepatocellular carcinoma (HCC) screening guidelines remains < 30%, despite a 1-8% annual risk for patients with cirrhosis.

The Cirrhosis Care Pathway (CCP) was developed by a multidisciplinary team to proactively mitigate non-adherence to HCC screening. A pilot study was performed to assess the feasibility of CCP implementation within an academic healthcare system.

Methods

During the 6-month pilot period, CCP followed a five-step process. Participants were selected from a generated electronic medical record (EMR) report to capture patients >18 years old with a diagnosis of cirrhosis that were overdue for screening and had a PCP at the central network (1). Charts were manually reviewed to ensure correct diagnosis and exclude patients who did not meet screening criteria (2). An EHR message was sent to PCPs of eligible patients providing reminder of overdue HCC screening, qualifying imaging options, and requesting permission for a Nurse Navigator (NN) to contact the patient directly (3). Permitted patients were messaged by NN with educational HCC materials and offered scheduling support (4). After 3 months, a reminder was sent to the PCP (if not ordered) or the patient (if not scheduled) if screening had not been completed (5). Post-pilot, PCPs were interviewed to assess barriers and facilitators of the CCP.

Cirrhosis Care Pathway

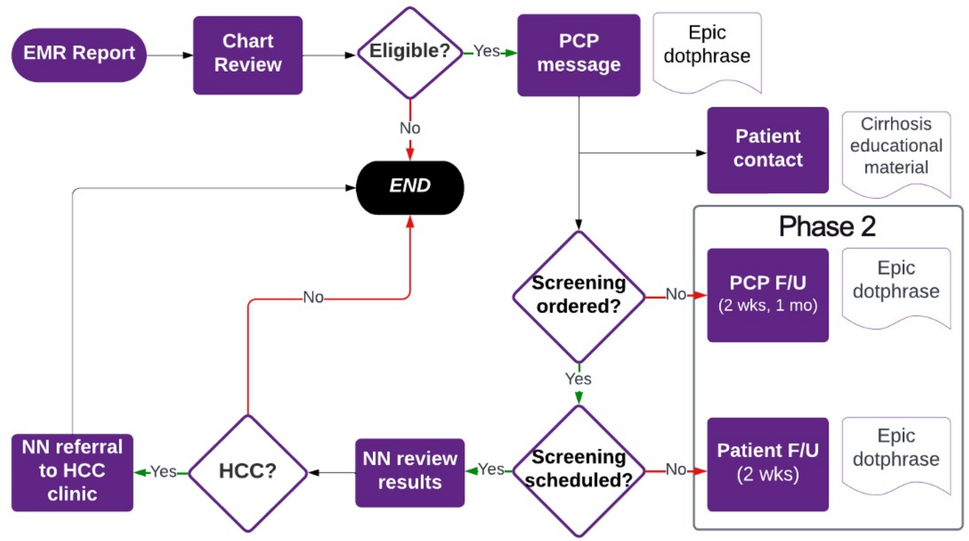

Table of Pilot Phase 1 and 2 Results

	Initial Phase 1 (n=65), %	Follow-Up Phase 2 (n=49), %	Total Pilot After Exclusion (n=47), %
Messages to PCPs	65 (100)	30 (61.2)	47 (100%)
Excluded after PCP message or further chart review	1 (1.5)	17 (34.7)	18 -
Messages to patients with educational material	18 (27.7)	19 (38.8)	37 (78.7)
Patient interaction with NN (questions or help scheduling)	2 (3.1)	12 (24.5)	14 (29.8)
HCC screenings ordered	33 (50.8)	13 (26.5)	46 (97.9)
HCC screenings completed	16 (24.6)	10 (20.4)	26 (55.3)
Negative results	15 (23.1)	10 (20.4)	25 (53.2)
Positive results	1 (1.5)	0 (0)	1 (2.1)

Mixed-Method Results

Quantitative

Out of 47 patients deemed eligible for inclusion, 46 HCC screenings were ordered (97.9%), 26 were completed (55.3%) and one patient (2.1%) was diagnosed with HCC. There were 18 patients (27.7%) contacted by NN and 2 patients (3.1%) requested help with scheduling.

Qualitative

Themes from PCP interviews emerged:

- CCP is feasible
- NN support is appreciated
- Unclear if management by PCP or hepatology
- HCC may be low-priority to patients with multiple complex medical diagnoses

Conclusions

The novel CCP resulted in approximately 98% of eligible patients receiving an order for HCC screening and detected HCC in one patient during a 6-month pilot. PCPs reported feasibility of the CCP, but noted barriers at the provider and patient level. Next steps include refining the EMR report, expanding to regional hospitals, and integrating hepatologists into the pathway.

Next steps

Include further refining our EMR report given the large amount of patients ruled out after chart review, expanding to other NM hospital locations, and further investigating patient barriers to completing HCC screening.

References

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