



Royal College of  
General Practitioners

## Example of innovative and best practice in the management of liver disease

<b>Name of project:</b>	Glasgow Ambulatory Liver Support Service		
<b>Project start date:</b>	2015	<b>Project end date:</b>	Ongoing
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### Introduction:

Liver services provided by NHS Greater Glasgow and Clyde have faced significant challenges in providing high quality care for people with decompensated cirrhosis.

It was recognised that too many patients who were admitted with decompensated cirrhosis were not seen for follow up until weeks after discharge. Frequently these patients were readmitted with further complications of their liver disease. Many could have benefitted from better outpatient management.

In a clinical audit of this cohort it was found that between 1 January 2013 and 31 April 2014:

- A total of 471 admissions were primarily for decompensated liver disease
- 64 of these admissions resulted in death
- The mean length of stay was 14.7 days
- 11.5% of the 212 patients were readmitted within 90 days
- of discharge
- The mean time to an outpatient appointment post discharge was 58.8 days
- The mean time to re-admission following discharge was 58.7 days

### Aims and actions:

To address these challenges, the Glasgow Ambulatory Liver Support Service (GLASS) was established. It had the primary aim of reducing re-admissions in this patient group by 20%. Secondary aims were to reduce total bed days and length of stay of re-admissions.

The GLASS pilot introduced three novel interventions:

#### 1. Pre-discharge patient education

Before discharge, patients would be visited at the gastroenterology unit by a GLASS nurse who provided accessible information about the patient's condition, including information about liver function and pathology, and education on any complications the patient had experienced.

The nurse also provided dietary guidance and reinforced alcohol harm messages. The nurse would also advise on discharge medications, their indication and the importance of concordance. Dates for follow up tests and appointments would be confirmed.

#### 2. Post-discharge review

Within one week of discharge, each patient would be offered a review. The follow-up appointment would allow further monitoring of the liver condition, and provide opportunities for the medical team to adjust diuretic therapy, screen for encephalopathy, and titrate beta-blockers.

The review team would measure the patient's weight, perform any blood tests that were needed, and assess the patient's quality of life indicators.

The review team would also be reinforce educational messages and outline options for further support, including signposting to the addictions team if needed and to other allied health practitioners.

### 3. Re-admission prevention strategies

Further interventions delivered by the GLASS nurse to prevent further unplanned re-admissions include:

- Monitoring of liver blood tests, and urea and electrolytes
- Titration of diuretics
- Arrangement of semi-elective or urgent day case paracentesis
- Titration of medication for encephalopathy
- Institution of primary or secondary prevention of variceal bleeding

### **Results:**

The benefits of the pilot can be demonstrated by comparing data between the periods of August-October 2015 (before the GLASS pilot) to January-March 2016 (after the GLASS pilot had been implemented)

- Reduction in re-admission rates from 13.5% to 10.5%
- Reduction in primary admission bed days from 1,034 to 534
- Reduction in total admission bed days (including re-admission) from 1,144 to 587 (48.7% reduction equating to a saving of £152,061)
- Reduction in the length of stay (median length of stay for re-admissions reduced from eight days to five)
- Of ten patients with first presentations of advanced alcohol-related liver disease, all remained abstinent and only one required re-admission. Having a high impact on first presenters' abstinence and engagement has potential for the greatest impact over time in reducing the burden of alcohol-related liver disease and associated costs.