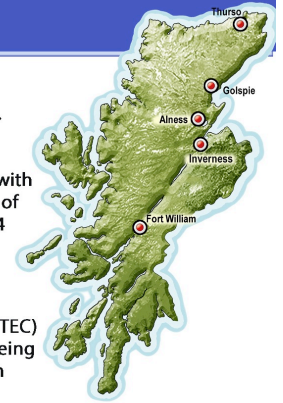


# Florence Home Health Monitoring and Support for People with Asthma

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## Background Every 10 seconds someone in the UK is having a potentially life threatening asthma attack!

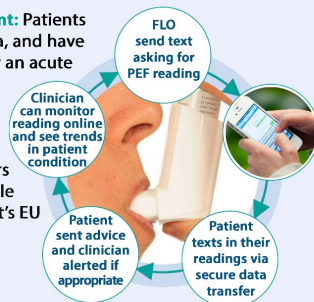
Shockingly asthma attacks kill 3 people each day in the UK and the UK has one of the highest death rates from asthma in Europe. Most tragically many of these deaths could have been prevented. (Asthma UK 2015)

The National Review of Asthma Deaths looked at deaths from asthma between 1 February 2012 and 31st January 2013 and came up with certain detailed findings. One of these was around support and self-management for people with asthma. Less than a quarter (23%) of those that died had been given a written asthma action plan although evidence shows that people who have an action plan are 4 times less likely to be hospitalised by asthma attacks. Nearly half (45%) died without seeking medical assistance or before emergency medical care could be provided. An action plan may have prevented this by ensuring they took appropriate action and knew when to seek help.

North NHS Highland's Respiratory Clinical Nurse Specialist enlisted the help of the health board's Technology Enabled Care team (TEC) team in developing an electronic Asthma Action Plan (eAAP), using the Florence interactive text messaging system. The eAAP is being used to remotely monitor a group of patients who are under specialist review and at serious risk of dying from their asthma, within North NHS Highland's remote and rural locality.

### Florence concept & how it works:

**Inclusion Criteria & Patient Enrolment:** Patients have a confirmed diagnosis of asthma, and have had a previous hospital admission for an acute exacerbation of asthma or been referred to the Respiratory Clinical Nurse Specialist (RCNS) service for specialist input either by their Consultant or GP. All prospective users are required to have access to a mobile phone and are supplied with a Wright's EU peak flow meter and an emergency supply of rescue prednisolone, 40mg once daily for 7 days.



Following review by the RCNS, patients are consented and enrolled and level of health care need established. It is stressed to patients that **Florence is not an emergency response service** but a tool to help them self manage their asthma.

**General advice messages:** Throughout the monitoring process Florence will periodically text general asthma advice and links to other services such as the Highland Smokeline. Examples of these messages include:

"Remember to keep a spare reliever inhaler and spacer at school or at work"

"Your asthma is under control if you can do all your normal activities without asthma symptoms. Text ZONE 1 for advice about what to do"

"Don't ignore worsening asthma. You need help if your blue inhaler doesn't help, your symptoms worsen or you are too breathless to speak. Text ZONE 4 for advice"

"Your asthma is getting worse if you need your blue inhaler more than 2 x a week, have difficulty sleeping or have more allergic symptoms. Please text More for advice"

Florence ('Flo') is an NHS telehealth service designed to provide support and advice for people to manage their own health condition.

Flo is a simple, interactive service using mobile phone text messages to monitor symptoms and to provide reminders, advice and support.

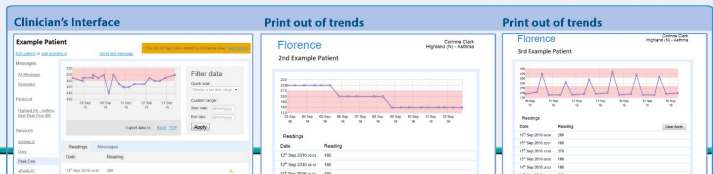
Flo combines the expertise of the patient's healthcare team and the convenience of their own mobile phone providing advice to act on.

**Florence Asthma Protocol:** Each individual is allocated to a specific protocol dependant on their best Peak Expiratory Flow (PEF). This then acts as their patient centred *electronic Asthma Action Plan*. Patients receive 2 text messages a day asking them to text in their PEF. These are electronically calculated into the following zones;

- Zone 1 – 80-100% of best value
- Zone 2 – 60-80% of best value
- Zone 3 – 50-60% of best value
- Zone 4 – <50% of best value

Depending on the PEF texted in Flo then texts back a response with appropriate advice

- Zone 1** – continue to take your preventer inhaler as prescribed, even when you are feeling well. See you later, Flo.
- Zone 2** – Increase use of both your preventer and blue inhalers as agreed with your doctor or asthma nurse. If you are often in Zone 2 ask for an asthma review.
- Zone 3** – Continue to use both your preventer and reliever inhalers and start taking your rescue steroid tablets as directed. Please tell your doctor or asthma nurse within 24 hours.
- Zone 4** – If you can't speak in a sentence dial 999 or call your GP urgently. Take up to 10 puffs of reliever inhaler every 5 minutes till you improve or help arrives.



NHS Highland's RCNS is able to monitor patients remotely across the board area without having to use precious clinic sessions and can contact patients directly by text using Florence. Patients may be asked to make contact if there is cause for concern.

### The Story so far.....

- 50 patients already enrolled on Florence since February 2016.
- 4 males have chosen to opt out of monitoring and 1 has opted out temporarily.
- 2 females have been discharged by RCNS following no input of readings for >3 weeks and no response from messages.
- 44 patients currently on active monitoring and service continues to enrol more patients.

### Cost

There is an annual upfront cost to NHS Highland of £10,500 for the Florence system, which is used by several services across the Board. On average each patient receives 175 texts per month @ £0.08/text = £168.00 /annum per patient. Funding has currently been secured until 2018, from the Scottish Government's Technology Enabled Care Programme.

### What's next?

An external audit by an academic from Edinburgh University is currently being undertaken looking at clinical effectiveness and cost effectiveness of the asthma protocol. This will incorporate analysis of Florence reports along with hospital and GP records and also interviewing the RCNS and patients currently enrolled on Florence.

Results so far seem encouraging. Florence is contributing to the care of patients with asthma and is having a positive impact on their health and engagement with healthcare services. Our aim is that, with the aid of Florence, we can enable patients to recognise earlier when they need to seek assistance and, potentially, that we can help reduce the mortality statistics in this challenging patient group.

### Results so far

There have been no acute admissions to hospital in any of the 50 patients since starting on Florence.

There have been no A&E attendances in any of the 50 patients.

1 x referral to the Rapid Access Medical Assessment.

None of the enrolled patients have failed to attend a clinic appointment with the RCNS and certainly the patient feedback is very encouraging. There is improved engagement with specialist services since the introduction of Florence Telehealth in this patient group.

