**Worksheet 3 Asthma (Facilitator Version 06-23) – Developing and prioritising improvement ideas**

Background information

The driver diagram can be used to generate improvement ideas. Using the principles of sustainable healthcare, your ideas can be structured to address the two primary drivers of sustainable healthcare, namely; reducing healthcare activity, and reducing the carbon intensity of the healthcare activity we do need.

There are usually many potential improvement ideas that can be generated for any identified problem or ideal outcome. By understanding the impact of a potential improvements (in terms of environmental, social and health outcomes) as well their feasibility, you can start to prioritise the most impactful and achievable improvement.

**Scenario**

Ali is 13 years old. He is admitted to hospital via ambulance with breathlessness and wheeze. He is treated in ED for a severe acute exacerbation of asthma. He has a medical history of asthma and has been admitted to hospital 3 times in the last year. He is treated with nebulised salbutamol and steroids in the Emergency Department and admitted to the Paediatric Inpatient Unit.

Ali is discharged after 4 days and is encouraged to continue taking his regular medications. On speaking with Ali, he tells the team that he often forgets to take his preventer inhaler, particularly during the week when he is busy with school. He is prescribed a new Ventolin inhaler and given his Asthma Plan for managing exacerbations.

Ali lives at home with his family in the centre of town near the ring road in a ground floor flat, and walks to school along a busy road.

You discuss the case with your team who tell you of many similar teenage patients who are regularly re-admitted with exacerbations of asthma in your area.

You decide to do an audit with your ward clerk to find out more about this problem. You discover that 200 asthma patients are admitted at least 4 times per year, with an average length of stay of 4 days. They are usually brought to the hospital by ambulance and go home by taxi or private vehicle after discharge. You also notice that 80% are prescribed a new Ventolin MDI inhaler on discharge, 25% report poor adherence to their asthma plans and 30% live within a mile of the local ring road.

***Facilitator Note:*** *The purpose of this scenario is to encourage students to think about what might be the best solutions to the problem of poorly controlled asthma in children. Learners might think about optimising therepy and low carbon swaps but should also consider alternative ways of reducing admissions such as considering the environmental factors associated with exacerbations. This scenario gets learners to think about avoidable and preventable hospital admissions, or ways in which the pathway could be adapted to better suit these patients. The focus should be on how we help patients like Ali to better manage this asthma and to avoid the need for disruptive admissions to hospital.*

**Activity 1 – Developing improvement ideas**

**Use the editable driver diagram table (table 1) below to help you think of improvement ideas for reducing readmission cycles amongst the elderly with chronic respiratory disease under each of the principle of sustainable healthcare categories. Consider broader areas under each heading that could be tackled first (secondary drivers), and then see if you can think of specific project ideas.**

**Before you do this, have a look at the levels of prevention below, which have been reproduced from the** [**PCORE (Primary Care Online Resource and Education) online learning platform**](https://edblogs.columbia.edu/pcore/prevention/prevention-preventive-services/)**, as they may help you to think about the different types of Prevention intervention.**



**Table 1: Driver diagram table: Developing improvement ideas for reducing the environmental impact readmission cycles amongst the elderly with chronic respiratory disease**

|  |  |  |  |
| --- | --- | --- | --- |
| **Intended Outcome**  | **Primary Driver – We need to ensure …** | **Secondary Driver – Which requires** | **Project ideas – Broad ideas or specific projects**  |
| Minimising the Environmental, social and financial impacts of re-admission cycles in the elderly with Chronic respiratory disease | **Reduce Activity** | 1. Prevent avoidable disease | Address social isolation – referral to community support |
| Smoking cessation and pollutant advise |
| Improve inhaler technique  |
| 2. Empower patients to improve disease management | Patient education re managing exacerbations at home |
| Engagement re inhaler techniques and environmental impact |
| Lifestyle support for exercise, green space access, smoking |
| 3. Ensure lean clinical pathways/systems | Geriatrician r/v in ED rather than after admission on wards |
| Enhance paramedic treatment and triage  |
| Optimise in-patient stabilisation |
| Reduce Carbon Intensity | 4. Switch to lower carbon alternatives | Switch to dry powder inhalers |
| Increase reusable materials on ward and A+E  |
|  |
| 5. Improve operational resource use (e.g. equipment, energy, water)  | Ensure facilities for correct disposal of inhalers |
| Green energy supply to hospital |
| Improved recycling and reuse of materials |

**Activity 2 – Prioritising improvement ideas**

**Task: Score the impact and feasibility of improvement ideas for reducing readmission cycles amongst the elderly with chronic respiratory disease.** Take each improvement idea in turn, and give it a score from 0-3 (0=no impact, 3=highest impact). You might also want to think of your own idea and add it to the list, using the principles of sustainable healthcare to inspire ideas.

Write your answers in the **Prioritising improvement ideas table 1. below**. (Please appoint a scribe in your group and someone to feedback your answers when you return to the whole group).

***Facilitator note:*** *Encourage students to think about each of the outcomes in an overall, general sense. The main task is to appreciate how social, health and environmental impacts may differ by intervention and to think about how to weigh these up with feasibility. One improvement idea is provided, but add others from Activity 2 above, aiming to include a variety of change ideas representing different principles of sustainable healthcare, and different levels of feasibility*

**Prioritising improvement ideas table**

| Opportunity | Health Impact (0-3) | Environmental Impact (1-3) | Social impact (1-3) | Feasibility (1-3) |
| --- | --- | --- | --- | --- |
| *Address social isolation* | 3 | 3 | 3 | 1 |
| *Patient education about managing exacerbations at home* | 3 | 3 | 3 | 3 |
| *Geriatrician review on ED rather than wards* | 3 | 2 | 2/3 | 2/3 |
| *Switch to dry powder inhalers* | 1 | 3 | 0 | 3 |
| Their idea!(Encourage your student to discuss their own improvement ideas relating to this scenario/agree the idea and prioritise it against the others above) |  |  |  |  |