4.16 Asthma: management and mitigation to maximise health and well-being

In this section you will learn about:

- the impact of asthma on health and well-being
- management and mitigation strategies

Did you know?

The NHS spends around £1 billion each year treating and caring for people with asthma. Every ten seconds someone is having a potentially life-threatening asthma attack in the UK.

Impact on health and well-being

The following account of living with asthma illustrates the impact of this disease on one family. While the prognosis for most asthma sufferers is good (at least in HDEs), the day-to-day reality of living with asthma should not be underestimated. Globally, asthma is the fourteenth most important disorder in terms of the extent and duration of disability inflicted on sufferers.

Dealing with asthma

'I've been dealing with asthma my whole life. I was diagnosed at four and had a few bad asthma attacks. Once I nearly died. Since the age of nine, though, I haven't had an asthma attack – I do everything I can to stay on top of it. Later, my grandad was diagnosed with late-onset asthma in his 60s. So it wasn't a huge surprise when both my sons were diagnosed with asthma too.

I used to worry a bit about the boys taking steroids every day, but I know for a fact I wouldn't be here if I hadn't had them when I was four – they saved my life. There's a panic attitude around about steroids, but when you really think about it the benefits far outweigh the risks.

Cold and damp weather is the worst trigger for all of us. In November, both boys tend to get a night-time cough. During a cold spell, we always make sure we wear neck 'tubes' around our mouths and noses – they're a bit like scarves; apparently wearing them warms up the air before we breathe it in and helps to prevent asthma symptoms.

Catching a cold can cause their symptoms to flare up. Dust mites are another trigger. It's hard to avoid both of these so using our preventers means we are less likely to react when we come across them. And we know to have our relievers handy if we have a cold or we're visiting a dusty house.

The boys aren't embarrassed to use their inhalers in public. We've always made it a very matter-of-fact part of life. I try not to let asthma stop us doing anything.'
(Adapted from Asthma UK)

Figure 1 *Living with a chronic disease*

Measuring the burden of asthma

Asthma takes effect much earlier in life than other chronic diseases, and is also something that they have to live with for the rest of their lives. Consequently, it imposes a high lifetime burden not only on those that are affected but also on carers, family and the community. Asthma has a global distribution with a relatively higher burden of disease in Australia and New Zealand, some countries in Africa, the Middle East and South America, and north-western Europe (Figure **2**).

The **disability-adjusted life year (DALY)** is a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death. It combines morbidity and mortality in a single measure that can be used to compare the overall health and life expectancy of different countries. Figure **2** presents the DALYs associated with asthma. The higher the DALY, the higher the number of healthy years lost and the poorer quality of life overall; asthma sufferers may die young or have their education, career (and earning potential) seriously curtailed by ill health.

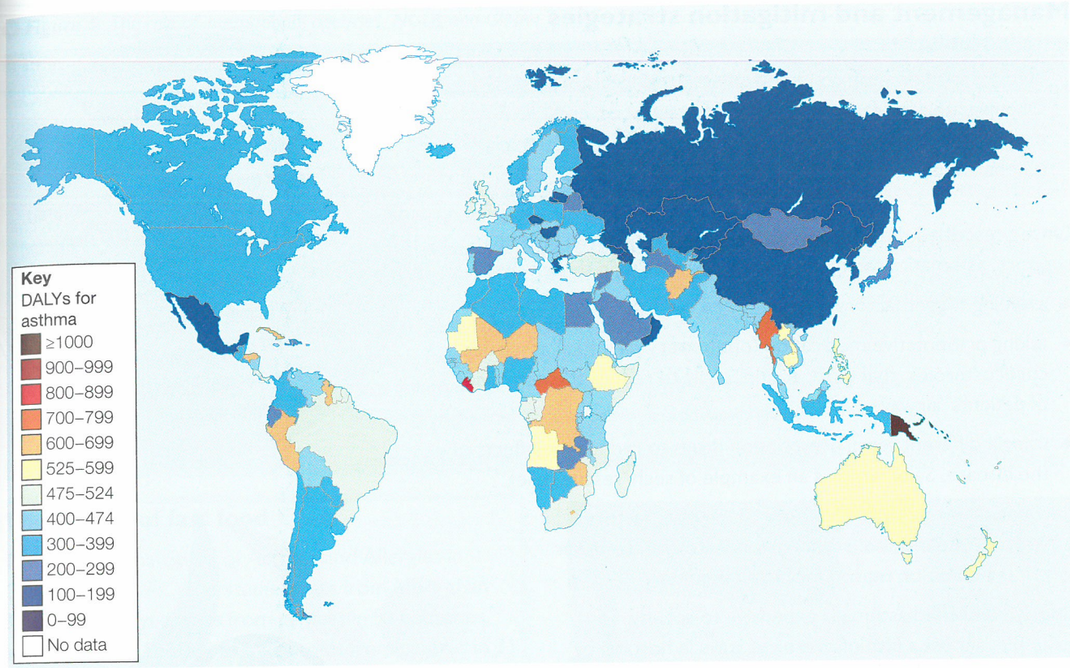

Figure 2 *World map of disability adjusted life years (DALYs) attributed to asthma per 100 000 population by country (2010)*

Asthma in the USA

Of the 1 in 14 Americans that suffer with asthma (7.4 per cent of adults and 8.6 per cent of children), 45 per cent reported having an asthma attack in the last year. Since the 1980s, asthma has been increasing in the US, in all age, sex and racial groups.

In 2010, 18 per cent of stays in hospital for children were asthma related, compared to just 13 per cent for adults. Almost 30 per cent of African American in-patient hospital stays were asthma-related compared to just under 9 per cent for white patients. This demonstrates the differing impact of asthma by race and community.

Asthma was the cause of 3651 deaths in 2014 – the equivalent of ten people each day. Again, the impact of asthma on mortality is differentially greater amongst African Americans – the death rate linked to asthma was almost three times that for their white counterparts.

Of all the ethnic groups, the rate of asthma and asthma attacks is highest among Puerto Ricans. Ethnic differences in asthma prevalence, morbidity and mortality are highly correlated with poverty, urban air quality, indoor allergens and inadequate medical care.

The overall cost to the US economy of asthma is huge – estimated at $56 billion (2012). The impact is felt in terms of medical costs (medication, hospitalisations) but also in terms of the indirect cost of work absenteeism. Asthma is one of the main reasons for absence from work in the US.

Figure 3 *A US study of 17 000 families estimated that 10.1 million school days are lost across the country in a single year, which will have an effect on America's future workers*