

2nd Edition

GLOBAL ATLAS OF ASTHMA



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DEATH AND DISABILITY DUE TO ASTHMA

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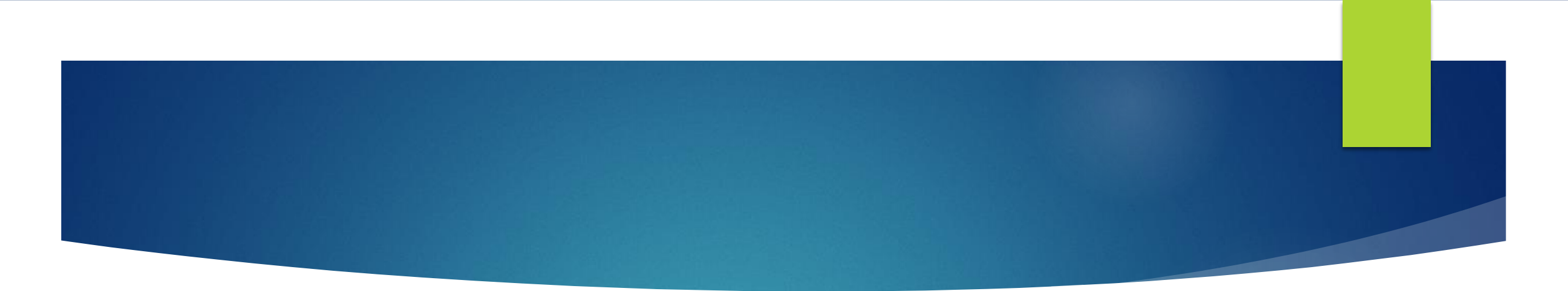
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- ▶ **Asthma** is a major cause of disability, healthcare resource utilisation and significantly reduces patients' quality of life.
 - ▶ **Airways inflammation** and **progressive remodeling** represent the pathological substrate underpinning bronchial hyper-reactivity, acute clinical events and enhanced lung function decline.
 - ▶ **Main predictors of functional lung decline** have been identified in large longitudinal cohorts of patients and include age, environmental exposures and genetic background.
 - ▶ **Disability and global impairment of quality of life** result from a complex interplay between primary drivers, namely disease severity and loss of pulmonary function and secondary determinants such as physical deconditioning, treatment non-adherence, associated comorbidities, social impairment and subjective feelings over the disease and its consequences, amongst others (Figure 1).

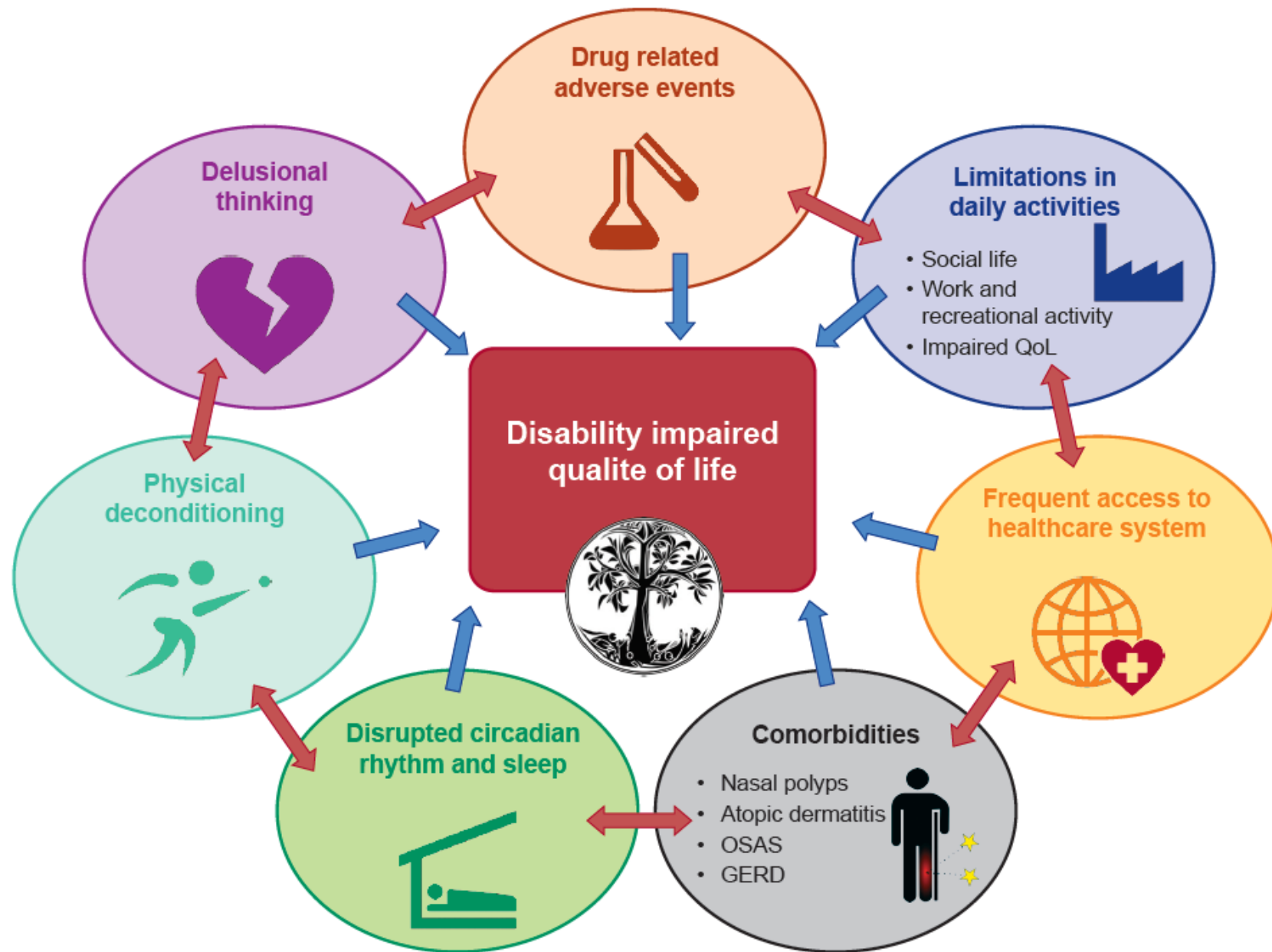
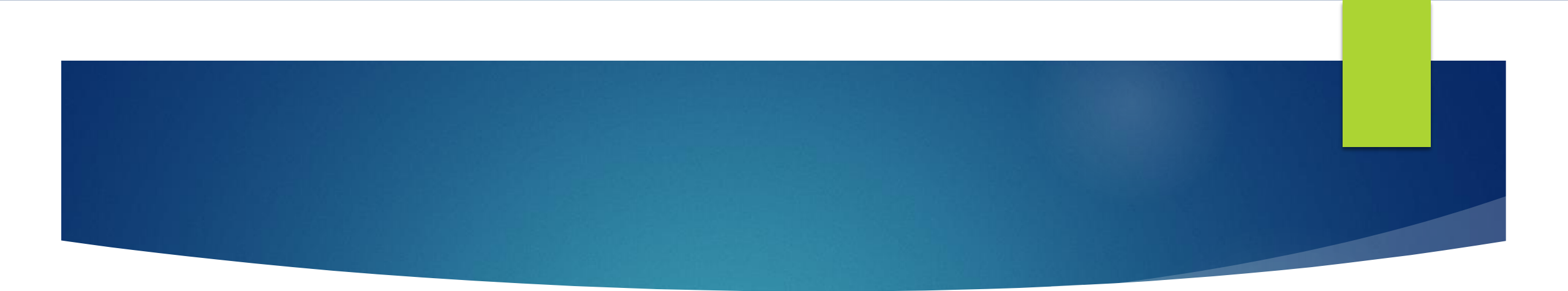
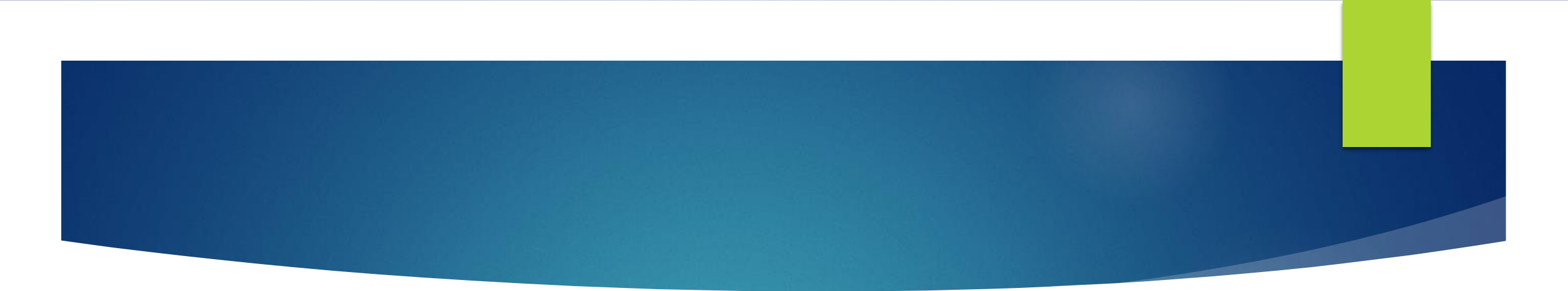
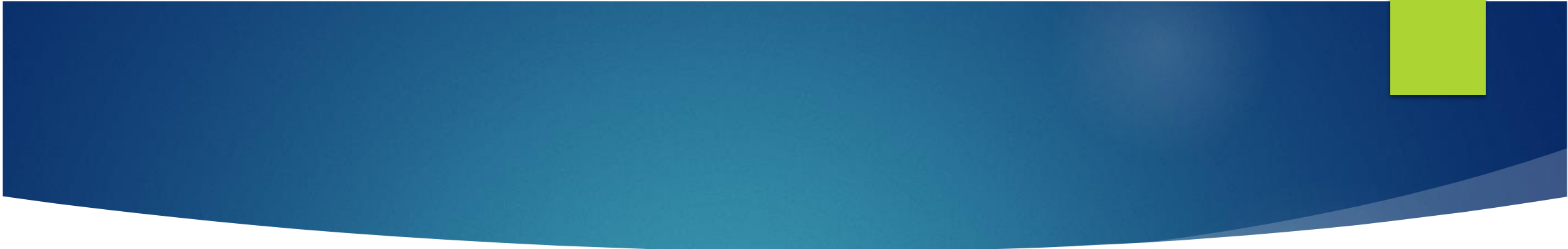
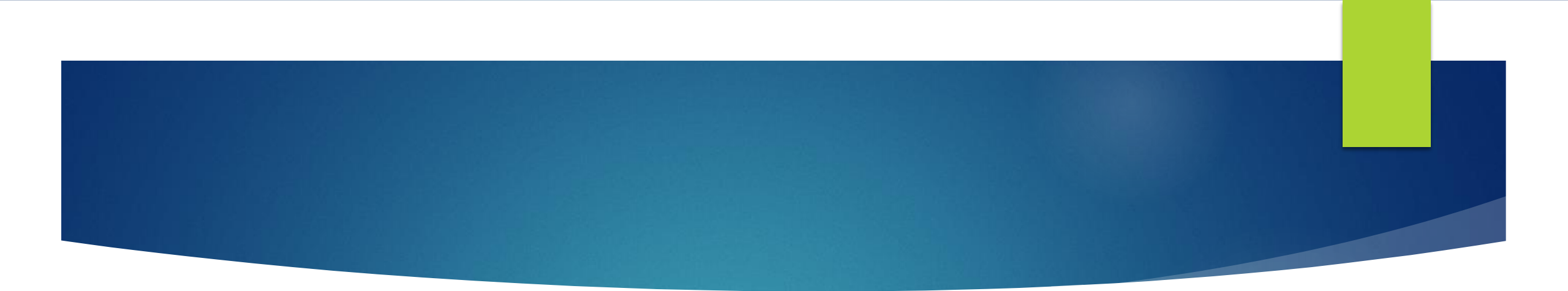


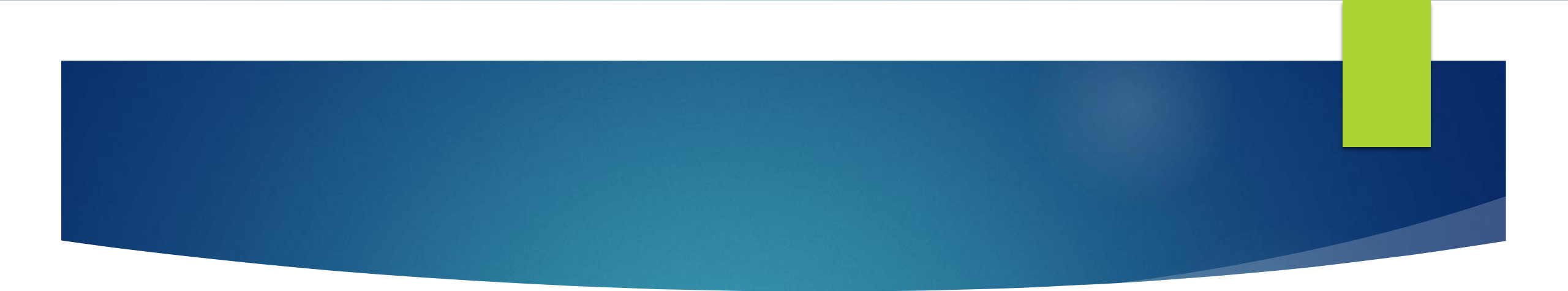
Figure 1 The complex network of asthma-related burden on the individual.

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- ▶ The **degree of impairment and disability** can be assessed with standardised and validated tools that offer objective and reproducible results over main domains.
 - ▶ **One main barrier in disability assessment** is overestimation or underestimation of the symptomatic burden.
 - ▶ **Asthma-related deaths** are not frequent, but in many cases, they are preventable.
 - ▶ **Mortality rate increases exponentially** with age, from childhood to advanced ages, when other comorbidities are also present.

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- ▶ **Other factors**, like a lower socio-economic status, history of smoking, atopic status, frequent exacerbations, lower baseline forced expiratory volume in the first second (FEV1) and poor asthma control have been associated with ***increased asthma mortality***.
 - ▶ It was estimated that **more than 1000 patients died from asthma** in the world in 2016 every day.
 - ▶ Likely, one of the causes of major impact is that many countries have not a Public Health System ensuring specialist medical supervision.

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- ▶ ***This means*** that **patients with asthma** have less awareness of their disease, are not provided with personal asthma action plans, rely on self-administration of short-acting reliever medications and are not receiving appropriate long-term control medications such as inhaled corticosteroids (ICS) ± long-acting β-agonists (LABA).
 - ▶ This facilitates **severe asthma exacerbations** with a higher risk of disability and death.

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- ▶ On a whole, **asthma-related mortality** has decreased over the last decades.
 - ▶ Comparing the period from 2001 to 2005 to the period from 2011 to 2015, there was a **halving of the mortality rate**, particularly in the age group from 6 to 35 years .
 - ▶ **This reduction is related to** the introduction of new therapies for asthma and to increased awareness that uncontrolled asthma can lead to disability and death.

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- ▶ **Some countries in the world seem to be more affected than others:** in low and middle-income countries, the highest mortality rates are registered in Fiji, Philippines, South Africa and Mauritius, while the lowest ones are reported in Malaysia, Colombia, Ecuador and Bulgaria.
 - ▶ For high-income countries, the highest mortality rates are reported in the Republic of Korea, Uruguay, Venezuela and Puerto Rico the lowest ones in Italy, Netherlands, Austria and Canada.
 - ▶ These data show that **asthma still represents a major cause of mortality and disability especially in low income countries;** further efforts and investments are needed.

KEY MESSAGES

- Asthma is one of the most common causes of airway disease and is associated with increased mortality and long-term disability
- Predictors of progressive lung dysfunction include eosinophilic inflammation and persistent exposure to environmental factors, especially molds and pollutants, interacting with atopic and genetic predisposition
- Disability is primarily linked to disease severity, decline in lung function, associated comorbidities and social inequalities
- In 2016, more than 1000 patients died every day from asthma in the world
- Mortality from asthma has decreased in the last decades likely following improved awareness of disease biology and therapeutic advances; further effort is needed to minimize asthma-related death and disability