

# World Chronic Obstructive Pulmonary Disease(COPD) Day - *the Singapore Perspective*



*To understand the significance of World COPD Day in Singapore's context, our reporter spoke to Professor Tan Wan Cheng, Singapore's representative to the Global Initiative for Chronic Obstructive Lung Disease(GOLD)*

*that family physician should play in the management of COPD?*

*CM: Prof Tan, can you tell us why COPD is an important health issue in Singapore?*

In terms of prevalence, hospitalization, disability and death, COPD is a major health problem in Singapore. Prevalence of moderate to severe COPD is estimated at 2.3% or a population of 3 million or absolute number of 69,000 patients in the community. [Table 1 ]

According to routine official statistics in Singapore, it is the 8th leading cause of death [0.9% of all deaths] and 9th leading cause of hospitalization [1.7% of total hospitalizations]. Note, these figures from routine official statistics are likely to be under-estimates as they "reported" cases only.

World-wide, it ranks as the 4th leading cause of death alongside HIV. The World Health Organization

estimates that the trend in the social burden of COPD [a composite measure which factors in death, and disability ] would rise from 12th highest in 1990 to 5th highest in year 2020.

We do not have published figures in Singapore, but it can be inferred that the relative importance is similar to that in other developed countries. [See Tables 2 and 3.] Health care cost [due largely to hospitalization] for COPD is twice that of asthma in the USA.

The burden is expected to increase with increasing trends of smoking in the young and with the increase in the population of the aged in the population. The present population of persons aged 65+ (7% of the population) is expected to increase to 20% by 2030.

*CM: In your opinion, what is the role*

As doctors of first contact, early diagnosis, identify people with early COPD, those at stage 0 [ at RISK ] and stage 1 [ MILD ] is a very important task. This is because the earlier the diagnosis is made, the better the prognosis. Detection and confirmation of milder stages of COPD require the use of spirometry. The use of office spirometers should be encouraged.

Smoking cessation is the most effective preventive measure. Smokers should be identified and encouraged to stop at every

Model projections of the prevalence of moderate to severe COPD in those 30years and older for 12 countries in the Asia-Pacific region		
Country	Moderate/Severe COPD cases	Prevalence
1. Australia	558 000	4.7%
2. China	38160 000	6.5%
3. Hong Kong	139 000	3.5%
4. Indonesia	4806 000	5.6%
5. Japan	5014 000	6.1%
6. South Korea	1467 000	5.9%
7. Malaysia	448 000	4.7%
8. Philippines	1691 000	6.3%
9. Singapore	64 000	3.5%
10. Taiwan	636 000	5.4%
11. Thailand	1502 000	5.0%
12. Vietnam	2068 000	6.7%
Total	56553 000	6.3%

[Source: Respiriology ; 8, 192-198]

**Table 1**

Figure 2.4 Direct and Indirect Costs of Lung Diseases, 1993(US \$ Billions) <sup>17</sup>					
Condition	Total Cost	Direct Medical Cost	Mortality-Related Indirect Cost	Morbidity-Related Indirect Cost	Total Indirect Cost
COPD	23.9	14.7	4.5	4.7	9.2
Asthma	12.6	9.8	0.9	0.9	2.8
Influenza	14.6	1.4	0.1	13.1	13.2
Pneumonia	7.8	1.7	4.6	1.5	6.1
Tuberculosis	1.1	0.7	-	-	0.4
Lung Cancer	25.1	5.1	17.1	2.9	20.0

United States. Figure 2-4 compares the estimated costs of various lung disorders in the US in 1993. In 1993, the annual economic burden of COPD in the US was estimated at \$23.9 billion<sup>17</sup>, including \$14.7 billion in direct expenditures for medical care services. [Source : GOLD workshop report 2003 update]

**Table 2**

Figure 2.4 Leading Causes of Disability-adjusted Life Years(DALYs) Lost Worldwide, 1990 & 2020(Projected) <sup>2,32</sup>				
Disease or Injury	Rank	Percent of Total DALYs	Rank 2020	Percent of Total DALYs
Lower respiratory infections	1	8.2	6	3.1
Diarrheal diseases	2	7.2	9	2.7
Perinatal period conditions	3	6.7	11	2.5
Unipolar Major depression	4	3.7	2	5.7
Ischemic heart disease	5	3.4	1	5.9
Cerebrovascular disease	6	2.8	4	4.4
Tuberculosis	7	2.8	7	3.1
Measles	8	2.6	25	1.1
Road traffic accidents	9	2.5	3	5.1
Congenital anomalies	10	2.4	13	2.2
Malaria	11	2.3	19	1.5
<b>COPD</b>	<b>12</b>	<b>2.1</b>	<b>5</b>	<b>4.1</b>
Trachea, bronchus, lung cancer	33	0.6	15	1.8

Excerpted with permission from Murray CJL, Lopez AD. *Science* 1999; 274:740-3. Copyright 1999 American Association for the Advancement of Science

**Table 3** WHO projection of total social burden WORLD-WIDE [source:GOLD workshop report 2003 update]

possible opportunity. If medication is necessary, the family physician should prescribe medication according to the severity staging of COPD. Exacerbations should be treated promptly which would then prevent the need for hospitalization. Providing health education to the public about the risk of smoking and COPD should also be encouraged.

thoracic Societies and the society of family doctors, WONCA.

**WORLD COPD DAY**

Public Health officials estimate that as many as HALF of all persons with COPD are undiagnosed [ie, patients are unaware that they have the disease]. The World COPD Day is a WHO endorsed day which is set

aside for “raising the awareness of COPD” around the world.

This is timely as there are now strategies for diagnosis and for effective evidence-based treatment of COPD, and a real opportunity to make an important impact on morbidity and mortality from COPD.

*CM: Can you tell us what is GOLD and what is the significance of the World COPD day?*

GOLD stands for the Global Initiative for Chronic Obstructive Lung Disease. This was started off in 1998 by an international group of experts in COPD, under the auspices of the National Heart, Lung and Blood Institute, NHLBI [ parent institute NIH, USA] and the WORLD HEALTH ORGANIZATION, WHO. This initiative now involves global

Figure 5-3-8 Therapy at Each Stage of COPD

Old(2001)	0 : At Risk	I: Mild	II: Moderate		III: Severe
New(2003)	0 : At Risk	I: Mild	II: Moderate	II: Severe	IV: Very Severe
Charateristics	<ul style="list-style-type: none"> <li>•Chronic symptoms</li> <li>•Exposure to risk factors</li> <li>•Normal spirometry</li> </ul>	<ul style="list-style-type: none"> <li>•FEV<sub>1</sub>/FVC &lt; 70%</li> <li>•FEV<sub>1</sub> ≥ 80%</li> <li>•With or without symptoms</li> </ul>	<ul style="list-style-type: none"> <li>• FEV<sub>1</sub>/FVC &lt; 70%</li> <li>• 50% ≤ FEV<sub>1</sub> &lt; 80%</li> <li>• With or without symptoms</li> </ul>	<ul style="list-style-type: none"> <li>• FEV<sub>1</sub>/FVC &lt; 70%</li> <li>• 30% ≤ FEV<sub>1</sub> &lt; 80%</li> <li>• With or without symptoms</li> </ul>	<ul style="list-style-type: none"> <li>• FEV<sub>1</sub>/FVC &lt; 70%</li> <li>• FEV<sub>1</sub> &gt; 30% or pressure of chronic respiratory failure or right heart failure</li> </ul>
	Avoidance of Risk factor(s), influenza vaccination				
	Add short-acting bronchodilator when needed				
		Add regular treatment with one or more long-acting bronchodilators Add rehabilitation			
			Add inhaled glucocorticosteroids if repeated exacerbations		
				Add long-term oxygen if chronic respiratory failure Consider surgical treatments	

**Table 4**

**Readers who wish to obtain additional information and resources pertaining to COPD can visit GOLD website at [www.goldcopd.com](http://www.goldcopd.com)**