Total WSH: Integrating Safety and Health, Towards A Holistic Approach

MWM Safe Hands Forum

20 Nov 2014
Singapore Population Demographics

**Life Expectancy at Birth**

- **Males**: 64.1, 67.8, 74.7, 77.6, 80.0, 84.0, 84.1, 84.5
- **Females**: 69.8, 73.1, 76.0, 79.2, 79.5, 79.9

**Total Fertility Rate**

- 1970: 3.07
- 1980: 1.82
- 1990: 1.83
- 2000: 1.60
- 2010: 1.15
- 2011: 1.20
- 2012: 1.29

**Ave No. of Children born per woman**

- 1970: 3.07
- 1980: 1.82
- 1990: 1.83
- 2000: 1.60
- 2010: 1.15
- 2011: 1.20
- 2012: 1.29

1970 – 2010 (40 years): Added 15 yrs to men & 16 yrs to women

Source: Singapore Department of Statistics
Quiz:
What is Singapore’s **current** age dependency ratio?

<table>
<thead>
<tr>
<th>No. of Seniors (Ages 65 years &amp; above)</th>
<th>No. of Working persons (Ages 20 – 64 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**Ans:**

A: 1 senior to 10 working persons

B: 1 senior to 7 working persons

C: 1 senior to 5 working persons

Source: Singapore Department of Statistics
Ageing Workforce

[Graph showing population demographics and age distribution over years from 1970 to 2012, with a decreasing resident old-age support ratio from 13.5 in 1970 to 6.7 in 2012.]

Source: Singapore Department of Statistics

http://populationpyramid.net/singapore

No. of residents aged 20 - 64 years Per Senior (aged 65 or older) Resident
Quiz:
Ill-Health - A case of Nature or Nurture?

Nature
(Non-modifiable factors)
E.g.: Gender, Age, Hereditary factors

Nurture
Modifiable factors
E.g.: Lifestyle, Work & Living Conditions

Option A:
Nurture: 75%
Nature: 25%

Option B:
Nature: 50%
Nurture: 50%

Option C:
Nature: 75%
Nurture: 25%
Ans: A

Genes load the Gun

But

Behaviours pull the Trigger

25% of risk of disease
Non-modifiable factors
E.g.: Gender, Age, Hereditary factors

75% of risk of disease
Modifiable factors
E.g.: Lifestyle, Work & Living Conditions

25-Nov-14
Body Mass Index & The Waist!

Body Mass Index  =  \( \frac{\text{Weight (kg)}}{\text{Height}^2 \text{(m)}} \)

<table>
<thead>
<tr>
<th>Weight Category</th>
<th>Asian Cut-off</th>
<th>International Cut-off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>BMI 18 – 22.9</td>
<td>BMI 18 – 24.9</td>
</tr>
<tr>
<td>Overweight</td>
<td>BMI 23 – 27.4</td>
<td>BMI 25 – 29.9</td>
</tr>
<tr>
<td>Obese</td>
<td>BMI ≥27.5</td>
<td>BMI ≥30</td>
</tr>
</tbody>
</table>

Example:

For 1.75m Asian person to have normal weight (BMI < 23), he needs to maintain a max weight of 70kg.

Waist Circumference:
- 80 cm (31.5 in)
- 90 cm (35.4 in)
Quiz:
Which country has the highest percentage of obese people?

Quiz:
Which country has the highest percentage of obese people?

- **Singapore**: 7.1%
- **Australia**: 26.8%
- **France**: 18.2%
- **China**: 5.7%
- **South Korea**: 7.7%
- **Malaysia**: 14%
- **Thailand**: 8.8%
- **India**: 1.9%
- **US**: 33%
- **UK**: 26.9%
- **Am Samoa**: 74.6%

Our Obesity rate has increased

Singapore's weight issue...

About 1.7 million adults are at risk of developing obesity-related diseases. Six in 10 of them are either pre-diabetic or suffering from chronic conditions, such as diabetes, heart disease and hypertension.

11% of Singaporean adults aged between 18 and 69 are obese as of 2010. This is 1 1/2 times the figure just 10 years ago. The global obesity rate is 12 per cent.

40% of Singaporean adults are at least overweight (In year 2010)

11% of children are either obese or overweight (In year 2011)

...and the problems it causes

**Brain:** Headaches, vision loss, nausea

**Throat:** Constricted airways

**Heart:** Heart disease, High Blood Pressure

**Liver:** fat in liver \(\rightarrow\) inflammation, scarring

**Pancreas:** impaired/time \(\rightarrow\) risk of DM2, Increase risk of pancreatic cancer

**Gallbladder:** Gallstones

**Bones:** Deformation of lower leg bones due to excess weight

Sources: Health Promotion Board, Dr Lee Yung Seng

Graphics: Mike McEwen, Text: Jiez Ban Xian

WSH Institute
It’s *not only* about the Weight!

- Body weight doesn’t give a very accurate assessment of risk of chronic diseases
- Need to know the *abdominal fat* as an indicator of excess fatty tissue in the body
- Levels of good/bad cholesterol and fats in the blood
- Blood pressure

Type and amount of Food, Substance use (tobacco/alcohol), and how active you are either make these better or worse!
How healthy do we think we are?

Source: National Health Survey 2010, MOH
Rise in Chronic Diseases & Health Risk Factors

Chronic Disease & Health Risk Factors by Age

% of Singapore's Resident Population (18 – 69)

Diabetes  Hypertension  High Cholesterol  Abdominal Fatness

18-69yrs  50-59yrs  60-69yrs

Source: National Health Survey 2010, MOH
Chronic Diseases are Leading Causes of Death

Leading Causes of Death in Singapore

- Cancer: 30.5%
- Heart Disease: 18.5%
- Cerebrovascular disease: 15.5%
- Pneumonia: 8.9%
- Accidents, Poisoning & Violence: 4.9%

Data from 2012 & 2013 are based on the 10th revision of the International Classification of Diseases
Chronic Diseases *don’t only Kill*

- Affects **ability to focus** if conditions are not well managed
- Substantial cost of disability, **lost workability**

Average Life Expectancy of Singaporean Male

- **80 years**

Average Work Life Expectancy of Singaporean Male

- **65 years**
  - **45 years**

Healthy

Fall sick (chronic disease)

- **20yrs of affected work life!**
Surveys and interviews conducted with 30 companies (including 10 from Manufacturing) involving about 9,000 workers.

Aim was to evaluate the current WSH state, identify gaps and challenges and implement selected intervention programmes based on the profile of each company.

### Sample of Manufacturing Industry

<table>
<thead>
<tr>
<th>Nationality</th>
<th>n</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Singaporean</td>
<td>1661</td>
<td>46.3</td>
</tr>
<tr>
<td>PR</td>
<td>663</td>
<td>18.5</td>
</tr>
<tr>
<td>Others</td>
<td>1266</td>
<td>35.3</td>
</tr>
</tbody>
</table>

### Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>2270</td>
<td>60.9</td>
</tr>
<tr>
<td>Malay</td>
<td>446</td>
<td>12.0</td>
</tr>
<tr>
<td>Indian</td>
<td>643</td>
<td>17.3</td>
</tr>
<tr>
<td>Others</td>
<td>368</td>
<td>9.9</td>
</tr>
</tbody>
</table>

### Age

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>18 to 29</td>
<td>931</td>
<td>25.0</td>
</tr>
<tr>
<td>30 to 39</td>
<td>1290</td>
<td>34.6</td>
</tr>
<tr>
<td>40 to 49</td>
<td>994</td>
<td>26.7</td>
</tr>
<tr>
<td>50 to 59</td>
<td>463</td>
<td>12.4</td>
</tr>
<tr>
<td>60 and over</td>
<td>51</td>
<td>1.4</td>
</tr>
</tbody>
</table>

### Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>2456</td>
<td>65.7</td>
</tr>
<tr>
<td>Female</td>
<td>1283</td>
<td>34.3</td>
</tr>
</tbody>
</table>

Source: WSH Services Study, 2013
Health Related Statistics – Manufacturing

Source: iWSH Services Study, 2013 and National Health Survey (2010), MOH
When OH and Chronic diseases meets…

Conventional OH hazards

- **Noise**: NID
- **Bad Ergo*/bad design of work controls/equipments/placement**: Musculoskeletal disorders (wrists, neck, back)
- **Chemicals, irritants**: Skin allergies, burns
- **Dust & fumes**: Respiratory disorders
- **Shift work**: fatigue, alertness

Chronic & Age-related Conditions

- Age-related Hearing Loss
- Age-related Vision disorders
- Overweight
- Diabetes
- High Blood Pressure
- Heart diseases
- Chronic Obstructive Pulmonary Disorder

Production line operators
Operators using tools, machines
Packing and shipping
Drivers, transporting goods
Stagnating Employee Engagement

Quiz: What percentage of local employees are “totally disengaged” from their job?

- 44% intend to leave their current employer within 5 years
  - Asia: 54%
  - Singapore: 52%

More than half of local employees “totally disengaged” from their job: global survey (ZB, 7 Nov, Singapore, p15)

Employee engagement in Singapore is lower than the global average (MyPaper, 7 Nov, News, pB2)

Source: Hay Group, July 2012
Key Challenges

- Half of workers totally disengaged!
- Accidents still happen
- Ageing workforce
- Rise in chronic diseases & health risk factors
  - loss of alertness/full participation
- Increased competition for skill & talent
Crane operator stuck 40m high rescued after 90 minutes

The Singapore Civil Defence Force (SCDF) rescued a 39-year-old man who was stuck on a crane at a construction site in Whampoa East on Tuesday morning. — PHOTO: SINGAPORE CIVIL DEFENCE FORCE
Do you have a Business Continuity Plan for these?

Severity

- SARS (and equivalent)
- Accidents
- Haze

Time

- Disengaged workforce
- Global Rise in Chronic Diseases
- Ageing Workforce
- Longer Work Life
- Tight Labour
Total Workplace Safety and Health

A comprehensive and integrated approach to managing workplace safety and health:

• to provide and maintain a safe and healthy working environment for all employees.

• to identify and address WSH risks in a proactive and integrated way with active participation from employees.
Total WSH – A New Paradigm

Mindset Shift

“Working safely from 9 to 5”

“Working safely and healthily for a lifetime”
Guide to Total WSH

- Multidisciplinary Team
- Holistic Risk Assessment
- Total WSH Gap Analyses
- Plan-Do-Check-Act
- Communication
- Integration
Applying Total WSH approach

**Plan**
- Individual Health/non-health Factors
- Physical Work Environment & Processes
- Work Organisation

**Action**
- Demographic Profile
- Health Profile
- Culture and Practices

**Do**
- Management of WSH risks
- WSH surveillance program
- WSH culture
- Health promoting environment

**Check**
- HR Mgt practices
  - Remuneration package
  - Working hours
  - Training
- Fair work environment & practices
- Staff engagement
- Org culture & Development

*Total* WSH = Integrated Considerations!
Managing Health Risks

1. The relevant health risks need to be identified and managed.

2. Not knowing that such risks exists may pose a risk to safety, health and well-being.

3. Targeting specific health risk factors (e.g. smoking, obesity) can prevent or delay the onset of associated chronic diseases.

4. Workers with chronic diseases can be better managed so as to manage the risk, prevent complications, reduce sickness absence and increase well-being and productivity.

Same for Occupational Diseases!
Symphony Orchestra
Set up your TWSH Symphony Orchestra!

1. Holistic Risk Assessment & Management
2. Gap Analysis, Data Management
3. Prioritise & Implement Actions

...beyond meeting WSH responsibilities …to being the employer of choice
Return-to-work (RTW) Programme

What’s your Direction?

What’s your Injury Management Plan?

Who’s making sure the direction is followed?

Is your communication fair and clear to the affected?

# Referenced from WorkCover, New South Wales, Australia
Return-to-work (RTW) Programme

RTW Policy
consists of the formal policy and procedures that an organisation must have in place to help injured workers with their recovery and return to the workplace.

RTW Coordinator
The return-to-work coordinator ensures that the policy and procedures in the employer's return-to-work program are followed.

Injury Management Plan
The injury management plan outlines all the services required to return the injured worker to the workplace. i.e. rehabilitation goal, and the actions required by the worker, employer, nominated treating doctor, rehabilitation provider, and insurance company.

RTW Plan
The written, formal offer of suitable duties by the employer to the injured worker.

It is designed to make clear what the worker can and cannot do when they return to work, and when this will be reviewed. The plan must be agreed by all relevant parties.

# Referenced from WorkCover, New South Wales, Australia
Employee Perceptions

Companies with better WSH policies and practices are...

7.4x more likely to be satisfied with current job

4.4x more likely to be proud to work for company

1.7x more likely to report work-life balance

Source: WSH Services Study, 2013
How TWSH can Help

- Upstream tackling of WSH (*before* it happens!)
- Healthier → more alert → Safer workers
- Return to work; smoother process
- Visible care for workers’ health & safety

Higher Engagement!

Good Business Image!
Building a Culture of Care

It is personal. It starts with me.