Active Transportation: Step Right Up!
Dalin Tzu Chi Hospital, Tzu Chi Medical Foundation (Taiwan)

GGHH Agenda Goals
- Leadership

Hospital Goal
- To ban public smoking areas within hospital vicinity
- To save electricity by encouraging the usage of staircase through creation of a supportive environment
- To promote good health among employees and patients through exercise

Progress Achieved
- Increase in human health benefit. Banned public smoking area in compliance with Taiwan National Policy banning smoking in all indoor public areas ratified January 11, 2009.
- Closed selected elevators at night time to minimize usage. At night, only 10 out of 23 elevators are operational

The Issue
A staff physical examination was done in the year 2006. Based on the results, the hospital had seen the urgency to improve the cardiorespiratory endurance of the employees. The result of the test showed that 67% of the employees’ fitness level is below average.

The hospital deemed that through promotion of aerobic exercises and other physical activities the health of their employees will be improved. The table below shows the results of the Cardiorespiratory Endurance Fitness Test Result.

<table>
<thead>
<tr>
<th>Employees</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Bad</th>
<th>Very bad</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin Staff</td>
<td>7</td>
<td>16</td>
<td>88</td>
<td>152</td>
<td>34</td>
<td>297</td>
</tr>
<tr>
<td>Technicians</td>
<td>12</td>
<td>26</td>
<td>90</td>
<td>133</td>
<td>35</td>
<td>296</td>
</tr>
<tr>
<td>Doctors</td>
<td>2</td>
<td>20</td>
<td>38</td>
<td>69</td>
<td>13</td>
<td>142</td>
</tr>
<tr>
<td>Nurses</td>
<td>8</td>
<td>26</td>
<td>175</td>
<td>354</td>
<td>122</td>
<td>685</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>89</td>
<td>401</td>
<td>729</td>
<td>212</td>
<td>1420</td>
</tr>
</tbody>
</table>
Sustainability Strategy Implemented

To promote and support this behavior, current spaces such as staff dormitory and staircases were transformed and decorated to encourage physical activities. Moreover, physical activities will be incorporated in to their work-time to engage employees’ participation.

Posters displaying messages on benefits of walking may be seen around the hospital. It was indicated in the posters that using the stairs is an excellent way to cope with job-related stresses and incorporate physical activity into a sedentary work life.

To monitor and further enhance the program, Dalin Tzu Chi Medical Hospital established a Staff Health Promotion Committee which consists of members from different departments. The members of this committee comes from the Departments of Community Health, Human Resource, General Affairs and the Superintendent’s Office.

Implementation Process

1. Environment Analysis
Identify priority areas by calculating cigarette butts among the staircase. This activity was conducted to promote utilization of stair cases. During the implementation of smoking bans in all public indoor areas, smokers found staircases as inconspicuous area for smoking. Table below presents the number of cigarette butts found in different areas for a period of twenty days monitoring.

<table>
<thead>
<tr>
<th>Identified Areas</th>
<th>5F</th>
<th>6F</th>
<th>7F</th>
<th>8F</th>
<th>9F</th>
<th>10F</th>
<th>11F</th>
<th>13F</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area A (Patient’s Ward)</td>
<td>124</td>
<td>16</td>
<td>37</td>
<td>801</td>
<td>1097</td>
<td>840</td>
<td>1147</td>
<td>14</td>
<td>4076</td>
</tr>
<tr>
<td>Area B (Patient’s Ward)</td>
<td>17</td>
<td>39</td>
<td>890</td>
<td>754</td>
<td>1006</td>
<td>929</td>
<td>969</td>
<td></td>
<td>4604</td>
</tr>
<tr>
<td>Central</td>
<td>29</td>
<td>34</td>
<td>27</td>
<td>44</td>
<td>34</td>
<td>35</td>
<td>36</td>
<td>26</td>
<td>265</td>
</tr>
<tr>
<td>Garden</td>
<td>1611</td>
<td>1484</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3095</td>
</tr>
<tr>
<td>Total</td>
<td>1781</td>
<td>1573</td>
<td>954</td>
<td>1599</td>
<td>2137</td>
<td>1804</td>
<td>2152</td>
<td>40</td>
<td>12040</td>
</tr>
<tr>
<td>Average/ Day</td>
<td>89</td>
<td>79</td>
<td>48</td>
<td>80</td>
<td>107</td>
<td>86</td>
<td>108</td>
<td>2</td>
<td>602</td>
</tr>
</tbody>
</table>

2. Redecorate Rarely Used Stairs
To create a supportive environment, posters and murals were placed in strategic locations within the stair areas. Stair doors from Basement to 3rd Floor were kept open, furnished and decorated. These activities were done to encourage patients to immediately decide to take the stairs because of the benefits presented and pleasantness of the environment portrayed in the murals.
Finishing 260 staircases steps is not a dream!

100th step, way to go!

150th step, keep it up!

Almost there, keep going!

Congratulations! You did it.

3. Stairs Challenges were Introduced:
   Stairs logs were tracked by scanning personal ID card and participation will receive recognition and tokens. Winners will also be appointed as ambassador to promote this healthy initiative.

4. Media:
   Posters, news covers, newsletters and hospital computers’ desktop wall-papers all show information about the program.

Tracking Progress
1. For the first 2 years, a stairs logs tracking system was used to increase participation and instill culture of using the stairs.
2. Direct Observation:
   Significantly reduced number of smokers seen at staircase

Challenges and Lessons Learned
Strategies should go beyond education or communication to achieve significant behavioral changes among target population. We believed that environment modifications may present opportunities which are free and readily available.

**Next Steps**
Implement Intelligent Building Energy Management System (iBEMS) for better energy monitoring in elevator usage.

**Demographic Information**
The first Tzu Chi General Hospital was inaugurated on August 17, 1986. The Hospital practices the respect for life and patient-oriented medical care principles in Eastern Taiwan.

On the other hand, Dalin Tzu Chi General Hospital, a hospital established in a land with an area of 137,800 sq. m, was inaugurated on August 13, 2000. The hospital is serving the people in the area of Yunlin and Chia-yi, a place with disproportionate medical resources.

Hospital provides consultative service, in-patient palliative care unit (acute hospital) and hospice home care service. The hospital has 957 beds, 20 operating rooms and 1756 employees. With the present facilities and manpower the hospital is able to serve an average of 78,742 outpatients per month (944,904 annually) with an estimated 17,578 days of stay per month.

**Links**
http://dalin.tzuchi.com.tw

**Quotes:**
“"I have a busy schedule as a surgeon. But taking the stairs helps me exercise more and conserve time as it is much faster to use the stairs than wait for an elevator."”
- Cardiologist, Dr. Lin

**Keywords / Topics:**
Active transportation, stairs, worksite health promotion

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