

ADEQUACY OF WORK ENVIRONMENTS IN PUBLIC DISPENSARIES AND HEALTH CENTRES, KENYA

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Presented in:

OSH WORKSHOP

ON

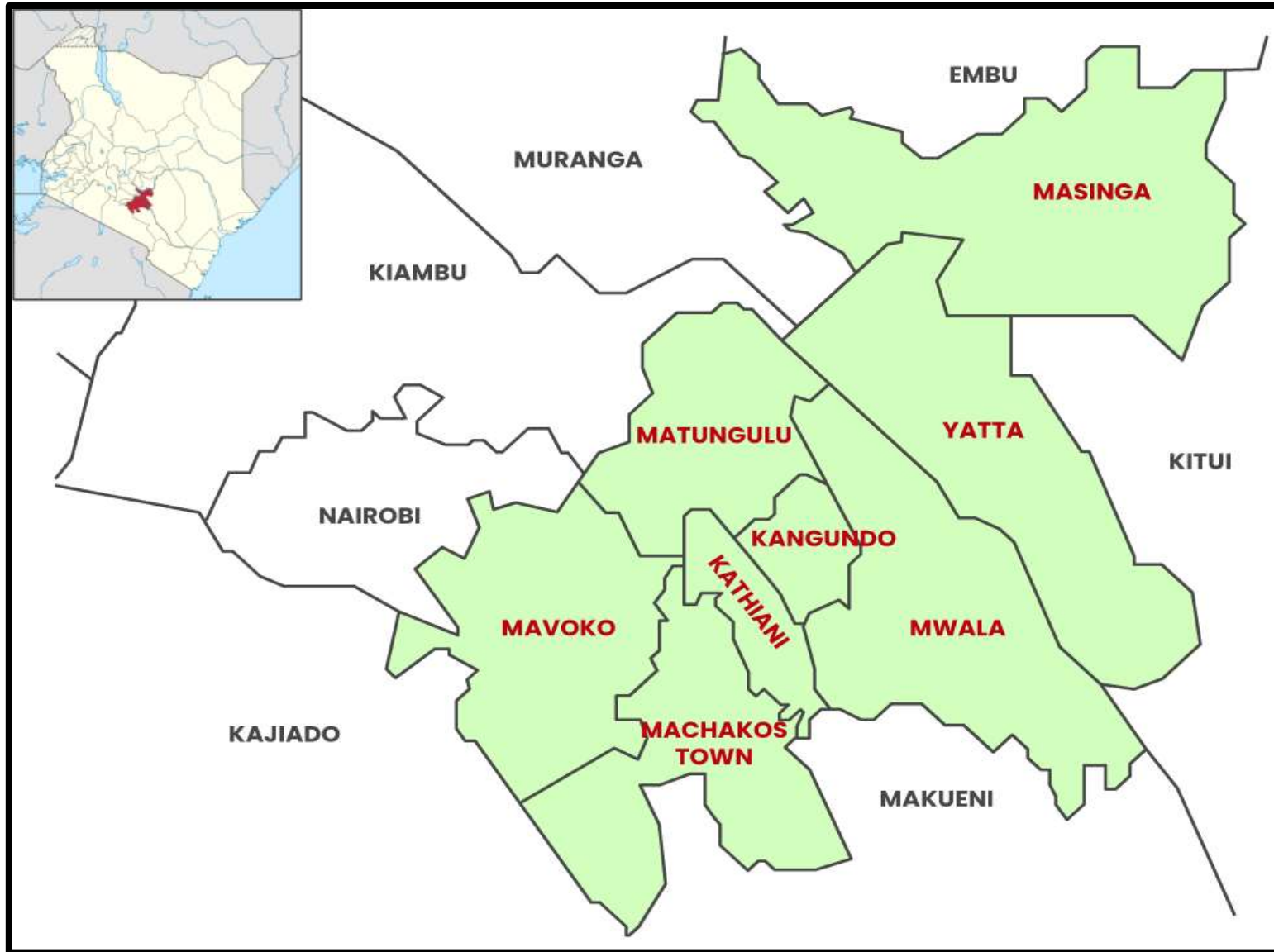
EMERGING & CONTEMPORARY OSH RISKS

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Background of the study

- Healthcare settings **post more lost-work-day cases** each year, and the probability of employees in healthcare suffering injury is higher than in other sectors (OSHA, 2013)
- Hazardous working conditions **increase morbidity and mortality** among health workers (Ndejjo *et al.*, 2015)
- This result in **loss of skilled health personnel**; and cause immense **human suffering** (OSHA, 2013) and **financial burden** to families, communities, organizations, and governments (EU, 2011; ILO, 2010)
- The Kenya OSHA **mandates employers** to uphold **the highest standards** of occupational safety and health in their workplaces, **but** occupational **incidents persist** in public health facilities, with high risk of exposure (KMOH & IntraHealth International, 2013; MOH, 2016)
- Sought **to assess the adequacy** of work environments in **public dispensaries and health centers** in Machakos County and publish findings

Study Area and Population



Machakos County

The Study Area had **102** dispensaries and **27** health centers

Methods

- A **cross-sectional survey** conducted in **February, 2018** involving fourteen (14) dispensaries and seven (7) health centers, approximately 16.3% of these facilities
- Measured **linear dimensions & angles**, and **computed areas & air volumes**
- Made **physical observations** in the workplaces
- The **assessments** involved workrooms, doors, windows, passageways patient examination couches, and material storage shelves
- **Data** were **recorded** in checklists, summarized in tables, and analyzed

Results of Work Environment Assessment

Environmental Element	Number Assessed	Percentage Compliant
1. Availability of Facility Building Plan	21	23.8%
2. Plan Approved by DOSHS	0	0%
3. Height of Workroom \geq 3m	80	21%
4. Air volume of workroom \geq 10m ³ per worker	80	47.5%
5. Width of full-open door \geq 900mm	80	48.8%
6. Door shutter swings outward	80	40.0%
7. Door not lockable from inside	80	42.5%
8. Surface area of window \geq 10% of the room floor area	96	81.3%
9. Opening surface area of window \geq 6.25% of the room floor area	96	84.4%
10. Window shutter full opening angle = 180°	96	35.4%
11. 'Through' Natural Ventilation in the Workroom	80	38.5%

Results of Work Environment Assessment cont'd

Environmental Element	Number Assessed	Percentage Compliant
12. Width of Passageway $\geq 1.2\text{m}$	21	42.9%
13. Passageway not obstructed	21	38.1%
14. Emergency Exit provided	21	81.0%
15. Width of Emergency Exit door $\geq 900\text{mm}$	12	30.0%
16. Marked Fire Assembly point	21	81.0%
17. Material storage shelves stable	18	72.2%
18. Materials storage shelves not obstructing windows	18	44.4%
19. Materials storage shelves with stable equipment to reach heights	18	22.2%
20. Patient Examination Couch with adjustable height	27	0%
Aggregate Mean		42.5%

Results and Discussion

Building Plan

- All the health facilities **did not have building plans approved** by DOSHS, therefore **not compliant**

Air and Ventilation

- **79% of the workrooms** ceiling heights were **<3m** required by OSHA, 2007, therefore the workrooms **were not adequate**
- **53%** of the w/rooms had **< 10m³ air volume** per worker specified in OSHA, 2007
- **62%** of the workrooms did **not have “through”** ventilation (**NPBA, 2009**)
- **16% of the windows** had opening surface areas **<6.25%** of the floor area required by **NPBA (2009)**
- These results indicated that **natural ventilation** was **not sufficient**
- **Risk of** air-borne disease transmission, psychological stress, fatigue, shortness of breath, accidents among others

Results and Discussion cont'd

Natural Lighting

- 19% of windows surface areas were inadequate [$<10\%$ of the room floor area] (NPBA, 2009)
- 56% of storage shelves were obstructing windows and therefore not compliant with OSH Act
- These results showed that natural lighting was not adequate resulting in poor vision and risk of collisions, accidents and eye strains

Risk from Windows

- 65% of the windows had full opening angles of $<180^\circ$
- OSH Act (2007) provides that a window should not be a source of risk to people; but does not explain further
- However, HSA, 2007 requires windows not to project to areas where people pass
- These windows posed risk of accidents and injury to people

Manual handling

- All the 27 patient examination couches had no mechanism to adjust heights (ILO, 2012)
- 28% of the material storage shelves were not stable therefore, with risk of collapsing – (OSHA, 2007)
- 78% of the shelves had no equipment to reach materials in heights – (ILO, 2012)
- These results showed that the work environments were inadequate and exposed workers to risk of accidents and musculoskeletal conditions.

Workplace Access and Exits

- 60% of the doors were swinging inwardly;
- 58% of the doors were locked from inside; contrary to OSHA, 2007
- 58% of doors were less than 900mm wide
- OSHA requires workrooms to have adequate access and exits but fails to specify adequate sizes of doors.
- However, NPBA (2009) requires opening width of each workroom door to be at least 900mm

Workplace Access and Exits cont'd

- 67% of emergency exits were <900mm in width required in OSHA, 2007
- 57% of the passageways were less than 1.2m wide.
- While the Act does not provide standard widths of passageways, NPBA (2009) specifies the width of passages to be at least 1.2m
- 62% of passageways were obstructed. OSHA stipulates that passageways must be of adequate width and unobstructed
- Ingress and exit within the workrooms were not sufficient, therefore, risk of collisions, accidents and injuries

Conclusions

1. **Work environments** in the public dispensaries and health centers were **not adequate**
2. Presence of the **Directorate of Occupational Safety and Health** was **not felt** in the public health facilities
3. The Kenya occupational safety and health **Act, 2007** does **not provide measurable standards** for various OSH aspects
4. Adequacy work of the work environments is affected by **lack of:**
 - **inspection** of the health facilities by DOSHS
 - **standards** for various elements of OSH in OSHA, 2007

Recommendations

- ❑ The Health Managers should ensure the various OSH elements are adequate
 - The **ceiling heights** of the workrooms should be **at least 3m**
 - Windows should **be placed opposite windows or doors** and must have total surface areas of **at least 10%** of the respective floor areas
 - The **openable window surface area** should be made **at least 6.25%** of the floor area
 - The windows must be **installed** such that **they lie on the wall behind** when fully open
 - The **patient examination couches** should have **mechanism to adjust heights**
 - The **material storage shelves** should be **made stable** and provided with safe **mechanism to reach materials in heights**
 - Access **doors and emergency exits** of **at least 900mm** wide must be provided to each workroom and made to **open outwardly**
 - Passageways must **at least 1.2m wide** and maintained **without obstruction**

Recommendations cont'd

- ❑ DOSHS should **inspect the health facilities** regularly and help them improve their work environments
- The **prevailing conditions** in the health facilities **should be corrected**
- All **OSH elements** should be considered at the **design stage** of **new health facility buildings**.
- ❑ The Kenya **OSHA, 2007** should **be revised** to include **measurable standards** for the various elements of the work environments
- ❑ Further research may be conducted to examine other OSH elements in the health facilities

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THANK YOU