

# To Reduce Formation Of Pressure Injury through Newly Improved Foam Elevator Used by Patients with Fractured Hip

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## Background of the Problem

Ward 75 in Singapore General Hospital is an orthopaedics trauma ward whereby many elderly patients with hip fractures are admitted. As a form of immobilization to relieve pain prior to surgical fixation of the fractured hip, foam elevators are used to support the fractured hip.

## Mission Statement

To eliminate the incidence of patients with fractured hip utilizing the foam elevator developing pressure injury at the heel or malleoli region in W75 within 6 months.

## Analysis of Problem

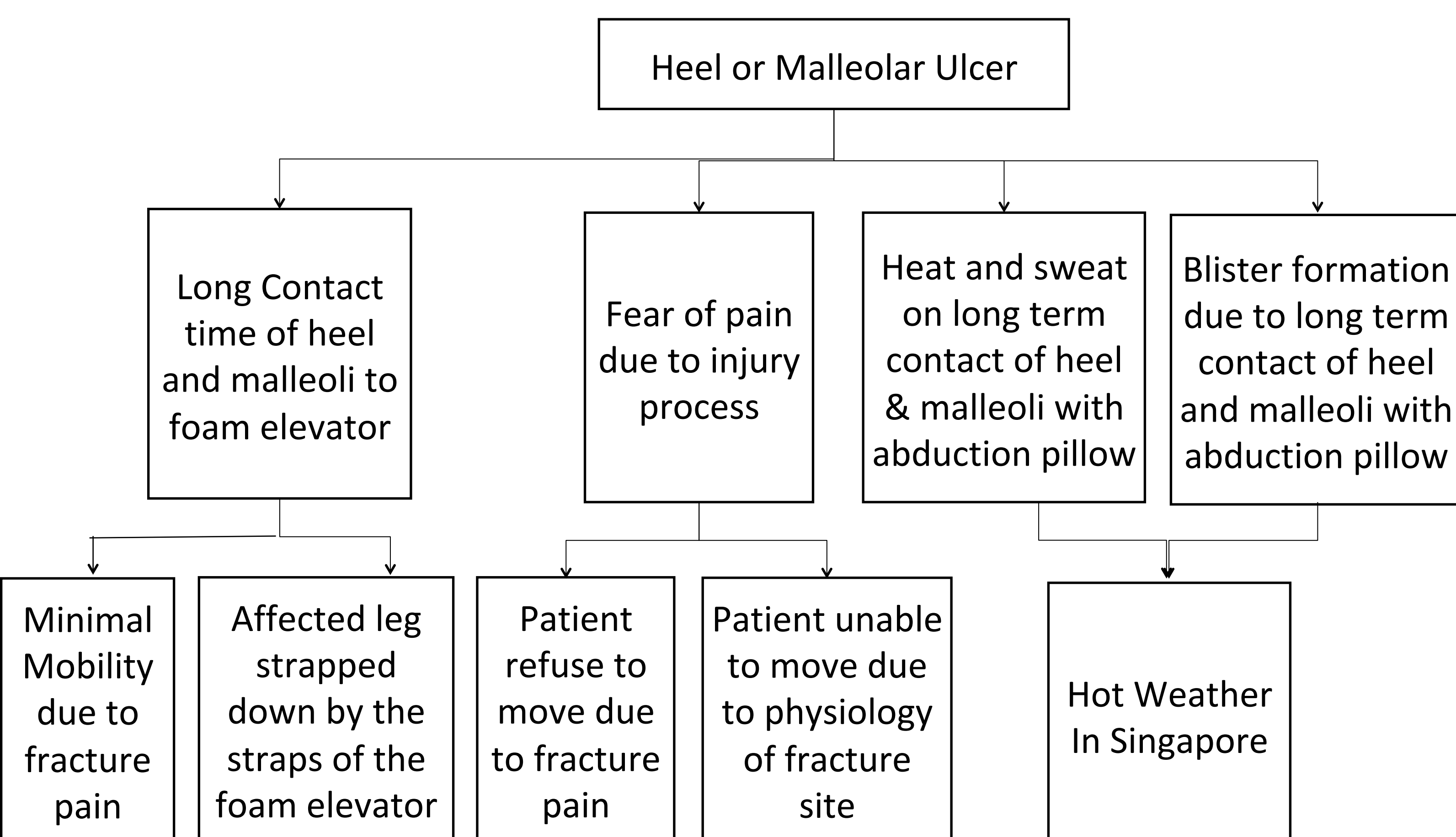


Figure 1: Use of 5-Whys Diagram to identify the root causes of the problem



Figure 2  
Old Foam Elevator

## Selection of Final Solution

- Too many straps restrict movements of the affected limb; especially the strap at the instep is a potential source for friction injury during ankle pumps;
- Prolonged contact of the heel and malleoli with the foam elevator increases the risk of pressure injury

## Interventions/Initiatives

The following improvements were made to the new foam elevator (Figure 3-4):

- Gradual elevation was added to reduce swelling over the affected leg
- The foot portion of the foam elevator was removed to allow a heel free elevation; foot portion was widened to minimize contact of malleoli with the foam elevator
- Number of straps was reduced to allow patient to do ankle pump exercises without worry of pressure injury to the instep of the foot



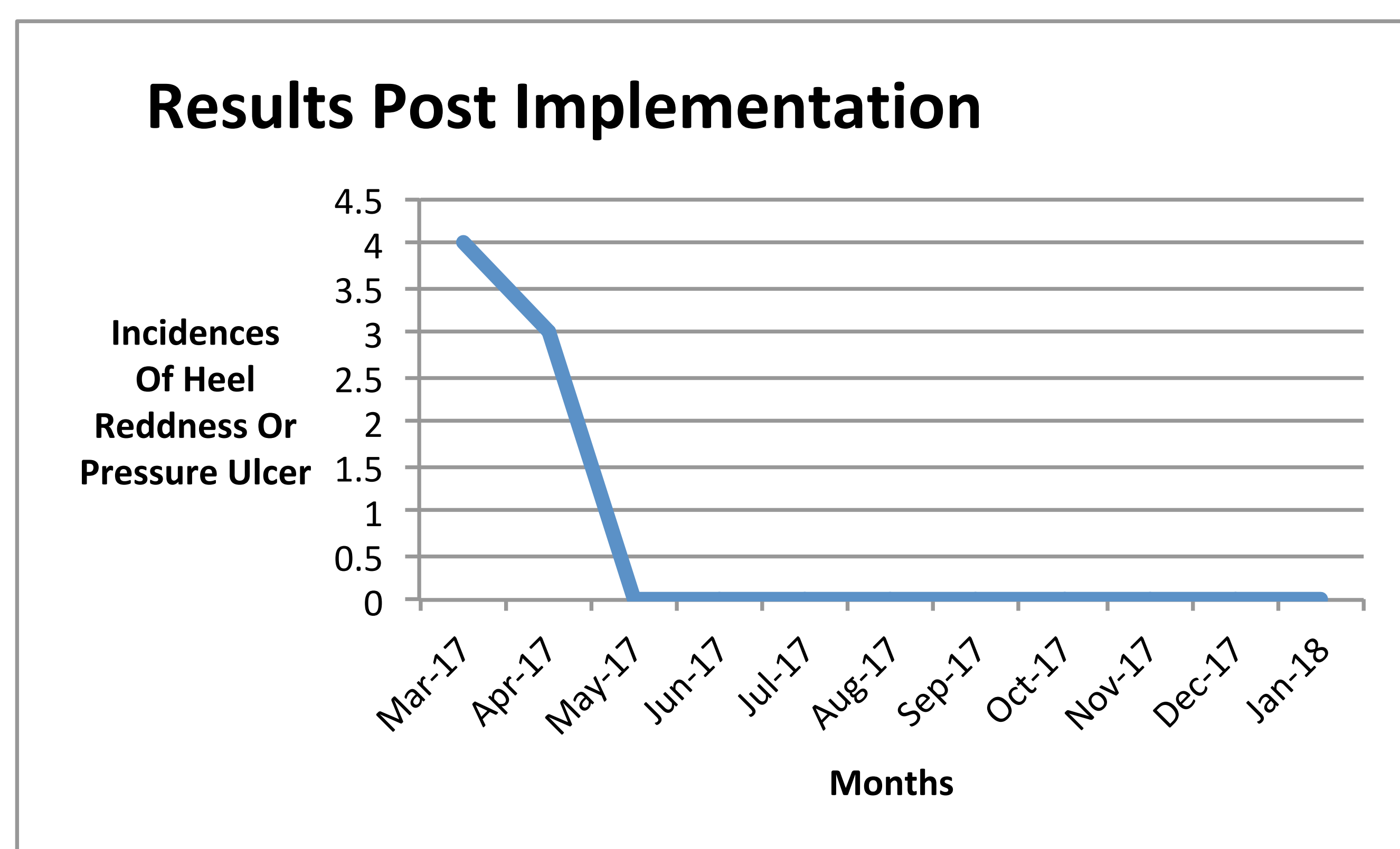
Figure 3  
Gradual Elevation & Minimal Strap Down



Figure 4  
Heels Free

## Results

There have been no new cases of heel or malleoli redness for patients utilizing the new foam elevator - target of 0% reached.



## Sustainability Plans

This new improved foam elevator will not be roll out to other wards as it is only used in orthopaedics setting for fractured hip cases; and there will not be any further improvement to this. This newly improved foam elevator will be shared with new staffs joining the ward during the Orthopaedics induction program.