


## Final Year Project Showcase Batch-2018 Year 2022

<b>Department: Biomedical Engineering</b> <b>Programme: Biomedical Engineering</b>		
<b>1</b>	<b>Project Idea</b>	Development of a Patient Lifter for Care of Paralyzed/Bedridden Patients
<b>2</b>	<b>Process</b>	Manual Lifting of patients using a device rather than human force
<b>3</b>	<b>Outcome</b>	Hardware based totally operative equipment .
<b>4</b>	<b>Evidence (Theoretical Basis)</b>	Disabled and paralyzed patients, who are confined to their beds look for assistance from other people to transfer them between places. Therefore, nurses/caregivers have to manually transfer such patients which can cause them musculoskeletal disorders. This leads to the design of this product. It is a hydraulic-powered manual lifting device, consisting of six main components: a support base (with casters to allow the lift to roll), a mast, a boom, a lifting mechanism (hydraulic jack), a swivel hanger bar, and a sling. It will help promote an effortless transfer of patients without the need for professional assistance.
<b>5</b>	<b>Competitive Advantage or Unique Selling Proposition</b>	
<b>a</b>	<b>Attainment of any SDG</b>	<p>Our project supports three SDGs and they are discussed below one by one.</p> <p><b>SDG#3: Good Health and Well Being</b> Good health is essential to sustainable development and has made great progress against diseases and death. Our project focuses on the well-being of the caregivers and nursing staff from lifting the patients on their own. This equipment will help them to easily transfer the patient from one place to another and can result in better and healthy society.</p> <p><b>SDG #9: Industry, Innovation, And Infrastructure</b> Patient lifts incorporated with the caster wheels for easy and desired locomotion and slings of the patient's choice in which the individual will have a sense of security. This equipment is manufactured overseas and it quite expensive. This project focuses to develop this equipment locally with low cost. Therefore, in future our country will be self sufficient in manufacturing such assistive equipment.</p> <p><b>SDG#10: Reduced Inequalities</b> This project is minimizing all locomotory barriers for the disabled patients. In this way this assistive technology is helping to reduce inequality in terms of physical appearance. Like patients who were less obese were prone to get more hands willing to assist in transfer as compared to more obese because caregivers used to get worried</p>

		of getting musculoskeletal injuries, but with this now every type of the patient can easily be transferred.
<b>b</b>	<b>Any Environmental Aspect</b>	Our patient lift is manual i.e. it has a hydraulic pump. So, in areas where electricity is an issue this equipment can prove to be beneficial.
<b>c</b>	<b>Cost Reduction of Existing Product</b>	This equipment is not available in Pakistan but is available in foreign countries. The import of such equipment can cost around 3-4 lac shipment included. By local manufacturing, it will cost around 1 lac. So, there is definitely a cost reduction.
<b>d</b>	<b>Process Improvement which Leads to Superior Product or Cost Reduction, Efficiency Improvement of the Whole Process</b>	The current process of patient transfer relies on nurses/caregivers manually lifting the patient, the Mobile Patient Transfer Lift decreases the amount of people as well as the amount of force required by the nurses/caregivers.
<b>e</b>	<b>Expanding of Market share</b>	Through increase in exports and decreased dependency on imports of such devices, this project can bring Pakistan in the market share of patient lifting devices as a manufacturer.
<b>f</b>	<b>Capture New Market</b>	Hospitals and homes with patient are our niche
<b>g</b>	<b>Any Other Aspect</b>	---
<b>6</b>	<b>Target Market</b>	Target market will be bedridden, paralyzed patients, nursing staff and caregivers.
<b>7</b>	<b>Team Members</b>	<ul style="list-style-type: none"> <li>• Rabia Ahmed Usmani <a href="mailto:rabia.usmani.1199@gmail.com">rabia.usmani.1199@gmail.com</a></li> <li>• Shakeeb ul Hasan Ansari <a href="mailto:shakeeb.ansari@hotmail.com">shakeeb.ansari@hotmail.com</a></li> <li>• Jehoshabeath Nawab <a href="mailto:jnawab8@gmail.com">jnawab8@gmail.com</a></li> <li>• Muhammad Saad Amjad <a href="mailto:saadamjadaa@gmail.com">saadamjadaa@gmail.com</a></li> </ul>
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<b>10</b>	<b>Pictures</b>	
<b>11</b>	<b>Video</b>	<a href="https://bit.ly/BM16_ProjectDemoVideo">https://bit.ly/BM16_ProjectDemoVideo</a>