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A Comprehensive Review of the Hierarchy of Controls and Barriers to its Implementation

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Abstract*: *Workplace hazards can cause injuries and illnesses. Many jobs involve physical, chemical, and ergonomic risks. Identifying these hazards and reducing exposure can protect workers. The Hierarchy of Controls framework guides this process. It places elimination and substitution at the top, then engineering controls, administrative controls, and finally personal protective equipment at the bottom. This review examines recent literature on workplace risks and ways to manage them. It shows that removing or substituting hazards reduces harm more than relying on personal protective equipment alone. Engineering controls often provide stable protection. Administrative measures assist in hazard mitigation but depend on worker compliance. Personal protective equipment is necessary when other measures are insufficient. But it can fail if used incorrectly. Employers should ensure measures are put in place to provide proper training on how to use and maintain it. Studies show that organizations applying the Hierarchy of Controls reduce injuries and chronic illnesses. They cut costs, protect health, and improve productivity. Barriers to using these controls include cost concerns and reluctance to change processes. Involving workers in decisions and communicating benefits can ease these obstacles. Future research may find new engineering options or simpler control methods. The Hierarchy of Controls remains a standard guide. It helps employers and workers focus on preventing hazards at their source. By following these principles, workplaces can become safer and healthier.

Keywords*: *Injury Prevention, Hierarchy of Controls, Occupational Safety, Risk Assessment, Workplace Hazards

I. INTRODUCTION

Workplace hazards affect the health and safety of workers in many industries worldwide. These hazards include chemical exposures, physical injuries, ergonomic strains, and biological risks. Table-I lists common examples of these hazards.

Table-I: Examples of Common Workplace Hazards

Hazard Type	Examples	Potential Effects
Chemical Exposure	Toxic solvents, fumes, dust	Respiratory problems, skin irritation
Physical Injury	Slips, trips, falls, cuts	Fractures, sprains, lacerations
Ergonomic Strains	Repetitive motions, awkward postures	Musculoskeletal disorders, chronic pain
Biological Risks	Viruses, bacteria, molds	Infections, allergic reactions
Psychosocial Factors	Stress, bullying, long shifts	Mental health issues, reduced productivity

Some workers inhale harmful dust, while others face the risk of machinery accidents or repetitive motions that lead to musculoskeletal disorders. Still others experience irregular schedules that affect their mental well-being. Authorities have noted that workplace hazards not only endanger individuals but also create broader costs for employers and communities. These include:

A. The Occupational Safety and Health Administration (OSHA) [1].
B. The World Health Organization (WHO) [2].
C. The International Labour Organization (ILO) [3].
D. The National Institute for Occupational Safety and Health (NIOSH) [4].

This paper presents current literature on workplace risk management through the Hierarchy of Controls. It identifies barriers to implementation of the Hierarchy and discusses hazard prevention strategies.

A. Hierarchy of Controls

Once hazards are identified, it is tempting to make only minimal changes, especially if the hazard is central to a production process. However, NIOSH has long promoted the use of the Hierarchy of Controls [4]. The underlying logic is that removing a hazard outright offers more dependable protection than simply equipping workers with protective gear. Although not always easy, tackling hazards at their source prevents many downstream issues.

B. Elimination

Elimination means removing the hazard entirely and is thus the most effective option. Many organizations view elimination as the most reliable way to prevent workplace injuries and illnesses because it lessens the need for further controls [5]. Evidence shows that successful elimination can save costs and prevent longterm complications [6].

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It prevents reliance on human behavior or continuous monitoring. Research also suggests that once a hazard is eliminated, organizations develop a more proactive mindset, encouraging a culture of prevention in day-to-day activities [7].

C. Substitution

When elimination is not possible, the next level is substitution. This replaces a harmful material or process with something less hazardous [8]. Substitution follows the same rationale as elimination. If the hazard itself is minimized, then the burden of safety enforcement decreases. However, like elimination, substitution can involve upfront costs. Employers may need to change suppliers, retrain staff, or adapt machinery. Heinrich's pioneering work on accident prevention argued that addressing hazards at their source is key, suggesting that substituting safer processes or materials is often more effective than training workers to handle dangerous conditions [9]. Research also shows that once management recognizes the long-term cost savings in workers' health and productivity, it may be more motivated to pursue substitution [10].

D. Engineering Controls

If neither elimination nor substitution is feasible, the next level is engineering controls. These controls involve physical modifications to workplace equipment or processes to isolate hazards from workers [11]. Such strategies tend to be more reliable than administrative measures because they function independently of human behavior [12]. Once installed, an engineering control can reduce injury rates over the long term, as it remains in place with minimal oversight [13].

E. Administrative Controls

Administrative controls revise how work is carried out without removing the hazard itself. As the hazards still exist, they are less effective than elimination or substitution.

Training is a form of administrative control, as it educates employees to recognize hazards and follow safe practices [14]. However, administrative measures depend heavily on human cooperation. If a worker forgets a step or a supervisor fails to enforce guidelines, the risk remains [15].

A supportive safety culture, in which managers and employees work together to maintain standards, can also make administrative controls more successful [16]. Administrative controls may be especially common in settings where hazards are difficult to eliminate or engineer away, or in situations where organizations lack the resources for more robust changes [17]. Nonetheless, experts encourage employers to pair administrative measures with at least some form of engineering or higher-level action to reduce reliance on human vigilance [18].

F. Personal Protective Equipment (PPE)

PPE Examples include gloves, safety glasses, respirators, or earplugs [19]. PPE provides a barrier between hazard and worker, but it also does not remove the hazard and is thus least effective control in the Hierarchy of Controls. While PPE is often vital, especially when no other options are easily implementable, it requires ongoing maintenance, training, and proper use [20]. Since PPE relies so much on individual behavior, many occupational safety and health professionals see it as a last resort [21].

On the other hand, when PPE is combined with higher-level measures, it can be highly effective, particularly in emergencies or for tasks where elimination, substitution, or engineering controls are not applicable [22]. The best practice is to use PPE as a supplement rather than the primary solution, reinforcing a broader safety strategy that addresses hazards at their source [23].

G. Barriers to the Hierarchy of Controls

Despite its clear logic, the Hierarchy of Controls can be challenging to implement.

Economic concerns are often a barrier. Employers might view elimination, substitution, or engineering solutions as expensive, favoring cheaper short-term fixes like administrative measures or PPE [24]. However, research indicates that initial costs should be weighed against long-term gains, including reduced worker injuries and the associated costs of medical care, lost productivity, and potential legal issues [25].

Cultural elements also influence adoption. In workplaces where management disregards employee input or prioritizes short-term profits, efforts to eliminate hazards or invest in engineering controls may be overlooked [26]. Some organizations lack the technical expertise to find effective substitutions or design robust engineering solutions.

Others struggle with regulatory pressures; while OSHA, WHO, ILO, and NIOSH guidelines encourage toptier solutions, enforcement varies by region, leaving some employers with minimal legal incentives to make major changes [27]. Contract or temporary employment relationships also complicate hazard control, as short-term workers may not receive sufficient training or may not feel empowered to voice safety concerns [28]. Table-II lists common barriers, such as economic concerns and cultural resistance.

Table-II: Summary of Common Barriers to Implementing Higher-Level Controls

Barrier	Description	Example
Economic Concerns	Employers worry about upfront costs of new equipment or processes	Installing a new ventilation system is more costly than offering masks to employees.
Lack of Expertise	Organizations may not know how to implement safer alternatives	No in-house engineer to identify suitable substitutions and guide their installation
Cultural Resistance	Management or workers resist change, often due to fear of losses in production; threat of worker redundancy or distrust in new methods	"We've always done it this way" mindset
Regulatory Gaps	Weak enforcement or inconsistent regulations may not push employers to adopt top-tier controls	Minimal penalties allow reliance on PPE only
Temporary Contracts	Short-term workers may not receive proper training or feel empowered to report hazards	High turnover rates limit consistent safety practices

H. Prevention Strategies

Prevention strategies are most effective when they begin early, ideally at the design phase of equipment, processes, or workspaces. Table-III lists key prevention strategies, such as prevention through design. Using safe layouts, automated systems, or less harmful substances from the start reduces the need for training and PPE.

Table-III: Key Prevention Strategies

Strategy	Key Components	Potential Benefits
Prevention Through Design	Integrate safety measures in the earliest stages of planning and design	Fewer retrofits. Lower long-term costs. Fewer exposures
Safety Culture Development	Encourage clear communication, leadership support, and worker involvement	Higher compliance. Improved trust. Easier adoption of changes
Continuous Training	Provide ongoing education about hazards and safe practices	Keeps workers updated. Reinforces safe behavior
Integration with Health	Combine hazard control with well-being initiatives (e.g., Stress management)	Supports overall health. Lowers absences. Boosts morale
Regular Monitoring & Feedback	Track incidents, gather employee input, and adjust controls as needed	Identifies issues early. Improves adaptation to changes

The Prevention through Design concept builds hazard control into operations from the start [29]. When an organization invests in safe layouts, automated systems, and less harmful materials, the need for training, supervision, and PPE decreases. Over time, these interventions can lead to a healthier workforce and improved performance, as fewer disruptions occur from accidents or worker absences [30].

Another crucial element is a safety culture that values prevention. Leaders should communicate clearly about safety, encourage reporting, and involve workers in decision-making. Studies show that when employees trust management's commitment to safety, they are more inclined to comply with rules and suggest improvements [17].

Providing consistent, high-quality training ensures everyone understands why certain measures are necessary and how to perform tasks safely. Over time, this fosters a culture where safety is integral to every job function, rather than an afterthought.

Integration of hazard control efforts with broader worker health programs can also enhance effectiveness. Combining safety measures with health promotion-such as stress management, health screenings, and wellness incentives-reinforces the idea that safe working conditions and general well-being go hand in hand [6].

Finally, continuous monitoring and feedback are essential. Even well-designed controls might need adjustments over time, especially if new processes, technologies, or personnel come into play. By regularly evaluating incident reports, near-miss data, and worker feedback, organizations can refine their strategies to maintain a robust, proactive approach to health and safety.

By understanding the definitions, benefits, and challenges of each control strategy, organizations and researchers can lay a solid foundation for further investigation. The following Review section explores the literature on how various industries have attempted to apply these principles, the outcomes they have achieved, and the lessons learned.

II. REVIEW

A. Elimination

Elimination remains the most effective way to control hazards because it removes the root cause of potential harm [5]. Studies show that workplaces benefit most when they use elimination strategies early in the design of processes or facilities. For instance, a company that avoids using a carcinogenic chemical from the start removes the need for respirators, continuous air monitoring, and medical surveillance programs [7]. Organizations that commit to elimination often report stronger safety cultures and fewer disruptions, since employees do not need to follow complex administrative protocols or wear uncomfortable protective gear [30].

There may be initial resistance to elimination due to production changes or higher upfront costs. However, research confirms that over time, removing a hazard leads to considerable savings [29]. One study found that top-level controls like elimination can lower injury rates and improve work processes if done thoughtfully [5]. Another study reported that combining elimination with broader wellness efforts can integrate safety into daily activities [6]. Still another source suggests that strong elimination-based policies align with a workplace culture focused on long-term prevention over quick fixes [7]. Moreover, removing a dangerous task can enhance morale because workers feel management is taking safety seriously. Table-IV lists selected real-world examples of elimination from different industries.

Table-IV: Selected Real-World Examples of Elimination

Industry	Hazard Eliminated	Resulting Benefits
Manufacturing	Carcinogenic solvent use	Reduced respiratory risks, fewer medical checks
Construction	Use of unstable scaffolding	Lower fall incidents, decreased downtime
Healthcare	Discontinued high-hazard cleaning agent	Fewer chemical exposures, simpler employee training
Agriculture	Removal of unsafe pesticide	Less risk of toxicity, improved community health

B. Substitution

Substitution is similar to elimination but replaces a harmful material or process with a less dangerous one [31]. This strategy often reduces training and monitoring demands [32]. It does not always achieve the complete removal of hazards, as with elimination, but can still significantly lower risks. One article notes that behavior changes alone are not enough if underlying hazards remain [32]. By substituting safer inputs, employers reduce the chance of accidents or exposures without relying only on worker vigilance.

Some organizations substitute toxic solvents with water-based alternatives [31]. Others replace lead-based paints with safer formulations to address chronic health issues [29]. Research also indicates that once management sees the long-term cost benefits, they are more inclined to adopt substitution [10]. Still, some employers struggle because they lack technical expertise or funds to find and install proper alternatives [33].

Table-V provides a few examples of effective substitutions in different settings.

Table-V: Illustrative Examples of Substitution

Original Hazard	Safer Substitute	Context	Outcome
Toxic solvent for cleaning	Water-based cleaner	Automotive production	Lower emissions, reduced PPE need
Lead-based paint	Acrylic or latex paint	Residential and commercial construction	Fewer lead-related health issues
Mercury-containing device	Digital or non-mercury device	Laboratory diagnostics	Elimination of mercury spills

C. Engineering Controls

Engineering controls are self-sustaining measures once properly installed [34]. They do not rely on human behavior, which makes them robust in many environments. Examples include machine guarding, advanced ventilation, and noise-dampening materials. One 2005 study found that when physical barriers or design features reduce risks, workers practice safer behaviors more consistently [30]. Another source notes that well-designed physical safeguards can catch errors before they escalate, showing that good engineering often outperforms measures that depend on people remembering rules [8].

An analysis of musculoskeletal disorders found that modifying workstations or equipment can lessen chronic injuries [31]. Even though these changes may require capital, research shows they often pay off over time [32]. Engineering controls also correlate with stable operations and higher job satisfaction, since employees can do their jobs without constantly worrying about hazards [35]. Table-VI lists typical engineering controls seen in various workplaces.

Table-VI: Typical Engineering Controls in Different Workplaces

Workplace	Common Engineering Control	Key Benefits
Manufacturing Plant	Enclosed machinery	Reduced contact with moving parts, lower injury rates
Office Environment	Adjustable desks and chairs	Decreased musculoskeletal issues, improved ergonomics
Chemical Laboratory	Fume hoods and local exhaust systems	Removal of airborne contaminants, better air quality
Construction Site	Guardrails, safety nets	Fewer fall-related accidents, clear work boundaries

D. Administrative Controls

Administrative controls do not remove hazards. Instead, they change how people work [36]. These methods can include rotating employees to different tasks to avoid repetitive strain, setting work-rest schedules, or introducing standard operating procedures. Such measures can reduce injuries if applied consistently, but they rely heavily on human behavior [37]. If a worker feels fatigued or a supervisor is distracted, critical steps might be overlooked. This human factor makes administrative solutions more prone to failure. Research shows that while Administrative Controls can help, they are often less effective than higher-level measures [37]. Over time, people may grow complacent or fail to follow rules, especially under production pressures. However, good training and consistent supervision can boost compliance.

Despite these drawbacks, administrative controls are often necessary, especially where higher-level controls are not possible in the short term. One investigation found that clarifying roles and procedures can strengthen adherence to rules [16]. Another study discovered that ergonomic training in offices, combined with supportive management, lowered musculoskeletal complaints [17]. Strong leadership involvement ensures that administrative policies remain relevant and enforced [18]. In work settings with frequent turnover, administrative strategies can serve as a temporary fix while organizations explore more permanent solutions. Table-VII outlines common administrative controls and common pitfalls.

Table-VII: Common Administrative Controls and Potential Pitfalls

Administrative Control	Description	Potential Pitfalls
Task rotation	Workers alternate jobs to reduce repetitive strain	Rotations can be forgotten under production pressure
Work-rest schedules	Planned breaks to reduce fatigue	Supervisors may skip breaks during busy periods
Formal training sessions	Instruction on hazards and safe practices	Limited retention if not reinforced regularly
Safety policies	Written guidelines for tasks and equipment use	Employees may not read or remember complex policies

E. Personal Protective Equipment (PPE)

PPE is often the first solution employers think of, but it is considered the last line of defense. Gloves, respirators, and safety goggles protect individuals from hazards but do not eliminate them [19]. Improper use or poor fit can weaken PPE's effectiveness [20]. Under time pressure or discomfort, workers might skip or misuse PPE [38]. Several reviews show that relying too much on PPE can create a false sense of security because the hazard still exists [21]. Across industries, it has been shown that when organizations rely excessively on PPE, risks remain high, and injuries or illnesses can persist [39].

However, PPE is crucial for tasks that cannot be redesigned or when no other controls are available [40]. Organizations should provide training, maintenance, and regular inspections. One source suggests that PPE programs work best when integrated with broader safety management that also includes administrative, engineering, or substitution strategies [21]. Another report reminds employers that regular checks are needed to keep PPE functional and suitable over time [41]. Still, most experts agree that PPE should not be the main solution unless higher-level controls are impossible. Table-VIII summarizes some typical PPE pitfalls and tips for maintaining effectiveness [42].

Table-VIII: Typical PPE Pitfalls and Maintenance Tips

PPE Type	Common Issues	Maintenance Tips
Respirators	Poor fit, clogged filters	Fit-test regularly, replace filters on schedule
Gloves	Tearing, incorrect material choice	Check for damage, ensure the right type for the hazard
Safety Goggles	Fogging, scratches	Clean lenses often, store properly
Hearing Protection	Inconsistent use	Provide comfort options, verify noise reduction

F. Barriers to the Hierarchy of Controls

Many studies discuss the challenges of implementing higher-level controls in real work settings. Some companies do not have enough design expertise or money to do major overhauls [22]. Others face organizational inertia, inconsistent workloads, or cultural barriers. High job stress can also weaken compliance, even when good controls are in place [24]. Nonstandard work arrangements, such as short-term contracts, make it harder to train workers properly or keep them in stable roles [25]. Subcontractors may have limited capital or vision to install engineering controls or do effective substitutions [26]. Older facilities might lack the infrastructure for large-scale improvements [27]. The social consequences of workplace injuries extend beyond individual workers, affecting families and communities [28]. Table-IX summarizes some of the most frequently cited barriers to applying the Hierarchy of Controls.

Table-IX: Selected Barriers to Higher-Level Controls

Barrier	Explanation	Possible Outcome
Limited Budget	Management concerned about high initial investments	Reliance on simpler, less effective measures
Outdated Infrastructure	Older buildings and equipment complicate upgrades	Delays in adopting elimination or engineering
High Turnover	Frequent worker replacement reduces consistent training	Missed hazards, incomplete skill transfer
Low Regulatory Pressure	Weak enforcement allows minimal compliance	Reliance on PPE instead of elimination or substitution
Cultural Resistance	Workplace culture resists changes and new methods	Stalled safety improvements, higher incident rates

Regulatory environments also shape how the Hierarchy of Controls is used. Agencies like OSHA, WHO, ILO, and NIOSH have rules that encourage or require certain control measures, but actual enforcement varies [34]. Some employers follow only basic standards, relying on PPE or administrative steps instead of more costly but more efficient solutions. Policymakers must adapt to new work models and modern technologies to keep the Hierarchy of Controls practical and enforceable. If regulators do not push for hazard elimination or substitution, employers may favor cheaper, less effective fixes.

G. Prevention Strategies

Prevention strategies build on each level of the Hierarchy of Controls to offer comprehensive protection [9]. Research on prevention through design points to early hazard assessments in the planning or procurement stages, incorporating safer elements before operations start [29]. Including safety professionals, engineers, and frontline workers in the design stage can reduce hazards right from the beginning [18]. This approach decreases reliance on training, supervision, and PPE, creating a more lasting safety culture.

Social exchange theories suggest that aligning employer and employee incentives can improve safety outcomes [19]. Leaders who dedicate budgets to hazard elimination or engineering solutions show they value worker well-being. This helps build trust, making administrative steps and PPE use more consistent [16]. Thorough training remains essential, even if higher-level controls are in place, because workers need to understand the logic behind each measure [20]. Employees are more motivated to follow rules if they see that management invests in the highest-priority solutions [38].

Measuring leading indicators, instead of waiting for injury data, can also strengthen prevention. Some organizations track the number of engineering improvements or how often they switch to safer materials [18]. By focusing on proactive steps, employers can fix problems before incidents happen. Embedding the Hierarchy of Controls in performance reviews, budgets, and planning keeps safety active all year, not just when accidents occur [19]. Table-X lists a few leading indicators that can guide safety improvements.

Table-X: Sample Leading Indicators for Safety Management

Indicator	Description	Benefit
Hazard Reports Addressed	Number of identified hazards resolved in an efficient timeframe	Encourages rapid corrective action
Substitution Efforts	Audit of harmful materials replaced	Tracks progress toward safer processes
Engineering Upgrades	Tenders for new equipment or protective designs	Monitors adoption of long-term solutions
Training Completion Rates	Percentage of workforce completing required training	Reflects workforce preparedness

Technology can help implement these prevention strategies. Automation may remove or reduce human contact with dangerous tasks [30]. Monitoring systems can detect chemical spikes or equipment malfunctions, triggering interventions before workers are exposed [13]. However, technology should not replace the core principle of targeting the hazard itself. Poorly integrated technology can cause complacency if employers assume sensors alone will solve all safety problems [26]. Instead, technology should complement elimination or substitution to ensure hazards do not remain in the environment.

Safety culture is another crucial factor. Open communication, clear leadership support, and employee involvement create an environment where controls are accepted and followed [36]. Frontline workers often notice small problems before they become significant, so encouraging them to speak up helps identify hazards early [15]. Some studies highlight that repeated exposure to safe practices builds new habits, which eventually become standard behavior [37]. A

strong safety climate, where the organization's policies align with individual actions, fosters successful use of each control method [16].

III. CONCLUSION

Looking ahead, as new materials and work models appear, the Hierarchy of Controls stays relevant by focusing on hazard removal first. This approach is documented across industries like healthcare, chemical manufacturing, office work, and construction. Research indicates that systematic hazard control leads to better health outcomes, improved morale, lower downtime, and a stronger reputation for employers. Many experts emphasize that combining top-tier strategies with supportive policies and a safety-minded culture brings the best results.

Existing literature shows that elimination and substitution provide the most reliable defense. Engineering controls come next when removal of the hazard is not possible. Administrative controls and PPE should serve as supportive layers rather than the main shield. True success often involves a combination of all control levels under a robust safety culture and consistent leadership. Future work may examine how new technology and evolving work patterns can bolster, rather than weaken, the Hierarchy of Controls. By keeping the focus on removing hazards at their source, organizations can improve safety despite shifts in society, economics, and technology.

Organizations that invest in higher-level controls often see fewer injuries. Workers stay healthier and more productive when hazards are eliminated or substituted. Involving employees in decision-making and gaining leadership support improves the success of these efforts. By using the Hierarchy of Controls, workplaces can move toward safer conditions and more stable operations.

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AUTHOR'S PROFILE

Dr. Joshua A. Jogie is a Medical Doctor with a background in Occupational Medicine. He collaborates with other professionals to address emerging challenges in Occupational Medicine. His research focuses on practical solutions that improve employee well-being. His goal is to protect workers from harm and support healthy organizational cultures. Joshua is an avid researcher and aims to further employee health and wellbeing through his research.

Dr. Donna Rampersad is a Registrar in Occupational Medicine and Internal Medicine at the St. James Medical Complex in Trinidad and Tobago. She earned a post-graduate degree from the University of the West Indies in Internal Medicine and was Specialist Registered in Trinidad and Tobago in 2024. She completed Medical School at the University of the West Indies in Trinidad and Tobago, and a Biology undergraduate degree at Bates College, Lewiston Maine. She is interested in Pulmonary Medicine in developing nations and optimizing health care to all categories of hospital staff.

Dr. Deva Bharrath-Singh is a dedicated Medical Doctor specializing in Occupational Medicine. With a Diploma in Occupational Medicine (DOccMed), she continues to enhance her expertise in this field by pursuing her Master's degree in Occupational Medicine at the University of Manchester. With a strong passion for promoting employee health and well-being, she combines her medical expertise with a commitment to creating safer and more efficient work environments. In addition to her professional work, Dr. Bharrath-Singh enjoys gardening and yoga, which helps her stay balanced outside of her busy career. A true animal lover, Dr. Bharrath-Singh has a special affection for dogs and believes in the positive impact pets have on mental and physical health.

Dr. Shivrad Joseph is a Medical Doctor in the Occupational Medicine Department at the North West Regional Health Authority. He is currently pursuing further qualifications in the field.

Dr. Aleshia Clarke is a Medical Doctor with experience working with older persons in the Gerontology Department. Dr. Clarke has a special interest in Occupational Health and Safety from her prior work in the oil and gas sector as well as having a BSc in Management Studies majoring in Human Resources. She enjoys travelling and is an avid gardener and believes working with one's hands is therapeutic and encourages all employees to have a hobby outside of the work environment to maintain a healthy work life balance.

Dr. Tounesha La Rosa is a specialist in General Internal Medicine, currently working as Medical Director of Medical Services at St. James Medical Complex in Trinidad. She received her undergraduate medical qualification from the University of the West Indies, Mona, Jamaica, and went on to complete her postgraduate specialization in General Internal Medicine at the University of the West Indies, St Augustine, Trinidad. She is also a member of the Royal College of Physicians of the United Kingdom, having completed her MRCP diploma. Most recently, she became a Fellow of the American College of Physicians. In addition to caring for her patients and managing clinical teams, Dr. La Rosa is passionate about teaching and medical education, and she volunteers to teach both undergraduate and postgraduate medical students. She holds postgraduate qualifications in medical education from the University of Edinburgh and is a Fellow of the Higher Education Academy (HEA) in the UK, as well as a member of one of the most recognized medical education bodies in the UK – the Academy of Medical Educators (AoME). She adheres to the mantra 'each one, teach one' and actively mentors colleagues.