



OSHE works closely with its stakeholders to create a positive safety and health culture within NUS

2016 ANNUAL REPORT

OFFICE OF SAFETY, HEALTH & ENVIRONMENT

NATIONAL UNIVERSITY OF SINGAPORE



Office of Safety, Health and Environment
University Campus Infrastructure

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DIRECTOR'S MESSAGE



OSHE continues to be committed to upholding the mission statement of saving lives, preventing injuries and ensuring business continuity by transforming mind-sets and facilitating in the development and implementation of best practices. In 2016, OSHE rolled out several new initiatives to ensure that safety and health is managed holistically and systematically within the campus.

Chaired by the Vice President (Campus Infrastructure), the Safety and Health Management Committee (SHMC) was launched in July to provide strategic direction on the development and implementation of a safety and health management framework within NUS. During the inaugural SHMC meeting, the committee approved a new 'Management of Safety and Health Coordinators Framework' that aims to raise the competencies of the Departmental Safety and Health Coordinators so that they will be able to drive and facilitate implementation of safety and health programmes more effectively within the Departments, Research Institutes and Centres. The NUS Safety and Health Policy that is endorsed by NUS President, Prof Tan Chorh Chuan, was revised in December to reflect changes in policy statements as a result of this new framework. OSHE also launched the first module of its integrated IT system for compliance management (EHS360) that will provide safety-related IT services to staff and students.

This annual report documents the achievements of OSHE in further detail. I would like to thank all our stakeholders for their continued partnership in transforming the safety and health culture within NUS. We look forward to further collaborations through various initiatives such as the 'Management of Safety and Health Coordinators Framework' and to provide improved products and services such as new EHS360 modules to facilitate effective management of safety and health.

Dr Peck Thian Guan
Director
Office of Safety, Health & Environment

14 February 2017

ORGANISATIONAL PROFILE



OSHEians during Strategic Planning Day 2016

A. ORGANISATION CHART

In 2016, OSHE maintained its organisational structure with two divisions supporting Safety and Health Management and Emergency Management in NUS.

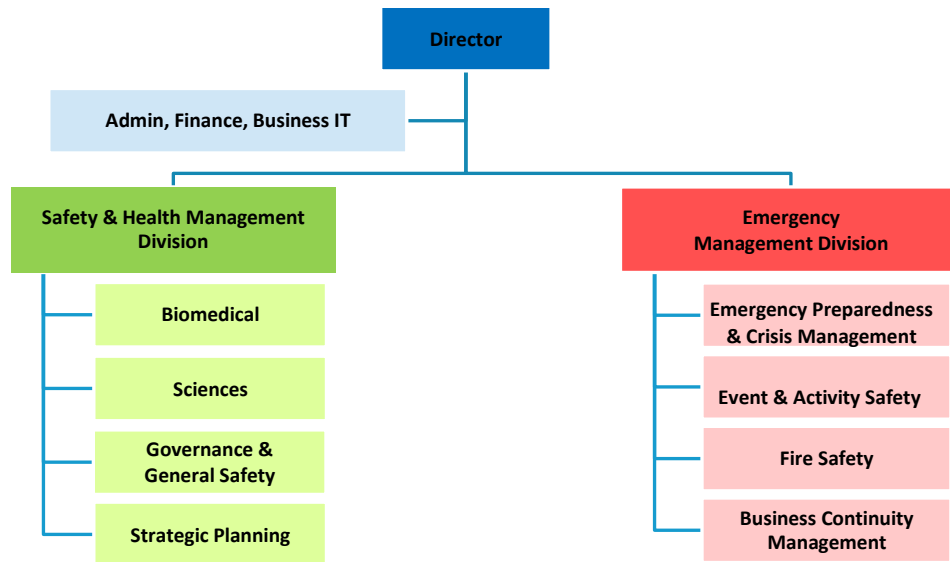


Figure 1. Organisation chart of OSHE

B. MISSION, VISION & VALUES

Our Mission, Vision and Values succinctly encapsulates what we do and remained relevant in 2016.

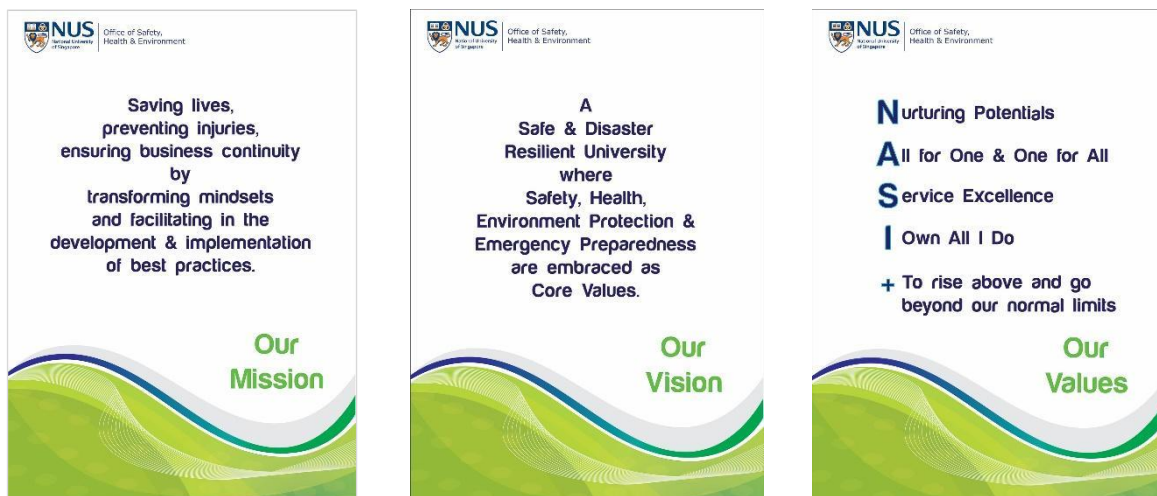


Figure 2. Mission, Vision and Values of OSHE

C. SERVICE CREED



Developed by OSHE in 2015, officers continue to strive to exemplify all the characteristics in the OSHE Service Creed to be a One-Stop Solution service provider for matters relating to safety, health and emergency preparedness.

Figure 3. OSHE Service Creed

D. PRODUCTS & SERVICES

In 2016, OSHE continues to offer a wide variety of products and services to the NUS community.

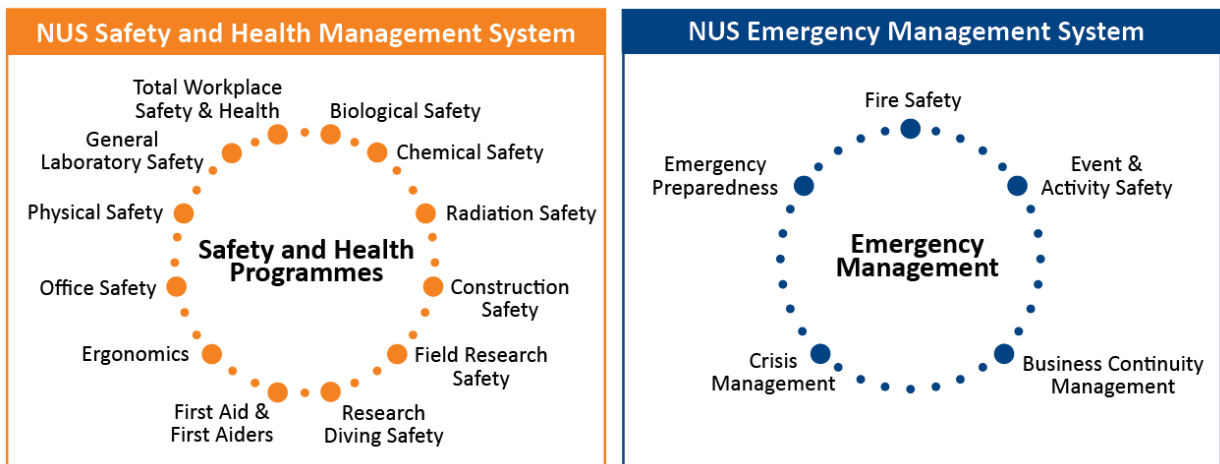


Figure 4. Safety & Health Management and Emergency Management Programmes

E. KEY MILESTONES & EVENTS

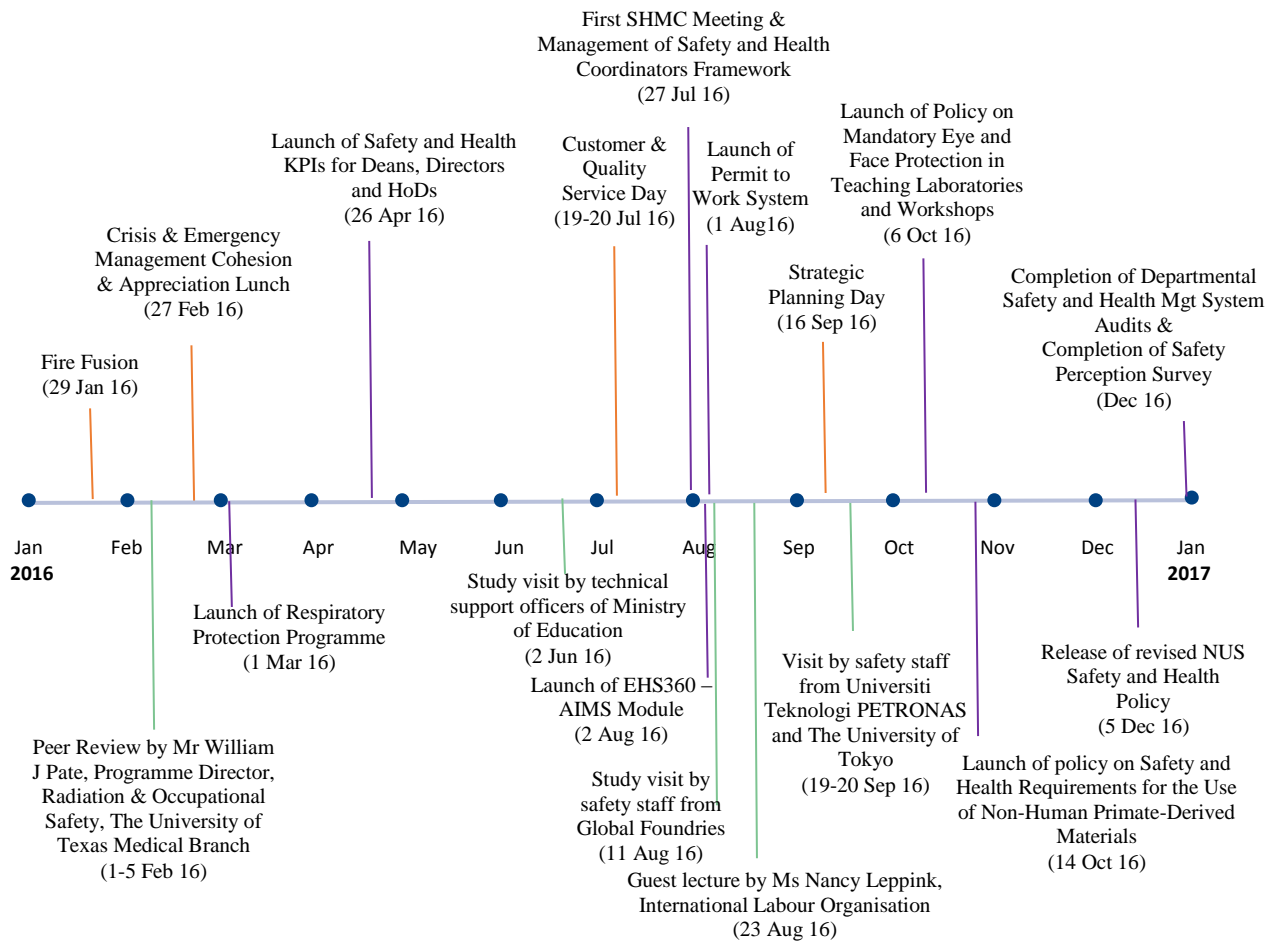


Figure 5. OSHE's key milestones and events in 2016

2016 was a significant year for OSHE with the launch of several safety & health initiatives such as the mandatory reporting of the progress of Safety and Health KPIs for Deans, Directors and Heads of Department for high hazard departments (more details are available in the results section of this report) and launch of a new integrated IT system known as EHS360 with the successful release of the first module called Accident / Incident Management System (AIMS). A new institutional safety and health committee called the NUS Safety and Health Management Committee (SHMC) was established to provide strategic direction on safety management on campus. The committee is chaired by Vice President (Campus Infrastructure). By the end of 2016, audits of the safety and health management system for all the high hazard departments were completed.

In order to recognise and reward excellent performance in fire safety management, teams in charge of fire safety in NUS buildings were presented the NUS Building Fire Safety Excellence Awards at the Fire Fusion on 29 Jan 2016. Additionally, the NUS Crisis and Emergency Management (CEM) Team & Unit Incident Commanders (UICs) Cohesion and Appreciation Lunch was held on 27 Feb 2016 to acknowledge the contributions of UICs to NUS.



Figure 6. NUS CEM Team and the Counsellors of Counselling & Psychological Support (CPS) at the NUS CEM & UIC Cohesion and Appreciation Lunch



Figure 7. Demonstration of the Mass Temperature Screening Equipment to Prof Yong Kwet Yew (Vice President, Campus Infrastructure) at the NUS CEM & UIC Cohesion and Appreciation Lunch



Figure 8. Platinum winners of NUS Building Fire Safety Excellence Awards



Figure 9. Platinum winners of NUS Building Fire Safety Excellence Awards

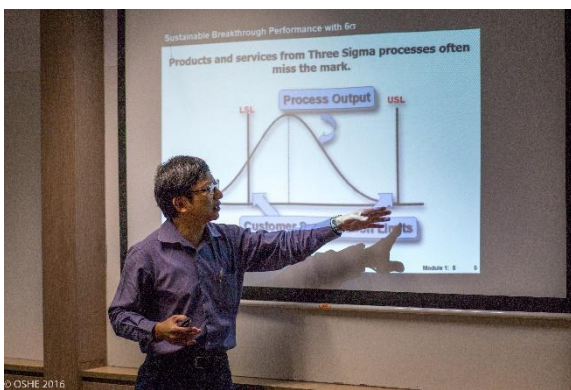


Figure 10. Dr Peck Thian Guan giving OSHEians an introduction to Lean Six Sigma during Customer Service Day



Figure 11. Activities during Customer Service Day included presentations and group discussions to increase engagement and interaction

Additionally, OSHE maintains strong ties with both national and international strategic partners and hosted several visitors in 2016 including those from the Ministry of Education, International Labour Organisation, The University of Tokyo, Universiti Teknologi PETRONAS and Global Foundries.



Figure 12. Visit from Global Foundries to study the NUS Safety and Health Management System



Figure 13. Visit from University of Tokyo and Universiti Teknologi PETRONAS

LEADERSHIP



OSHE's Senior Leadership

A. SENIOR MANAGEMENT

Senior Management of OSHE comprises the Director, the Head of Safety & Health Management (SHM) Division and the Head of Emergency Management (EM) Division.

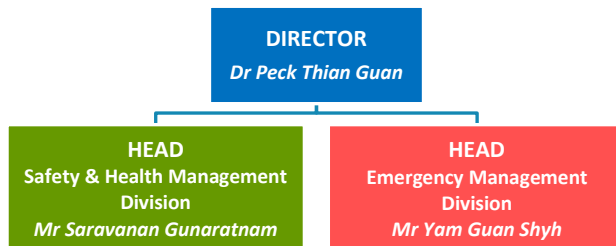


Figure 14. Senior Management of OSHE



Figure 15. Dr Peck Thian Guan (right) with Mr Yam Guan Shyh (centre) and Mr Saravanan Gunaratnam (left) comprising the Senior Management of OSHE

B. SENIOR LEADERSHIP

The Senior Management and Group Leaders continue to provide stable leadership to the Department. In 2016, Mr Gabriel Chen joined the Senior Leadership to oversee the team handling safety and health matters in the Faculty of Engineering and SERIS.



Figure 16. OSHE Senior Leadership. From L-R (first row): Ms Tan Bee Guan, Dr Lim Cheh Peng, Ms Tan Chuen Hui, Dr Peck Thian Guan, Ms Gisela Ho and Mr Saravanan Gunaratnam. From L-R (second row): Mr Jedison Ong, Mr Danny Toh, Mr Gabriel Chen, Dr Tessy Joseph, Mr Yam Guan Shyh and Mr Ravindran s/o Sockalingam



Figure 17. Dr Peck Thian Guan (left) with Head of Emergency Management (EM) Division, Mr Yam Guan Shyh (right), with EM Group Leader, Mr Ravindran s/o Sockalingam (centre)



Figure 18. Dr Peck Thian Guan (right) with Admin, Finance and Ops Group Leader, Ms Gisela Ho (left) and Business IT Support Group Leader, Ms Tan Bee Guan (centre)



Figure 19. Dr Peck Thian Guan with the Head of Safety and Health Management (SHM) Division and its Group Leaders. From L-R (front row): Ms Gisela Ho, Dr Tessy Joseph, Dr Peck Thian Guan, Dr Lim Cheh Peng and Ms Tan Chuen Hui. From L-R (second row): Mr Jedison Ong, Mr Danny Toh, Mr Saravanan Gunaratnam and Mr Gabriel Chen

PLANNING



Dr Peck Thian Guan addressing the department during the annual Strategic Planning Day

OSHE has a strategic planning process which gives its staff opportunities to define its strategies, set priorities and focus its resources on common goals. There are two key stages in the process: strategy development and strategy execution. Different events throughout the year are organised to enable all OSHE staff to go through with this process.



Figure 20. The OSHE strategy map that conceptualises the key strategic thrusts that support our mission and vision.

A. STRATEGIC PLANNING DAY

An important event that OSHE organises every year is the Strategic Planning Day, which is when the department comes together to develop and share the work plan for the following year. In 2016, the Strategic Planning Day was held on 16 September at Resorts World Convention Centre. The objectives of this event were to discuss and formulate the work plan of 2017 and to build camaraderie of OSHE officers through team-bonding activities. The outcomes of the 2016 Strategic Planning Day are summarised below:

1. Presentation of proposed programme-level Work Plan 2017 by each division to facilitate the development of individual Work Plan 2017 and budget planning.
2. Division-level workshop to plan the budget, resources and Full Time Equivalent (FTE) required for 2017.
3. Team building event to inject an element of fun and teamwork during the yearly strategic planning exercise.

4. The focus areas for 2017 are:

- a. Launch of new initiatives such as Safety & Health Coordinators Management Framework and Safety & Health Culture Framework.
- b. Consolidation of existing safety and health programmes and initiatives such as the Departmental Safety and Health Management System.
- c. Launch of other modules of the EHS360 IT system.



Figure 21. Strategic Planning Day



Figure 22. Strategic Planning Day

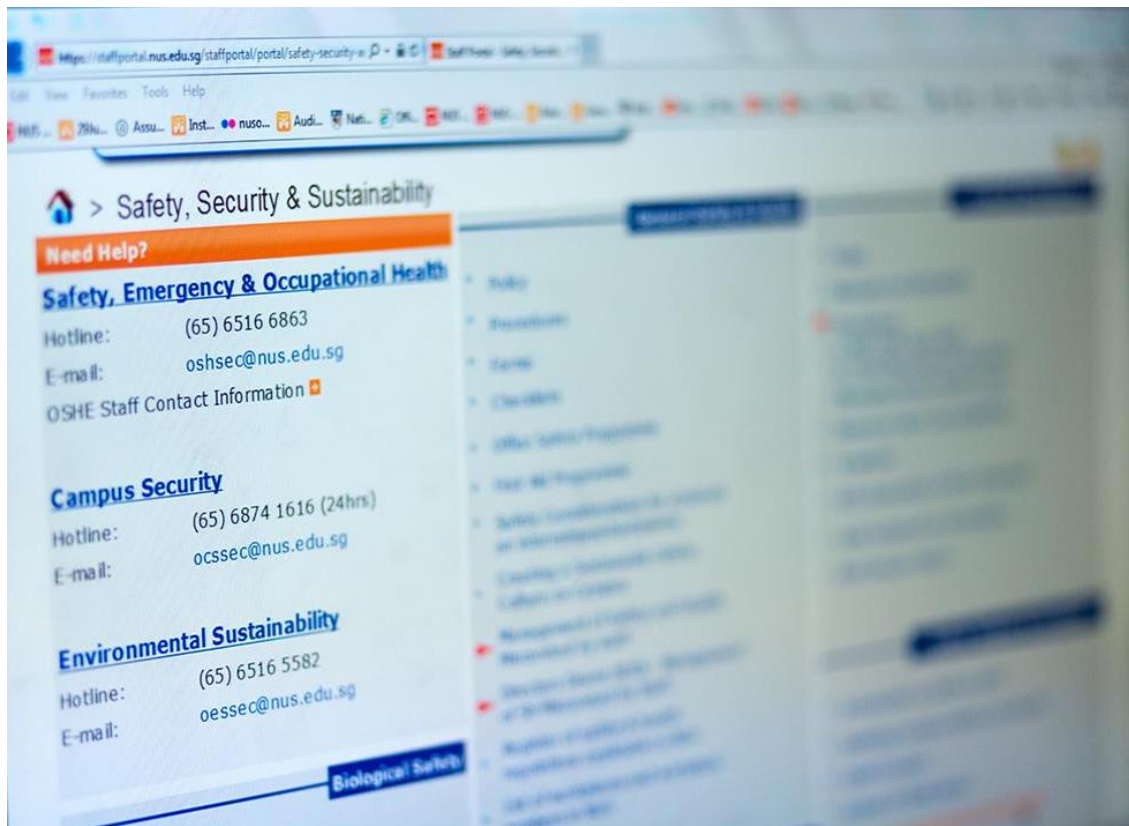


Figure 23. Games played during the team building session



Figure 24. Group photo during Strategic Planning Day

INFORMATION



Safety & health information and resources available at OSHE website

OSHE’s management of information involves the identification of customer needs; acquisition, collation and organisation of information; analysis and interpretation; and sharing, dissemination and storage for reference. Information is critical for OSHE’s day-to-day operations and strategic planning as it enables OSHE to review and prioritise programmes that will address the needs of the NUS community.

A. NEW INITIATIVES – UPDATE ON THE INTEGRATED IT SYSTEM: “EHS360”

In order to manage safety and health information more holistically and efficiently within the University, OSHE has embarked on developing an integrated IT system known as EHS360. The EHS360 system comprises modules that will provide safety-related IT services to staff and students. Majority of the modules are to assist PIs and Departments in managing safety and health compliance in laboratories, workshops or other workspaces in NUS.

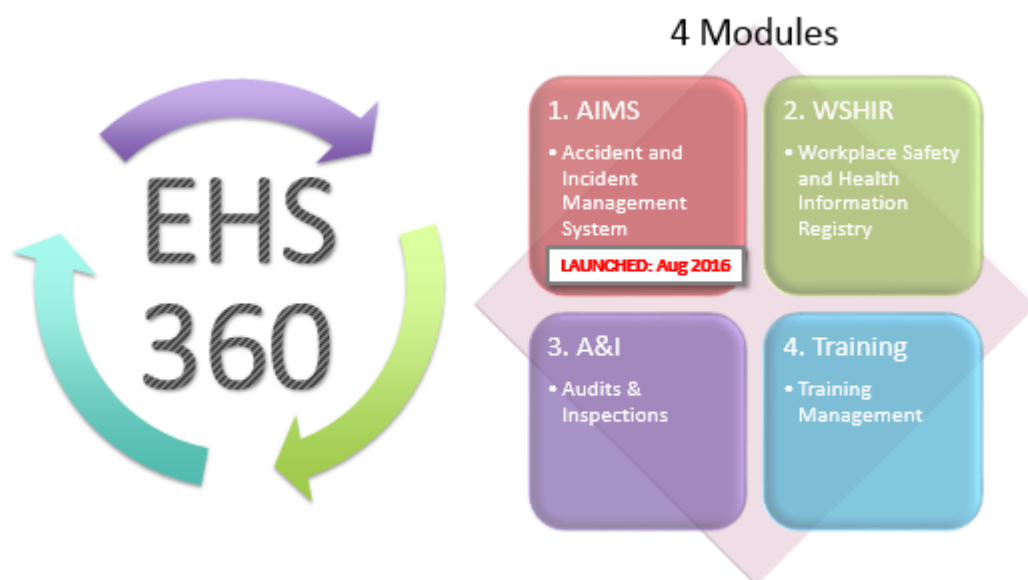


Figure 25. Phase 1 of EHS360 comprises 4 modules which will be launched in stages

The EHS360 is being implemented in phases with the first module, ‘Accident and Incident Management System (AIMS)’, launched in August 2016. The AIMS module provides a seamless integrated system for notification, investigation and analytics. Automated tracking of report status and corrective actions allow OSHE to be more efficient and effective when managing accidents/incidents. User familiarisation sessions were conducted by OSHE to assist Safety and Health Coordinators with the transition from the existing Accident and Investigation Reporting System (AIRS) to AIMS.

Existing Online System - Accident and Investigation Reporting System (AIRS)

- Decentralised processes for notification, investigation and analytics
- Manual tracking of report status and corrective actions
- Manual forms – paperwork and time-consuming
- Manual data crunching



New Accident and Incident Management System (AIMS)



- One integrated system and process for notification, investigation and analytics
- Automated tracking of report status and corrective actions
- Electronic forms – less paperwork, more efficient
- Backend analytics

Figure 28. Improvements to accident and incident management as a result of the new AIMS module in EHS360



Figure 26. AIMS User Familiarisation sessions were conducted prior to the launch of the AIMS module on EHS360



Figure 27. Mr Danny Toh conducting the AIMS User Familiarisation Session for Department Safety & Health Coordinators

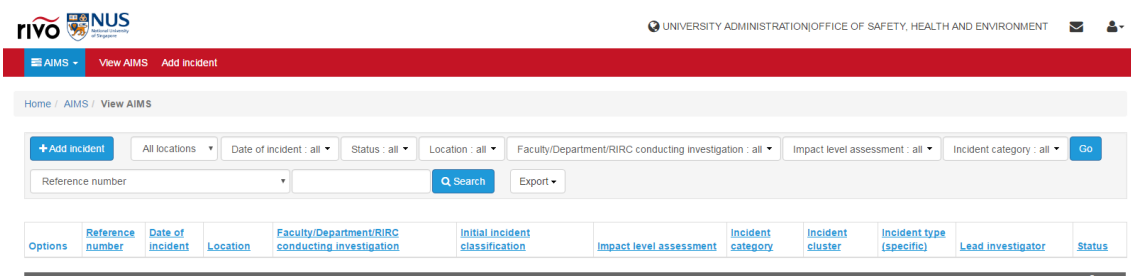


Figure 29. AIMS Module on EHS360

B. NEW 'OPENTEXT' PLATFORM FOR ENTERPRISE DOCUMENT MANAGEMENT SYSTEM (EDMS)

OSHE recognises the importance of providing tools to staff to enable them to manage information more effectively. In 2016, the existing EDMS used for information archival was moved to a new 'Opentext' platform and the office took this opportunity to develop an access control framework and filing structure to improve knowledge management.

The OSHE intranet remains the common platform for staff to share information and work collaboratively.

PEOPLE



Our people are the heart of OSHE

A. EMPLOYEES PROFILE

OSHE's staff strength remained relatively constant in 2016, with an addition of 1 staff in the last year. The number of staff who have attained a Master's and PhD Degree has increased as staff continually upgrade themselves to meet the demands of the growing safety and health needs of the University.

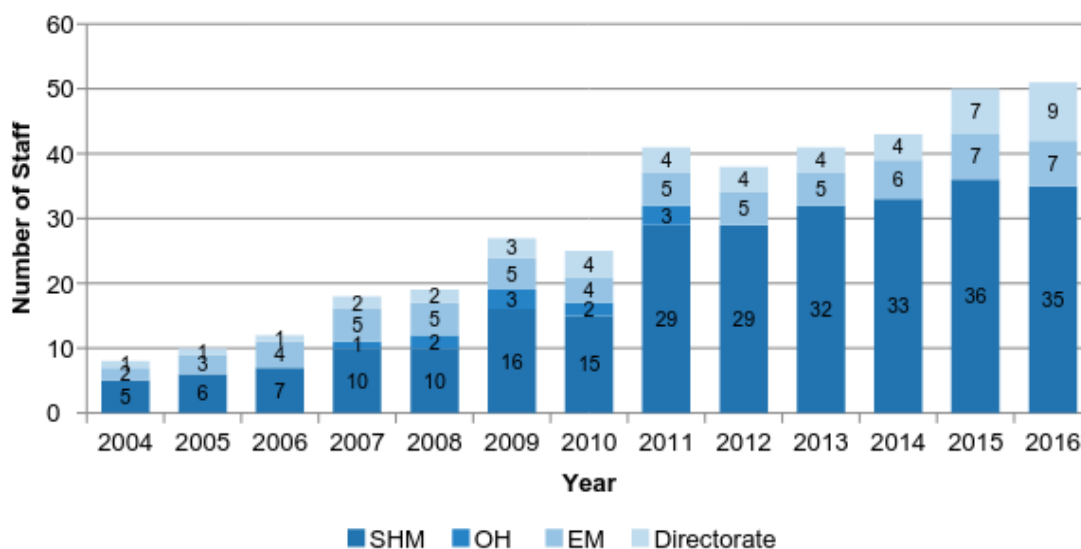


Figure 30. Staff Strength of OSHE from 2004 - 2016

Educational Level	2015			2016		
	MAO*	EPS**	Total No.	MAO*	EPS**	Total No.
PhD	0	9	9	0	10	10
Master's Degree	0	11	11	0	14	14
Bachelor's Degree	0	26	26	0	23	23
Diploma	2	1	3	2	1	3
Others	1	0	1	1	0	1
Total	3	47	50	3	48	51

Table 1. Educational Level of OSHE Staff

*MAO = Management Associate Officer **EPS = Executive & Professional Staff



Figure 31. OSHE celebrated the graduation of 3 staff from the NUS MSc (Science, Health and Technology) programme and 2 staff from a Ph.D. programme in 2016

To attract talents, OSHE previously launched and awarded two recipients the inaugural Mid-Career Professional Teaching Award in 2014. Dr Wong Su Ee and Mr Leong Chee Meng successfully completed their professional training in safety & health and graduated with MSc (Science, Health and Technology) in 2016.



Figure 32. Mr Leong Chee Meng and Dr Wong Su Ee, recipients of the inaugural Mid-Career Professional Teaching Award, at their commencement ceremony in 2016

B. SOCIAL COMMITTEE AND WELLNESS EVENTS

OSHE prides itself in being able to work hard and play hard as a cohesive team. This is achieved through social activities throughout the year that provide opportunities to OSHE staff to bond with one another and improve working relations. Under the chairmanship of Ms Jayavani D/O Karuppasamy, the 2016 OSHE Social Committee successfully organised 11 social and team bonding events. OSHE is also an active participant in NUS-organised wellness events, such as the NUS Interdepartmental Bowling Tournament and the 100-day Global Corporate Challenge.

Date	2016 Social and Wellness Events
15-Mar-2016	Mi Fit Launch
9-Apr-2016	NUS Interdepartmental Bowling Tournament
5-May-2016	Frisbee Event 1
20-May-2016	Appreciating Hari Raya
19-20 Jul 2016	Team Bonding Activities During Customer Service Day
2-Aug-2016	SG51 Celebrations
3-Sep-2016	NUS Day of Service 1) International Coastal Cleanup 2) Willing Hearts Soup Kitchen
16-Sep-2016	Team Bonding Activities During Strategic Planning Day
13-Oct-2016	Tree Planting
13-Oct-2016	Frisbee Event 2
11-Nov-2016	Zumba

Table 2. Events organised by OSHE Social Committee in 2016



Figure 33. OSHE Social Committee 2016. (L-R): Dr Christine Hu, Ms Sania Bte Nader, Mr Leong Chee Meng (Deputy Chairperson), Ms Jayavani D/O Karuppasamy (Chairperson), Mr Lau Kwok Siong and Ms Gisela Ho (Advisor); Absent: Mr Mohammed Khoiril Bin Mohd Noor and Mr Hairulnizam Bin Ishak



Figure 34. OSHE staff and their families at the International Coastal Cleanup



Figure 35. Ms Tan Bee Guan at Willing Hearts Soup Kitchen event



Figure 36. Enjoying a game of Frisbee together



Figure 37. OSHE representatives at the NUS Interdepartmental Bowling Tournament



Figure 38. Team OSHE kicking off the participation in the 100-Day Global Corporate Challenge

C. DEVELOPING OUR PEOPLE

i. TRAINING

OSHE continues to invest in the training and development of its staff. OSHE adopted the 70:20:10 learning model advocated by Office of Human Resources (OHR) in which 70% of a staff member's development activities come from on-the-job training and projects, 20% from mentoring or learning from others, and 10% from formal classroom programmes.

All new staff who join OSHE first undergo a comprehensive induction programme to familiarize them to the new work environment. Staff are also given opportunities to take on new challenges or leadership roles while being mentored by more senior or experienced staff. For example, OSHE staff may be appointed to serve as Secretariats to Institutional Safety and Health Committees or take on extra responsibilities as a member or leader of various working group committees (e.g. Social Committee, SHE Conference Committee, etc.). In addition, OSHE leverages on the different skills and talents of its people to improve productivity. For example, photography services are provided by a team of OSHE staff at departmental events.

OSHE staff have also attended various formal training courses. Please refer to Results and Statistics for training details.



Figure 39. Induction programme for new OSHE staff

In recognition of OSHE's efforts, OSHE was awarded the Certificate of Participation for the 2015 HR Learning Award in March 2016 for advocating blended learning practices towards the continuous growth and development of staff.

ii. CONFERENCES

In February 2016, Mr Saravanan Gunaratnam and Mr Goh Keng Beng attended the 17th Council on Safety and Health Management by 7 National Universities of Japan where Mr Saravanan presented an overview of risk management in NUS and the NUS accident and incident management framework.

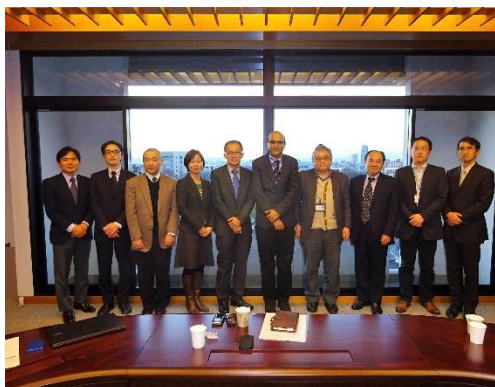


Figure 40. Mr Saravanan Gunaratnam and Mr Goh Keng Beng representing NUS at the 17th Council on Safety and Health Management by 7 National Universities of Japan



Figure 41. Mr Saravanan Gunaratnam and Mr Goh Keng Beng representing NUS at the 17th Council on Safety and Health Management by 7 National Universities of Japan

In February 2016, Dr Peck Thian Guan and Mr Mohammad Fazulee Bin Abdul Rahman also represented NUS at the Workshop on Building Disaster Resistant Universities in Sendai, Japan. They presented the NUS Crisis & Emergency Management (CEM) Framework and how NUS managed the H1N1 pandemic in 2009.

In May 2016, Dr Tessy Joseph attended the International Federation of Biosafety Associations (IFBA) Professional Certification Examination and the Asia-Pacific Biosafety Association (APBA) conference held at Siem Reap, Cambodia. It was a good opportunity for her to share biosafety best practices with safety professionals from many countries and to understand more about the international professional certification for biosafety practitioners.

Four OSHE staff visited Seoul National University and attended the 3rd Asian Conference on Safety and Education in Laboratory (ACSEL) in Jeju, South Korea. Mr Saravanan Gunaratnam was a moderator for the Panel Discussion on the Roles of Safety Management Networks, and the following papers were presented at ACSEL 2016:

Name of OSHE Staff	Title of Presentations
Ms Gisela Ho	Safety and Health Officer Training and Development Framework (Oral Presentation)
Mr Danny Toh	Harmonization of EHS Education Between NUS and MIT (Oral Presentation)
Mr Joel Swee Dao Wen	Sharing of 'Design for Safety' Experience at Lee Kong Chian Natural History Museum (Poster Presentation)

Table 3. List of OSHE presentations at 3rd ACSEL



Figure 42. Participants of the 3rd Asian Conference on Safety and Education in Laboratory



Figure 43. Laboratory tour during a visit to Seoul National University



Figure 44. Mr Danny Toh giving a presentation during the 3rd Asian Conference on Safety and Education in Laboratory

OSHE staff also took part in safety and health related conferences at a national level such as the Singapore WSH Conference in August 2016 and the Singapore International Public Health Conference in September 2016.

Dr Peck Thian Guan and Ms Tan Chuen Hui were participants of the International Institute for Sustainable Laboratories Conference in September 2016 and took the opportunity to also visit the University of Michigan's Office of Campus Sustainability. The conference and study visit gave them an insight into the incorporation of sustainability into lab design review. Mr Jedison Ong also took part in a professional exchange at University of Texas Health Science Centre at Houston and the ABSA Annual Biological Safety Conference Pre-Conference in September 2016.

Finally, Mr Saravanan Gunaratnam and Dr Lim Cheh Peng attended a conference on 'Education Without Borders' and visited some UK universities in November 2016 to gain a better understanding of their approach to safety and health management.



Figure 45. Ms Nicky Arnold, Safety HUB Manager, University of Brighton, showing Dr Lim Cheh Peng their newly revamped and enhanced bulletin board. Each piece of safety and health news is presented with a QR code to enable quick and easy access to safety and health information



Figure 46. Professor Christoph Tan, University of Oxford, sharing safety guidelines and policies from his laboratory's safety and health manual with Mr Saravanan Gunaratnam



Figure 47. Mr Saravanan Gunaratnam with Dr Simon Golding (University Biosafety Officer and Safety Advisor) and Mr Jason Parr (Acting Director of Health and Safety) on a tour at University of Bristol's Life Science Building



Figure 48. Mr John S. Hulme (Chemical and Physical Safety Advisor) with Mr Saravanan Gunaratnam at The Backs, University of Cambridge

iii. Invited Talks

OSHE staff are also regularly invited by external partners to give talks. Please refer to the table below for some examples.

Speaker	Event and Presentation Title	Date
Dr Lim Cheh Peng	Singapore Institute of Technology (SIT) Safety Day 2016 Title: Harmonisation of Chemical Safety Training	29 Jul 2016
Dr Lim Cheh Peng	SingHealth Safety and Health Forum Title: Overview of Eye Protection Policy and Implementation at NUS	25 Nov 2016

Table 4. Examples of events that OSHE has been invited to speak



Figure 49. Dr Lim Cheh Peng at the SIT Safety Day 2016

iv. INSTITUTIONAL, NATIONAL & INTERNATIONAL COMMITTEES

OSHE officers are given the opportunity to participate in institutional, national and international committees on various aspects of safety & health. This enables our officers to network with other safety & health professionals, learn best practices of the industry and to contribute to the development of the profession.

In 2016, OSHE staff participated in 17 institutional, national and international committees, including two newly established institutions, namely the Safety and Health Management Committee (SHMC) and the APRU Multi Campus Safety Workshop 2018 Workgroup Committee.

Institutional, National and International Committees	Name of Staff
1. Singapore representative to ISO PC 283 and Task Group Leader for the development of the ISO standard on Occupational Health and Safety Management System (ISO 45001)	Dr Peck Thian Guan
2. Deputy Chairman of SPRING Singapore’s Technical Committee on Occupational Safety and Health Management System	
3. International Steering Committee, Asian Conference on Safety and Education in Laboratory (ACSEL)	Dr Peck Thian Guan (Chairman)
	Mr Saravanan Gunaratnam
4. Local Organising Committee for the 3rd Asian Conference on Safety and Education in Laboratory (ACSEL)	Mr Joel Swee Dao Wen (Chairman)
	Mr Daniel Wong (Deputy Chairman)
	Mr Goh Keng Beng
	Dr Wong Su Ee
	Dr Vernon Seow
	Ms Tang Fenglin
	Mr Francis Zheng
5. Member of the Working Group for Development of Singapore Standard: Fire Safety in Laboratories	Mr Ryan Yu
	Mr Hairulnizam Ishak

Institutional, National and International Committees	Name of Staff
6. Member of MD6 BSL-3 Biosafety Committee	Dr Tessy Joseph
7. Member of Duke-NUS GMS ABSL-3 Biosafety Committee	Dr Peck Thian Guan (Chairman)
8. Working Group on Safety & Health in Higher Education and Research sector	Mr Saravanan Gunaratnam (Member)
	Dr Sheela Reuben (Secretariat)
	Mr Yam Guan Shyh
9. SPRING Singapore's Technical Committee on Business Continuity	Dr Lim Cheh Peng (Observer)
10. Singapore-MIT Alliance for Research and Technology (SMART) Institutional Biosafety Committee (IBC)	Dr Tessy Joseph
11. WDA's Biosafety Technical Committee	Dr Lim Cheh Peng
	Mr Saravanan Gunaratnam (Member)
12. MOE Laboratory Safety Group	Dr Tessy Joseph (Asst. Treasurer)
	Mr Danny Lum (Internal Auditor)
13. Biorisk Association of Singapore	Dr Peck Thian Guan
14. NUS Risk Management Steering Committee	Dr Peck Thian Guan
	Mr Saravanan Gunaratnam
	Dr Lim Cheh Peng
	Dr Sheela Reuben (Secretariat)
	Dr Christine Hu (Asst. Secretariat)
	Dr Tessy Joseph (Biosafety Coordinator)
15. NUS Institutional Biosafety Committee (IBC)	Dr Peck Thian Guan
	Mr Saravanan Gunaratnam
	Ms Tan Chuen Hui
	Mr Joel Swee Dao Wen (Secretariat)
16. NUS Institutional Laboratory Safety Committee (ILSC)	Dr Peck Thian Guan
	Mr Saravanan Gunaratnam (Chairman)
	Mr Daniel Wong (Secretariat)
	Ms Huang Li Xia, Alicia (Asst. Secretariat)
17. NUS Institutional Safety & Health Professionals (ISHP)	Dr Peck Thian Guan
	Ms Shen Wan Ting Sheena (Secretariat)
	Mr Yam Guan Shyh
18. NUS Business Continuity Management Committee (BCMC)	Dr Peck Thian Guan (Co-chairman)
19. Traffic Planning and Management Committee	Dr Peck Thian Guan
	Mr Saravanan Gunaratnam
20. NUS Land Optimisation Master Plan Committee	Dr Peck Thian Guan
	Mr Saravanan Gunaratnam
	Dr Lim Cheh Peng
21. UCI Planning and Research Unit	Dr Wong Su Ee
	Mr Mohammad Fazulee Bin Abdul Rahman
	Mr Mohammad Fazulee Bin Abdul Rahman
22. APRU Multi Hazard Campus Safety Workshop 2018 Workgroup Committee ^{NEW}	

Institutional, National and International Committees	Name of Staff
23. Safety and Health Management Committee ^{NEW}	Dr Peck Thian Guan
	Dr Lim Cheh Peng (Secretariat)
	Dr Wong Su Ee (Asst. Secretariat)
24. NUS Occupational Health Policy Workgroup ^{NEW}	Mr Saravanan Gunaratnam (Co-chairman)
	Dr Lim Cheh Peng
	Dr Jeff Hwang (Secretariat)

Table 5. Participation of OSHE staff in institutional, national and international committees



Figure 50. Mr Saravanan Gunaratnam and partners from MOE, MOM and SingHealth were part of a working committee that launched the 'School Science Laboratory Management and Safety Handbook'



Figure 51. Dr Peck Thian Guan representing the Higher Education and Research Working Group with Mr Sam Tan (Minister of State, Ministry of Manpower) to present awards for Safety Awareness Videos at the 14th SISO Annual WSHO Conference

D. UNIVERSITY CAMPUS INFRASTRUCTURE

OSHE is part of the Office of the Vice President (Campus Infrastructure), and works closely with various offices within the University Campus Infrastructure (UCI) cluster to provide lean and green services to the campus community.

Separate teambuilding sessions were organised for executive and professional staff, and non-academic staff of UCI on 24 Feb 2016 and 1 Nov 2016 respectively, to build relationships across the offices and facilitate in creating synergies. A Directors' Retreat was also organised on 19 Aug 2016 for leaders from the UCI offices to come together for discussions and bonding sessions.



Figure 52. Dr Peck on a Segway during the teambuilding activities for UCI Executive & Professional staff



Figure 53. Ms Tang Fenglin and Ms Wong Thai Jin participating in the teambuilding activities for UCI Executive & Professional staff



Figure 54. OSHE staff with Prof Yong Kwet Yew (Vice President (Campus Infrastructure)) and Ms Geraldine Lee (Director, Community Engagement & Development) at the teambuilding activities for UCI Non-Academic staff



Figure 55. Dr Lim Cheh Peng, Mr Mohammad Fazulee Bin Abdul Rahman, Dr Peck Thian Guan and Mr Saravanan Gunaratnam at the UCI Directors' Retreat

E. ORGANISATIONAL CLIMATE SURVEY

The organisational climate survey (OrgCS) was conducted from 1 Mar 2016 to 8 Mar 2016. The key objectives for the OrgCS were:

1. To assess the current working environment in OSHE
2. To give every staff an opportunity to shape the desired working environment and align with best human resource practices
3. To identify areas of concern for management's attention
4. To compare the level of work climate and perceptions of leadership with the previous OrgCS done in 2014

Based on the survey, it was found that the employee satisfaction index of OSHE increased from 3.66 to 3.76 since the last survey in 2014. Positive ratings were also found in the areas of leadership, staff engagement and communication.

To address areas of improvement from the survey, the management team organised a focus group comprising OSHE staff to review the results of the survey and to get a better understanding of the issues surfaced. Initiatives implemented to address these issues will be reviewed in 2017.

CUSTOMERS



Mr Saravanan Gunaratnam and colleagues from NUS Medicine

A. Meeting with new Deans, Heads of Department (HODs) & Directors

Members of the Management of the University have a responsibility for providing leadership in safety and health stewardship. As such, OSHE has defined a process for OSHE's Senior Management to meet new key appointment holders in laboratory-based faculties, departments, research institutes and centres. The purpose of the meeting is to introduce and provide relevant safety and health information to support the roles of the newly-appointed Deans, HODs, and Directors.

In 2016, OSHE met the following new Deans / HODs / Directors:

S/N	Faculty / Department / Research Institutions / Research Centres	Name of Deans / HODs / Directors	Designation
1	Department of Pharmacy	A/Prof Chai Li Lin, Christina	Head
2	Department of Civil and Environmental Engineering	Prof Quek Ser Tong	Head
3	Department of Mechanical Engineering	Prof Phan-Thein Nhan	Acting Head
4	Faculty of Dentistry	Prof Allen Patrick Finbarr	Dean
5	Centre for Healthcare Innovation and Medical Engineering	Prof Lee Pyung Se, Luke	Director
6	School of Design and Environment	Prof Lam Khee Poh	Dean

Table 6. List of new Deans/ HODs / Directors whom OSHE met

B. Internal Partners

OSHE works closely with various offices within NUS. The list of internal partners and their working relationship with OSHE is given below.

NUS Offices	Areas of working relationship
NUS Senior Management	
Office of the President	Development of University policies on safety & health
Office of the Provost	Development of University policies on safety & health, in particular in areas affecting the faculties
Office of the Deputy President (Research and Technology)	Development of University policies on safety & health, in particular in areas affecting the research institutes and centres
Office of the Deputy President (Administration)	Development of University policies on safety & health, in particular affecting administrative departments
Office of the Vice President (Campus Infrastructure)	Development of University policies on safety & health, in particular those which an impact on space and physical infrastructure
Academic Cluster	
Office of Admissions	Distribution of Emergency Preparedness packs to new students
Registrar's Office	Crisis and emergency management
Faculties & Schools	Safety & Health audits & inspections and roll out of safety & health programmes
Administration Cluster	
Central Procurement Office	Procurement sourcing, commercial contract management, compliance with procurement procedures and reporting
Centre for Counselling & Psychological Services	Staff and student counselling & psychological matters
Computer Centre	IT matters
Enterprise Office (Industry Liaison Office)	Material Transfer Agreements
International Relations Office	Crisis management involving international students or NUS students overseas
Office of Campus Amenities	Dining and Transportation
Office of Campus Security	Public safety and security matters
Office of Corporate Relations	Communication and media matters
Office of Environmental Sustainability	Environmental interests
Office of Estate & Development	New Capital and A&A Projects
Office of Facilities Management	Facilities matters
Office of Financial Services	Financial matters
Office of Housing Services	Safety & health management in Residences
Office of Human Resources	Staff matters
Office of Legal Affairs	Legal advice
Office of Privacy and Compliance	Compliance with the Personal Data Protection Act (PDPA)
Office of Resource Planning	Financial resources
Office of Risk Management	Business Continuity Planning & Enterprise risk management
Office of Student Affairs	Student matters
Organisational Excellence Office	Quality improvement and lean six sigma projects
University Health Centre	Staff & students' clinical and student insurance matters
University Town Management Office	UT facilities

Table 7. OSHE's Internal Partners

C. Management Framework of Safety and Health Coordinators

NUS Safety and Health Coordinators (SHCs) are pivotal in driving safety and health programmes and systems in their respective departments and research institutes and centres. They work closely with OSHE to provide valuable technical advice and assistance to staff and students in their departments on general workplace safety and health issues.

To develop a framework that will recognise and reward SHCs' contributions and provide resources to support them in their roles and responsibilities, OSHE, in partnership with OHR, invited a selected group of SHCs to a focus group discussion to gain a better understanding of what the critical elements this framework should entail. The workshop was held on 12 April 2016 and was attended by 18 SHCs.

Based on the feedback from the workshop and subsequent discussion with key stakeholders, a proposal to implement a 'Management Framework of NUS Safety and Health Coordinators' was approved in July 2016 by the NUS Safety and Health Management Committee (SHMC). Under this new framework, SHCs can look forward to:

1. A defined process for the selection and appointment of SHCs
2. Clarity on the roles and responsibilities of SHCs and the competency requirements for SHCs
3. Sponsorships for professional development courses (workshops, seminars, conferences, etc.)

For their contributions to safety and health in NUS, all SHCs were personally presented with a note and a token of appreciation from OSHE in 2016.



Figure 56. Focus group discussion for SHCs conducted by OSHE in partnership with OHR



Figure 57. Ms Chua Hui Ping from OHR facilitating the focus group discussion



Figure 58. Ms Tricia Chong, SHC from IDMI, receiving a note and a token of appreciation from OSHE for her contributions to safety and health

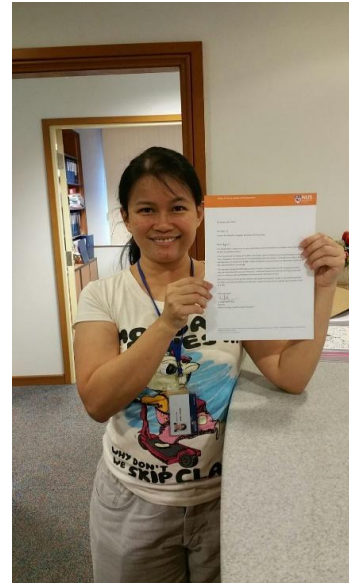


Figure 59. Ms Yap Li Li, SHC from CRISP, receiving a note and a token of appreciation from OSHE for her contributions to safety and health

D. OSHE's Participation in Major Safety and Health Events

In addition to facilitating various safety and health related drills and exercises, OSHE also supports faculties, schools and research institutes/centres at safety and health events which are organised to create awareness of safety and health among staff and students. This is achieved through informative and engaging activities, such as talks, workshops, exhibitions and hands-on sessions with fire-fighting equipment.

The table below lists the various safety and health events that OSHE supported in 2016.

Safety and Health Day	Date
University Health Centre Safety Day	3 Jun 2016
T-Lab Safety Day	8 Aug 2016
NUS Medicine Safety Carnival and Forum	6 Sep 2016
Faculty of Engineering Safety and Health Campaign	19 Sep 2016
Faculty of Science Safety Day	23 Sep 2016
CREATE Safety Day	7 Oct 2016
Centre for Life Sciences and Brenner Centre Safety Day	12 Oct 2016
Mechanobiology Institute Safety Day	14 Oct 2016
Mechanical Engineering Safety Day	15 Nov 2016
Solar Energy Research Institute of Singapore Safety and Health Day	16 Nov 2016
NUS Nanoscience and Nanotechnology Initiative Safety Day	13 Dec 2016

Table 8. List of Safety and Health Events that OSHE Supported



Figure 60. OSHE set up a “walk-in clinic” at the NUS Medicine Safety Carnival to engage stakeholders and respond to any safety-related queries



Figure 61. Mr Hairulnizam Bin Ishak and Mr Saravanan Gunaratnam were invited to be panellists at the NUS Medicine Safety Forum



Figure 62. OSHE provided hands-on training for the use of fire extinguishers during the Faculty of Engineering Safety and Health Campaign



Figure 63. OSHE set up a booth at the Faculty of Science Safety Day to engage stakeholders



Figure 64. Mr Hairulnizam Bin Ishak giving a talk at the CREATE Safety Day



Figure 65. Mr Goh Keng Beng giving a talk at the NUSSNI Safety Day

Workshops and Training Conducted	Date
Biospill Response Training (Train-the-Trainers)	2 Aug 2016
Accident and Incident Investigation Workshop for NUS Medicine Departments	26 Sep 2016

Table 9. Examples of Workshops and Training that OSHE has Conducted



Figure 66. Mr Goh Keng Beng and Dr Vernon Seow conducting an 'Incident Investigation Workshop' for NUS Medicine Departments



Figure 67. Biospill response training conducted for Safety and Health Coordinators from NUS Medicine

Drills and Exercises	Date
NUS Medicine BSL3-SCDF Joint Exercise	23 Jun 2016
Total Workplace Safety and Health Exercise for Office of Campus Security: a) Planning b) Meeting between OCS, OSHE and SSHSPH c) TWSH questionnaire d) Workplace assessment e) Final report f) Presentation to OCS management	Feb-Sep 2016
Community of Practice – Uninterruptible Power Supply System	2016

Table 10. List of Drills and Exercises that OSHE Supported



Figure 68. NUS Medicine BSL3-SCDF joint emergency response exercise



Figure 69. OSHE facilitated the Total Workplace Safety and Health (TWSH) exercise for Office of Campus Security, with Saw Swee Hock School of Public Health (SPH) as the TWSH consultant.

RESULTS & STATISTICS



OSHE's performance indicators

A. OPERATIONAL RESULTS

i. New Products & Services / Policies / Standards / Programmes

10 NEW/ REVISED POLICIES, STANDARDS AND PROGRAMMES

S/N	POLICIES, STANDARDS, PROGRAMMES	DESCRIPTION
1	Safety and Health KPIs for Deans, Directors and HoDs	Safety and Health Key Performance Indicators (KPIs) were introduced for Deans, Directors and Heads of Departments (HoDs) in August 2014. Effective from April 2016, periodic reporting of Safety and Health KPIs to Provost and Deputy President (Research and Technology) by Deans, Directors and HoDs of selected departments/research institutes/research centres were made compulsory. Through this initiative, there is a stronger desire for Deans, Directors and HoDs to demonstrate safety and be accountable for ensuring safety in their respective departments or research institutes/centres. This would create a strong positive safety and health culture on campus.
2	Mandatory Departmental Safety and Health Management System Audits for High Hazard Departments	In NUS, laboratory based departments/research institutes/research centres are required to establish, implement and maintain a safety and health management system to ensure that the safety and health risks in the workplace are managed in a systematic and effective manner. In 2016, OSHE completed the audits of the SHMS of high hazard departments.
3	Respiratory Protection Programme	The guideline outlines occupational health requirements for the use of respirators in laboratory-based research and teaching activities. We also launched new training modules as part of this programme.
4	NUS Standard for Permit to Work (PTW) System for High Hazard Activities by Contractors	The standard was developed in 2016 to define the requirements for the Permit to Work system for works conducted by contractors in NUS premises.
5	NUS Safety and Health Requirements for the Use of Non-Human-Primate-Derived Materials	New safety requirements for life science researchers handling materials derived from non-human-primates (NHPs) were developed in discussion with the Institutional Biosafety Committee and NUS senior management. NUS requires BSL2 containment for any staff/students working with NHP-derived samples that have not undergone processes to inactivate/denature potential infectious agents.
6	Management of Safety and Health Coordinators Framework	Safety and Health Management Committee (SHMC) July 2016 approved the 'NUS Safety and Health Coordinators (SHCs) Framework' in July 2016. The framework will help to provide more clarity to the SHCs on their roles and to elucidate the competency requirements for SHCs for them to be able to effectively discharge their duties. SHCs can also look forward to

		sponsorships for professional development courses and a structured induction programme for new coordinators.
7	Mandatory Eye and Face Protection in Teaching Laboratories and Workshops	Senior management is also requiring that the current eye protection policy for research laboratories be extended to teaching laboratories with effect from 1st Jan 2017. This will ensure there is consistency of safety requirements across all types of laboratories and workshops.
8	Safety & Health Management System Standard for Academic Supervisors	The Safety & Health Management System Standard for Academic Supervisor was revised to include the consideration of personnel health factors during the hazard identification process.
9	Revised NUS Safety and Health Policy	Approved by NUS President, Prof Tan Chorh Chuan, on 1 Dec 2016, the policy was revised to reflect the changes in policy statements as a result of the Management of Safety and Health Coordinators Framework.
10	Departmental Risk Indicator (Heat Map)	Safety and health performance indicators are reported in the form of a heat map to NUS Senior Management.

Table 11. New / revised policies and standards

4 NEW SAFETY & HEALTH COURSES

S/N	MODULE CODE	COURSE
1	OSHGEN04	Respiratory Protection Programme Training for First-Time Users
2	OSHEGEN05	Respiratory Protection Programme Training for Returning Users (Refreshers)
3	OSHBIO06	Safe Needle Usage in Research Laboratories
4	Classroom Training	Safe Handling of Non-Human Primate (Macaque) Derived Materials

Table 12. New safety and health training courses

1 NEW INSTITUTIONAL COMMITTEE

S/N	INSTITUTIONAL COMMITTEES	PURPOSE
1	Safety and Health Management Committee	The Safety and Health Management Committee was launched in 2016 to provide strategic direction on the development and implementation of a safety and health management framework that would safeguard NUS staff and students, the general public and the environment from hazards arising from NUS activities. It is chaired by the Vice President (Campus Infrastructure) and committee members include Associate Provost (Student Life), Director (Office of the Deputy President (Research and Technology)), Director (NUS Enterprise) and Chief Risk Officer (Office of Risk Management).

Table 13. New Institutional Safety & Health Committee



Figure 70. First SHMC meeting on 27 July 2016

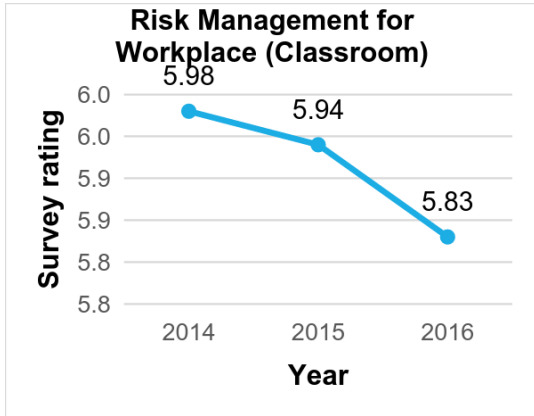
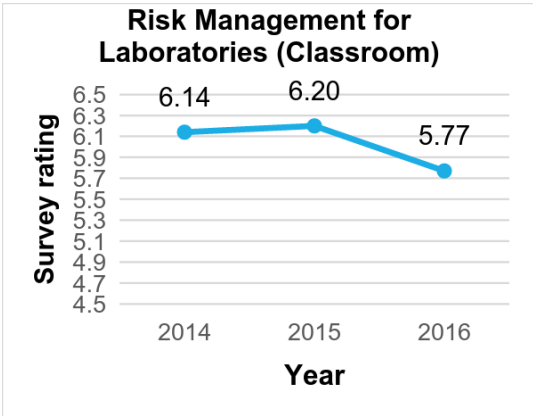
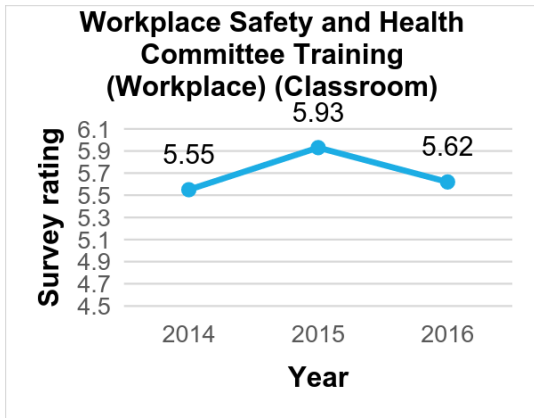
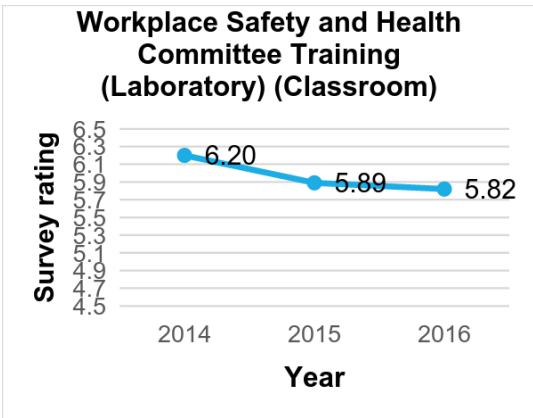
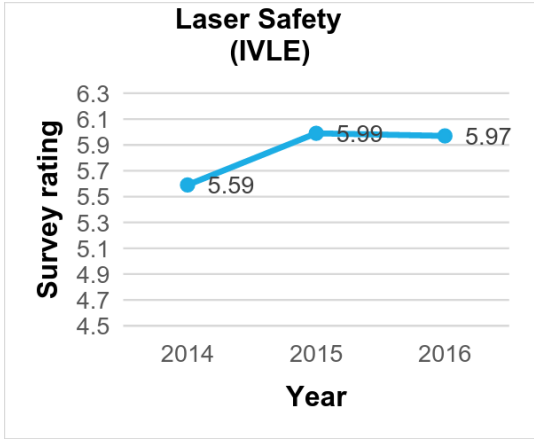
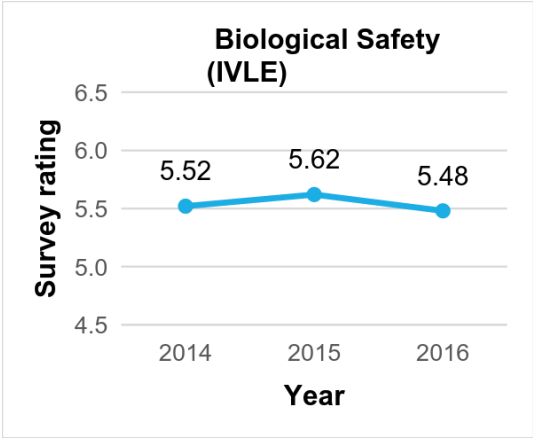
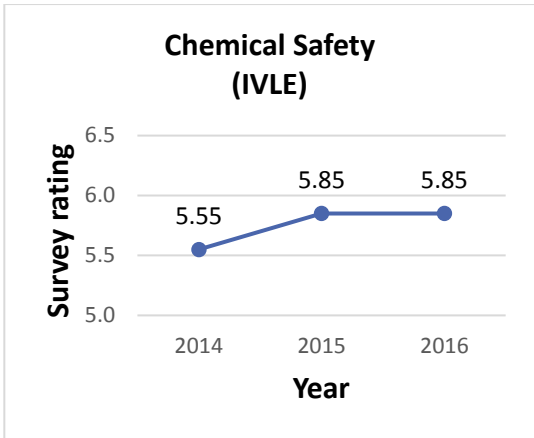
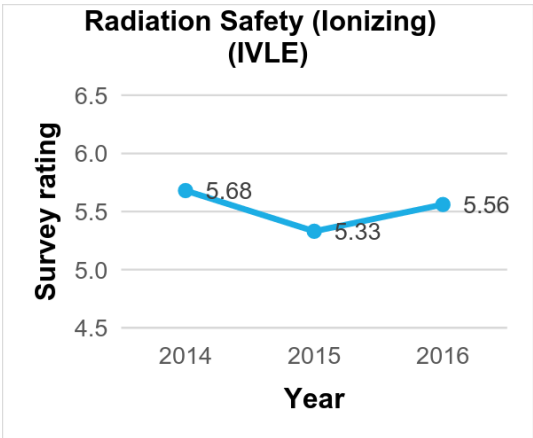
204 VOICE Suggestions

OSHE staff are constantly improving the way things are done and have provided many suggestions for improvements in 2016. 204 'Valued Online Ideas Contributed by Employees' (VOICE) suggestions were submitted until the scheme was ended in October.

B. CUSTOMER RESULTS

ii. Customer satisfaction survey for training courses

OSHE's customer satisfaction ratings have consistently been positive and have always exceeded the target rating of 5 out of 7.



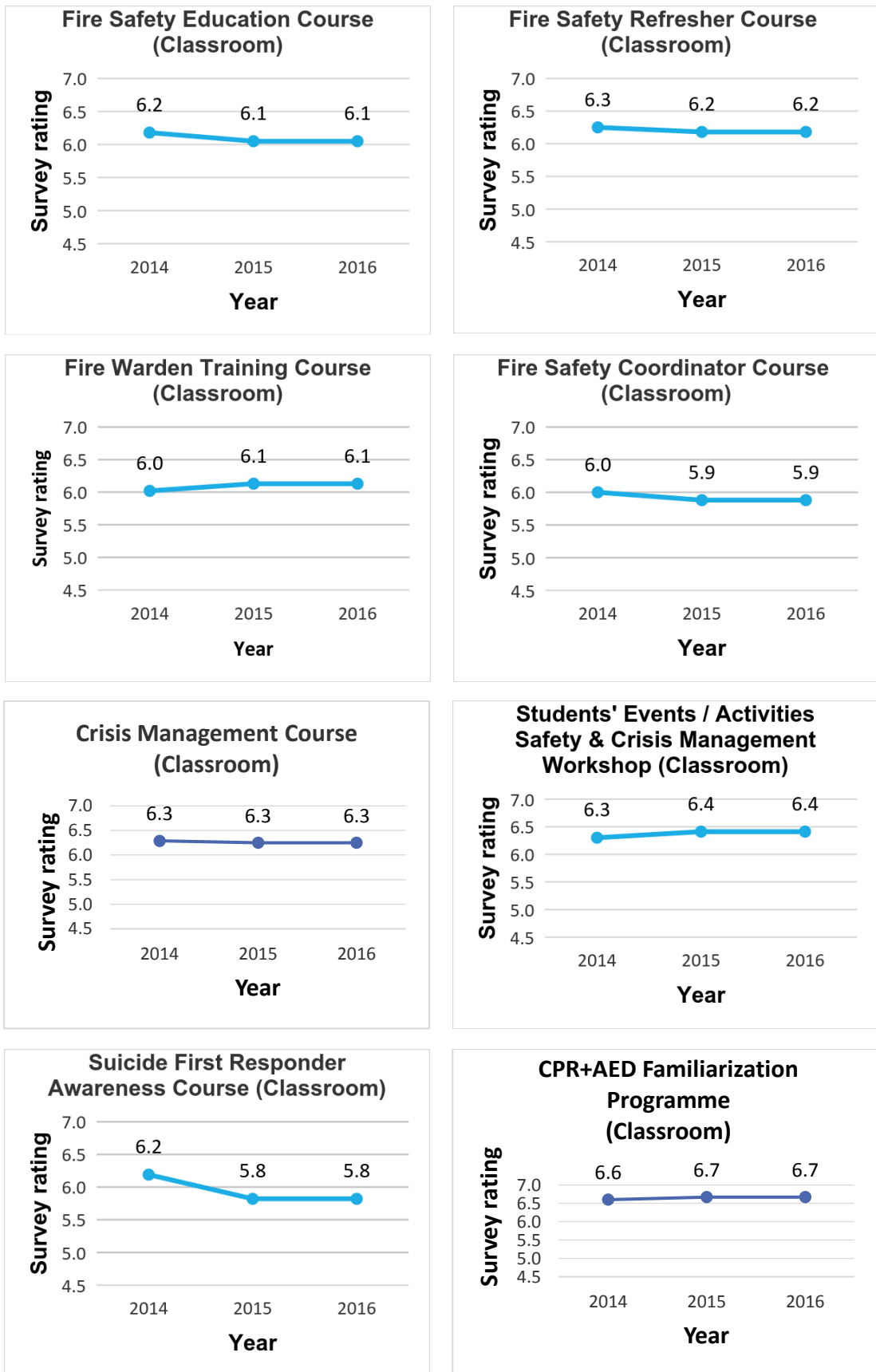


Figure 71. Course survey results

iii. OSHE Online Survey

The number of responders to the audit feedback surveys have increased and the survey rating remains high at 4.7 out of 5.

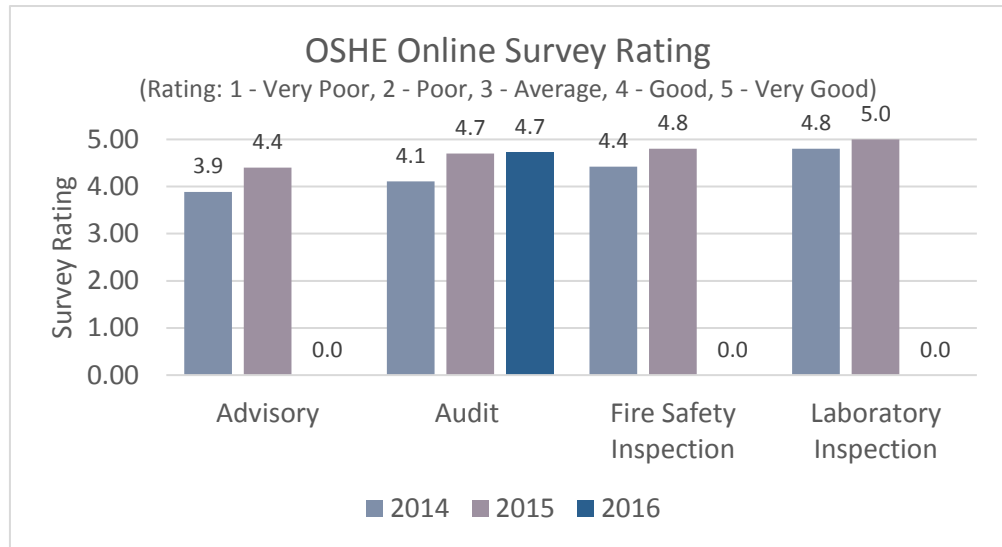


Figure 72. OSHE online survey rating for Advisory, Audit and Fire Safety Inspection

iv. Compliments-to-Complaints Comparison

The number of compliments received remains high and the number of complaints that OSHE received in 2016 has reduced to 2 since the previous year.

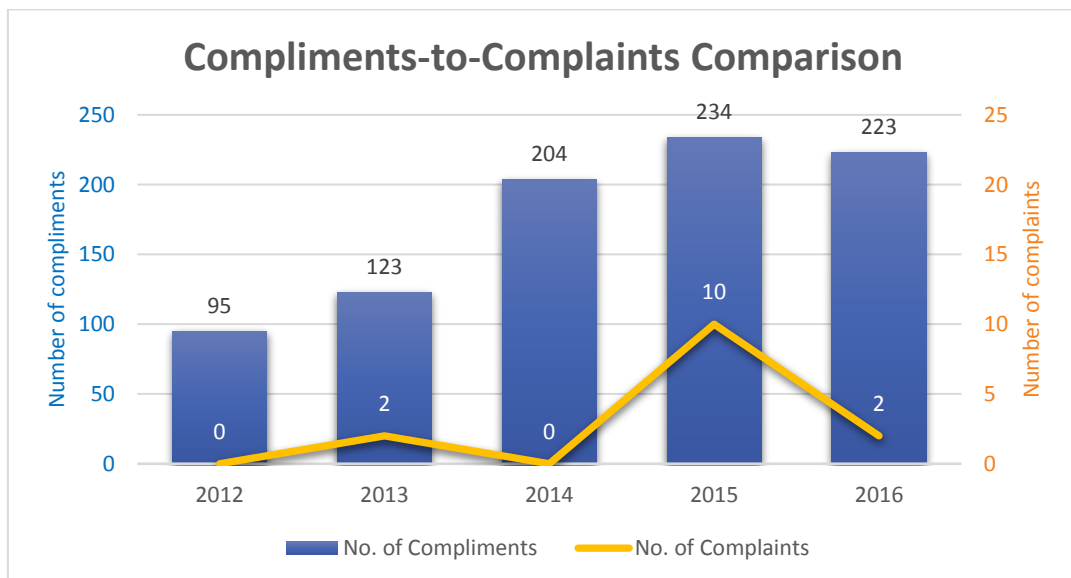


Figure 73. Compliments-to-complaints comparison (2012 – 2016)

C. PEOPLE RESULTS

The Quality of Hire has increased in 1st half of 2015, bringing it to its highest yet at 71%.



Figure 74. Quality of Hire (2012 – 2015)

OSHE continues to invest in staff development, in particular, raising the competencies of our staff. The average training hours per OSHE staff increased tremendously in 2016 and it is more than double of the average training hours per University Admin staff.

Training Hours	2014	2015	2016
Average training hours per OSHE staff	53	57	75
Average training hours per University Admin staff	34	26	30

Table 14. Average training hours per staff

Professional Development Group (PDG) training sessions are organized in-house to increase the technical competencies of OSHE staff. In 2016, 4 PDG training sessions were conducted.

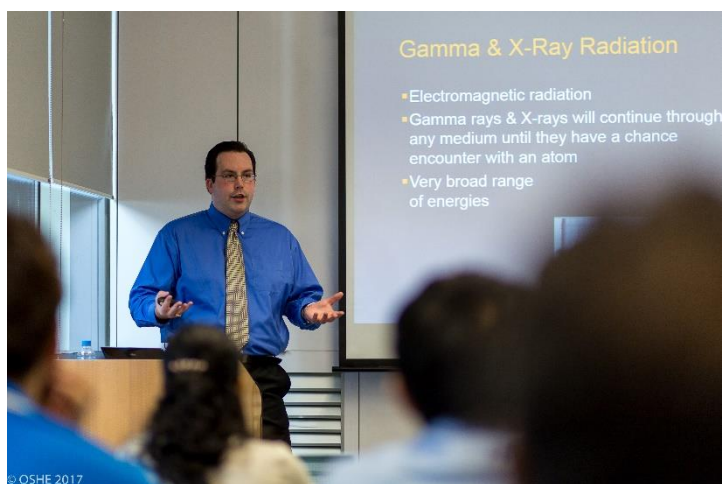


Figure 75. A PDG session on Ionising Radiation Safety by Mr William J Pate from The University of Texas

The number of OSHE staff with professional certification is listed below.

S/N	Professional Certifications	2016
1	Registered Fire Safety Manager, Singapore Civil Defence Force	15
2	Registered Safety Officer, Ministry of Manpower	13
3	Biosafety Coordinator, Ministry of Health	12
4	Noise Monitoring and Control Officer, Ministry of Manpower	6
5	Radiation Safety Officer, National Environment Agency	3
6	Environmental Control Officer, National Environment Agency	3
7	Business Continuity Certified Expert, Business Continuity Institute	2
8	Certified Instructor for Mental Health First Aid (Singapore)	2
9	Crisis Management Certified Expert, Business Continuity Institute	1
10	Laser Safety Officer, National Environment Agency	1
11	Certified Safety & Health Manager, Institute of Safety & Health Management Certifications	1
12	Senior Fire Safety Manager, Singapore Civil Defence Force	1
13	Registered Biosafety Professional, American Biosafety Association	1
Total		61

Table 15. Number of staff with professional certification in 2016

Attrition rate in OSHE remains relatively low in 2016 at 9.8%.

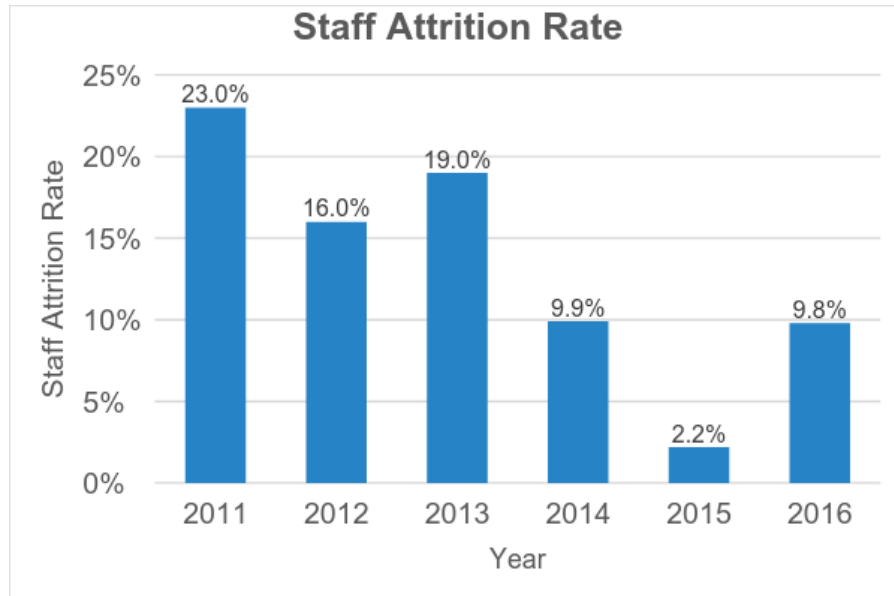


Figure 76. Staff attrition rate

The average length of service has increased steadily over the years, from 4.6 years in 2015 to 5.1 years in 2016.

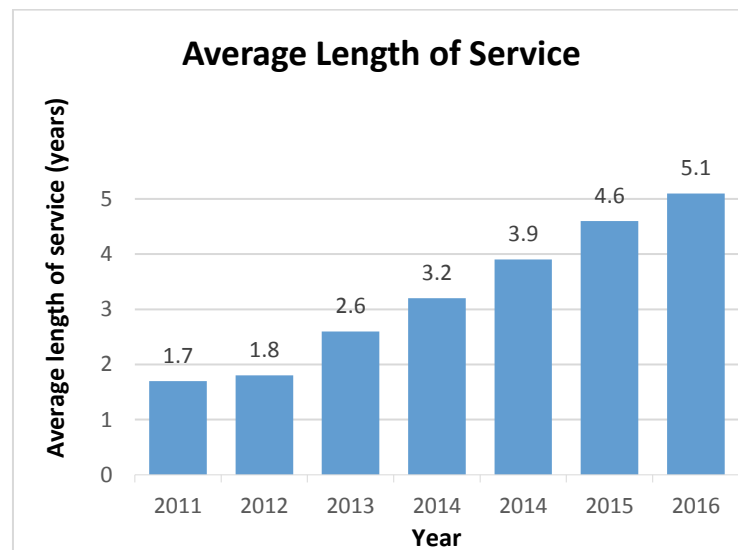
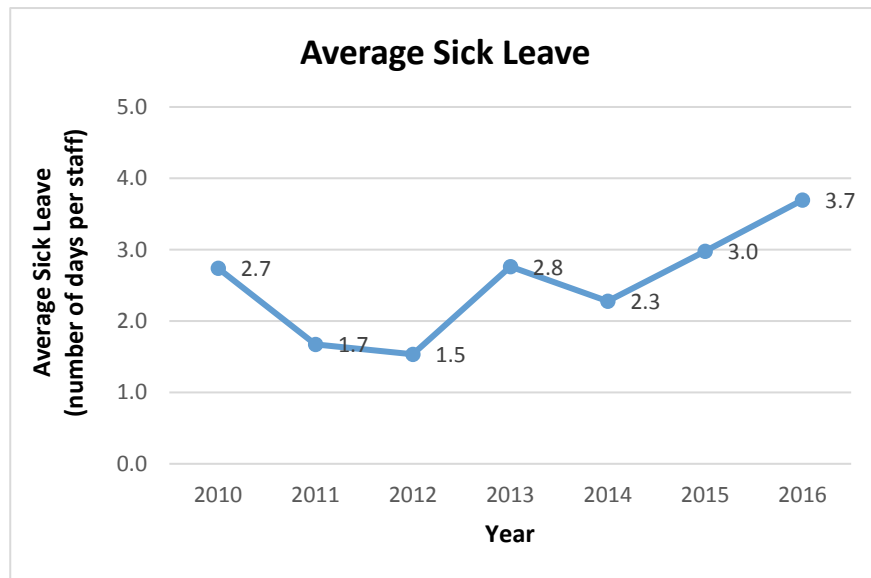


Figure 77. Average length of service

The average sick leave of OSHE staff was 3.7 days in 2016, below the target 4 days per staff per year.



OSHE's Target:
< 4 days per
staff per year

Figure 78. Average sick leave

In 2016, there were 16 wellness programmes that OSHE organised or OSHE staff had participated in.

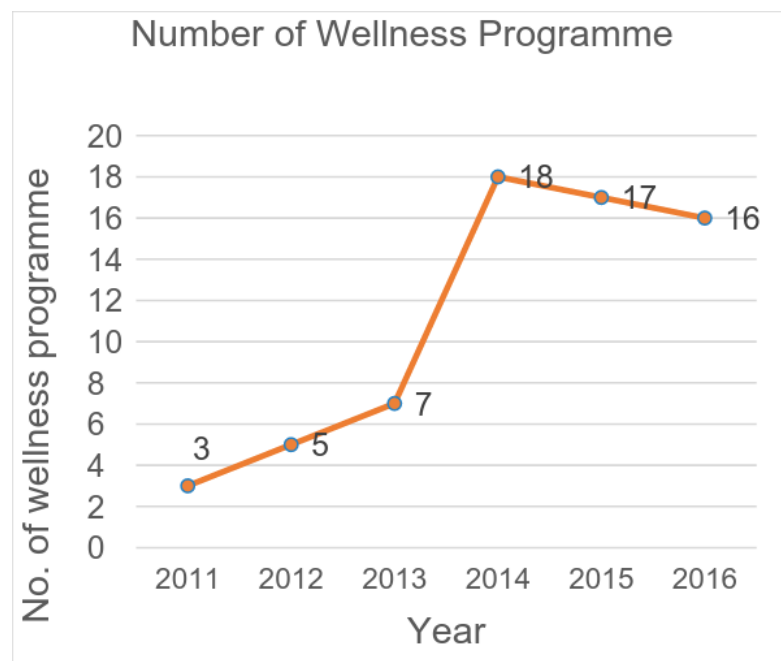


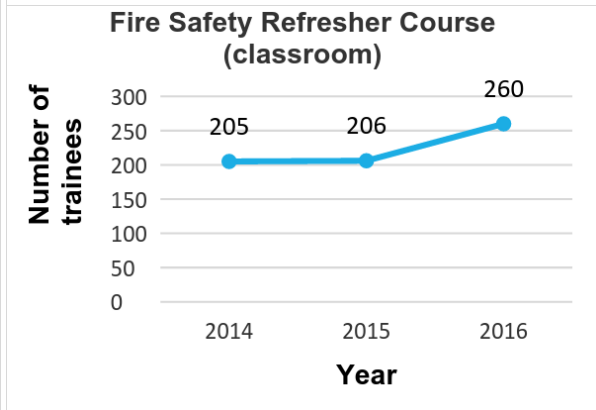
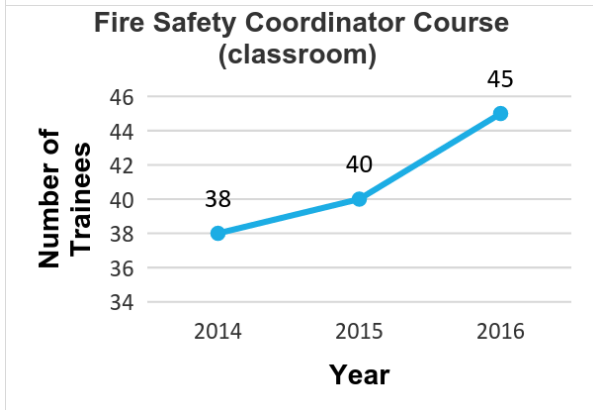
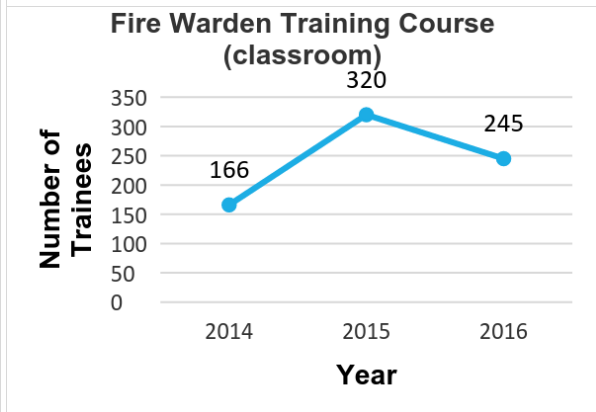
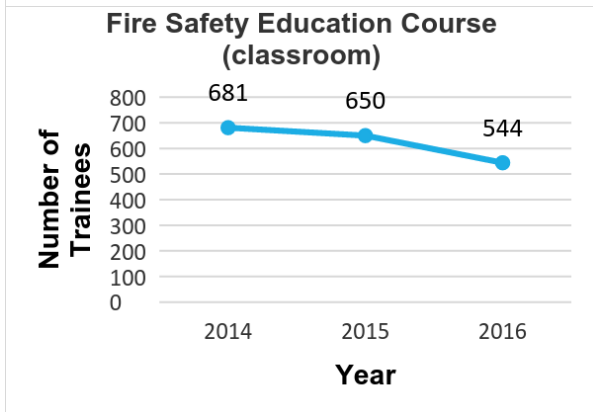
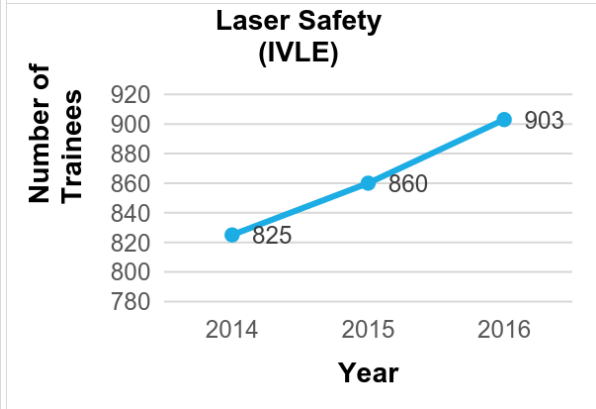
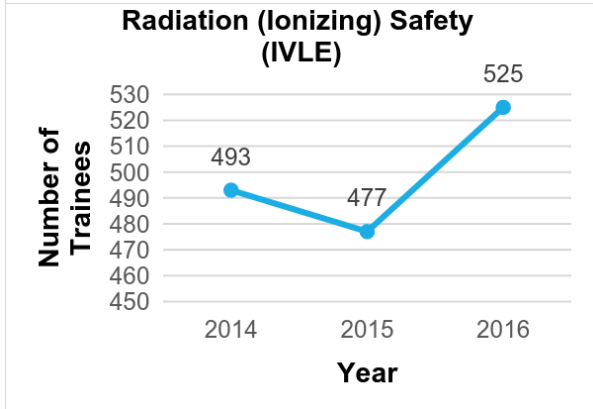
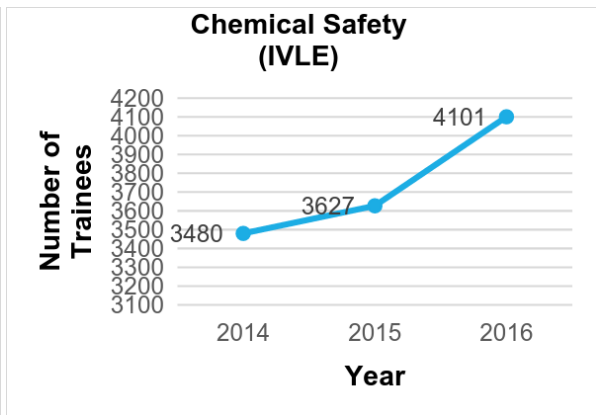
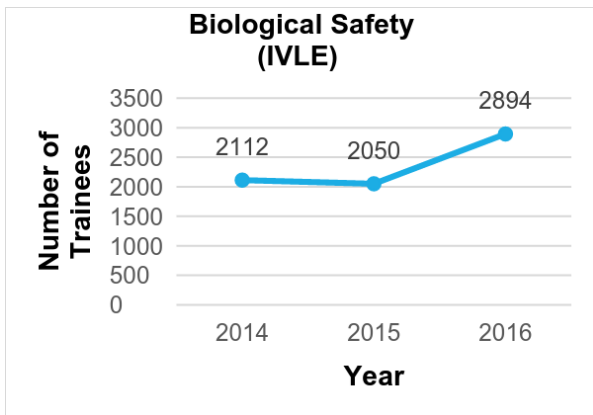
Figure 79. Number of wellness programmes

ii. Number of Trainees

The number of staff and students who completed OSHE safety & health training courses (Safety & Health Management Division) is found in the table below.

Summary of SSTS	No. of Trainees		
	2014	2015	2016
IVLE Courses			
●Biosafety	2112	2050	2945
●Biosafety (Refresher)	562	642	-
●Chemical Safety	3480	3627	4193
●Radiation Safety (Ionising)	493	477	537
●Laser Safety	825	860	926
●Laboratory Safety Induction		273	1469
●Safe Handling of Human Tissue and Fluids		13	1662
●Biosafety Legislations & Guidelines		7	291
●Biological Spills and Emergency Response		11	600
●Safe Use & Handling of Hydrofluoric Acid		7	237
●Safe Use & Handling of Pyrophoric Chemicals		1	282
●Chemical Spill Management		9	802
●Basic MRI Safety Training		5	56
●MRI Safety Training for Operators		5	56
●Respiratory Protection Programme Training for First-Time Users ^{NEW}			483
●Respiratory Protection Programme Training for Returning Users (Refreshers) ^{NEW}			104
●Safe Needle Usage in Research Laboratories ^{NEW}			931
Sub-total (IVLE Courses)	7472	7987	15574
Sub-total (Classroom Courses)	692	789	638
Grand Total (IVLE & Classroom)	8164	8776	16212

Table 16. . Number of trainees trained in safety & health training courses (Safety & Health Management Division)



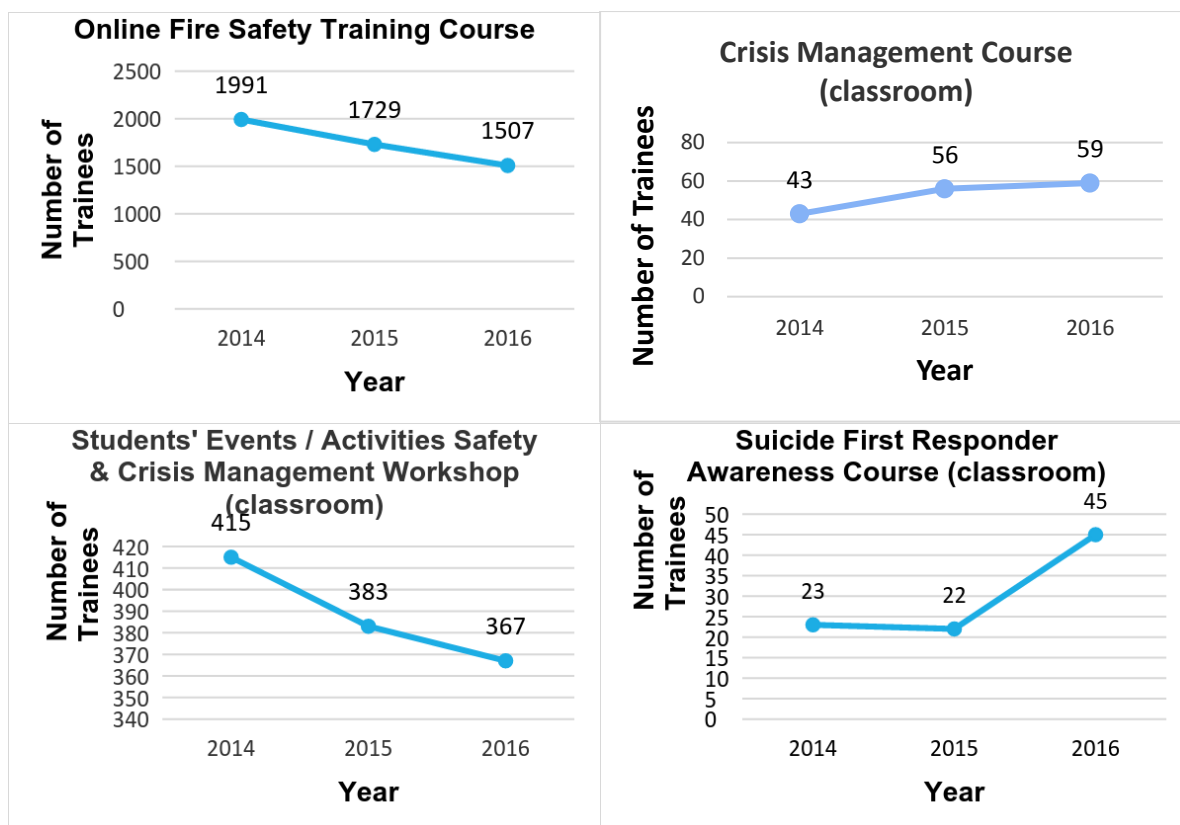


Figure 80. Number of trainees trained in safety courses

The number of trainees / courses conducted in life safety, fire safety & emergency preparedness courses (Emergency Management Division) are given below.

Life Safety Courses	No. of Trainees		
	2014	2015	2016
Safety & Crisis Management Workshop	415	383	380
CPR+AED Familiarisation Training	597	763	757
Total	1012	1146	1137
Fire Safety Courses	No. of Trainees		
	2014	2015	2016
Fire Safety Education	712	650	544
Fire Warden Training	166	354	345
Fire Coordinator Course	38	40	45
Fire Safety Refresher Course	253	206	260
Fire Extinguisher Practical Only	645	314	205
Other Fire Safety Training	2924	2652	2477
Total	4738	4216	3876

Emergency Preparedness Courses, Exercises & Briefings	No. of Training Courses, Exercises & Briefings		
	2014	2015	2016
Crisis Management Course	3	4	4
Suicide First Responder Awareness Course	2	2	2
Practical Exercises and Table Top Exercises	5	10	4
Briefings to Unit Incident Commanders	17	16	14
Promotional Programmes	5	2	2
Additional Training	8	4	2
Pandemic Preparedness Activities	21	26	0
Total	61	64	28

Table 16. Number of trainees trained or courses conducted in life safety, fire safety & emergency preparedness courses (Emergency Management Division)

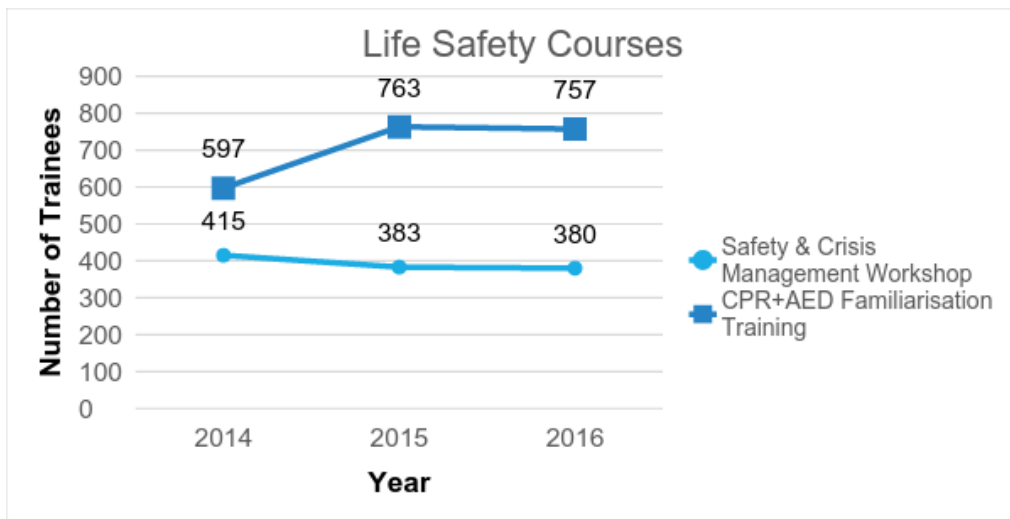


Figure 81. Number of trainees trained in Life Safety Courses

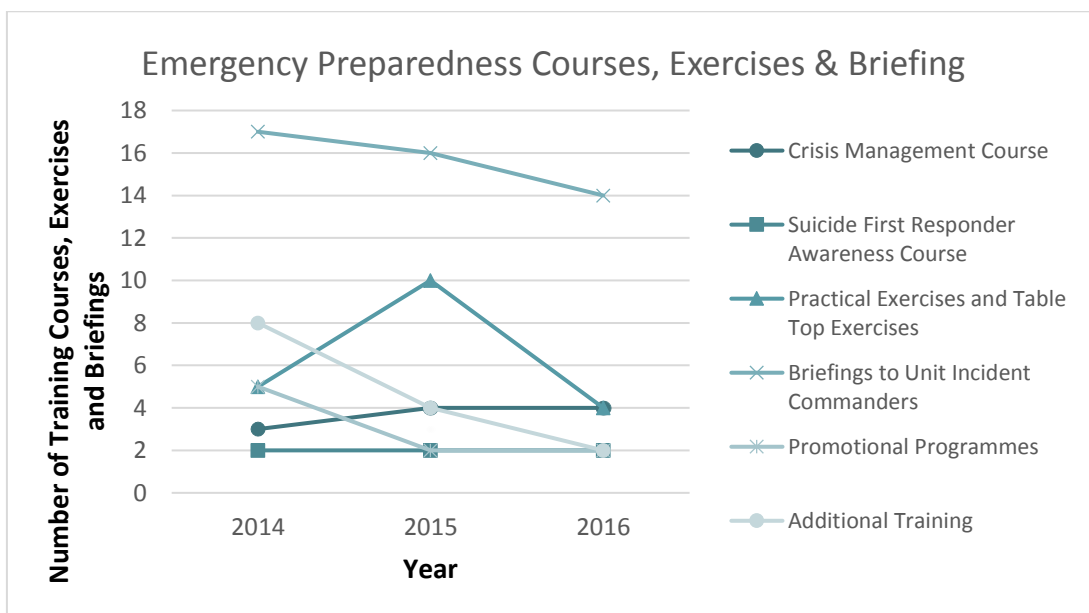


Figure 82. Number of courses conducted in Emergency Preparedness Courses, Exercises & Briefing

It is also essential for NUS students to be aware of safety and health and OSHE supports the teaching agenda by conducting classes for them as part of their academic programmes.



Figure 83. Ms Tan Chuen Hui conducted a class on 'Legislations and Laws in Singapore Regarding Workplace Safety & Health' as part of a compulsory safety module (CM 5161 – Advanced Chemical Laboratory Safety) that Department of Chemistry Postgraduate students must attend

iii. Number of Project Risk Assessments (PRAs) Reviewed

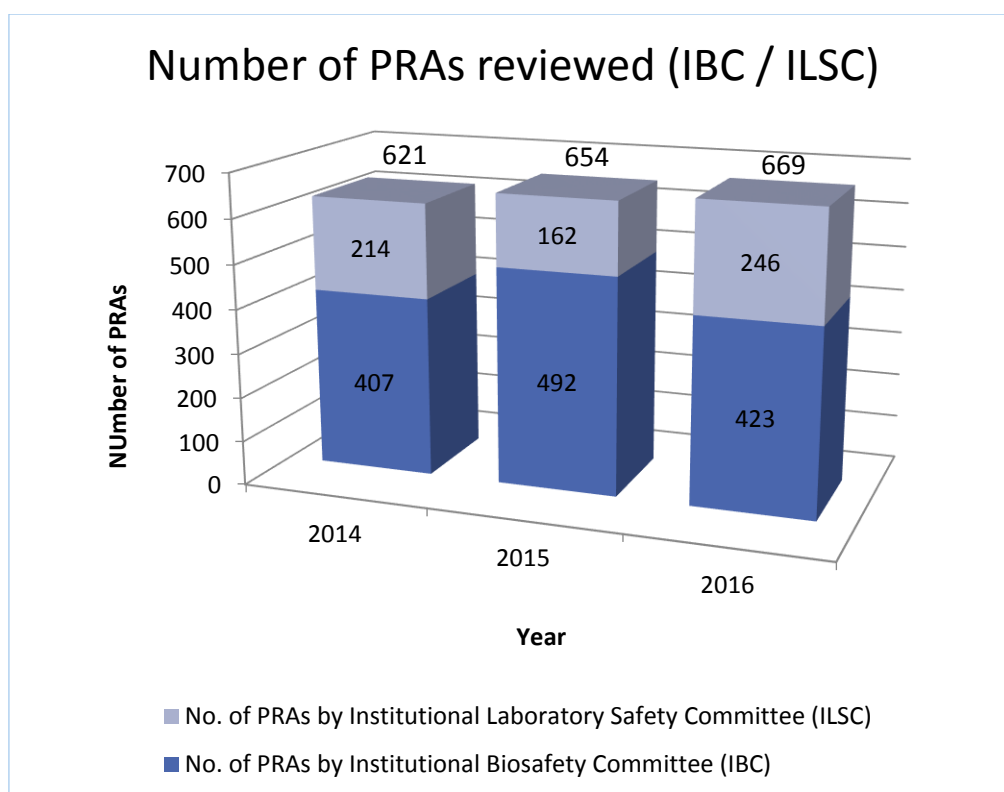


Figure 84. Number of PRAs reviewed

iv. Number of Laboratory Design Reviews

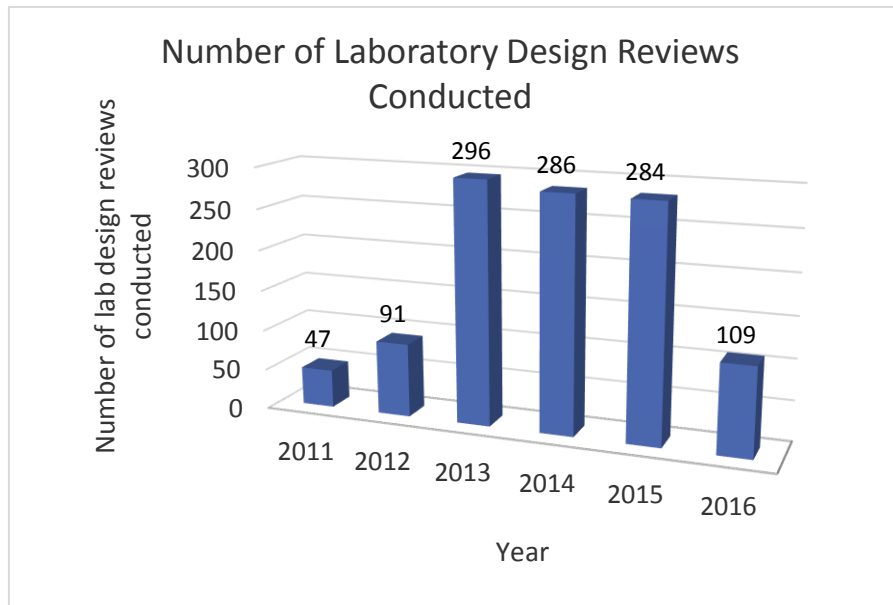


Figure 85. Number of laboratory design reviews OSHE staff participated in

v. Number of Safety Inspections Conducted

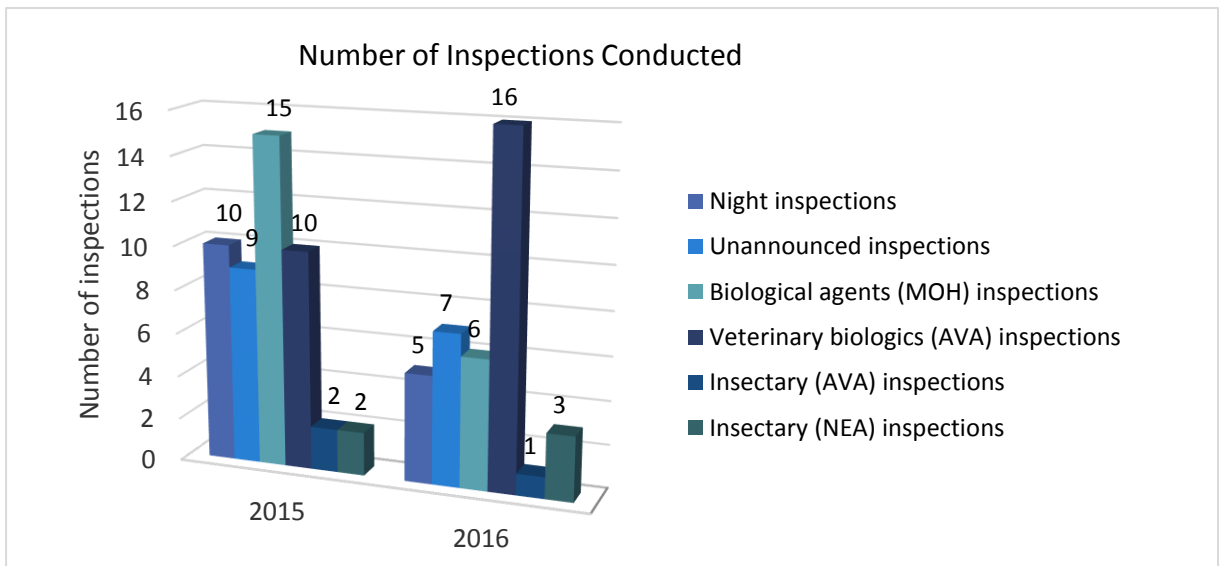


Figure 86. Number of safety inspections conducted in 2016

vi. Number of Articles Published in 'NUS Safety & Health News' Newsletter

In 2016, the safety and health newsletter that was previously known as 'SHAPEing Campus Safety and Health' was renamed to 'NUS Safety & Health News'.

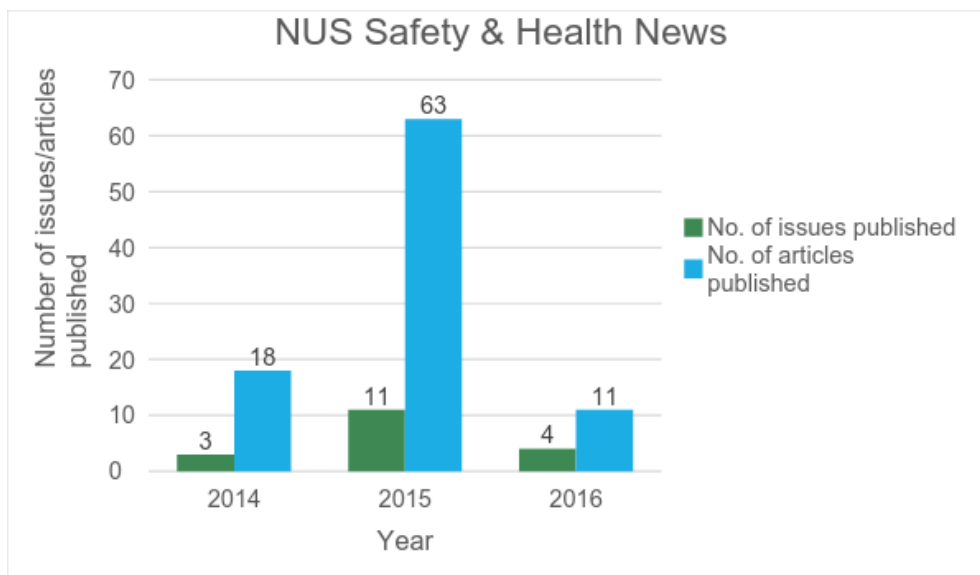


Figure 87. Number of issues or articles published in 'NUS Safety & Health News' newsletter

vii. Biosafety Programme

Biosafety Programme	2011	2012	2013	2014	2015	2016
No. of GMAC proposal reviewed	51	85	87	73	116	162
No. of Material Transfer Agreement (MTA) Questionnaire reviewed	100	122	99	42	54	35
No. of IACUC submissions reviewed	61	414	414	168	294	422

Table 17. Number of GMAC proposal, MTA Questionnaire and IACUC submission reviewed

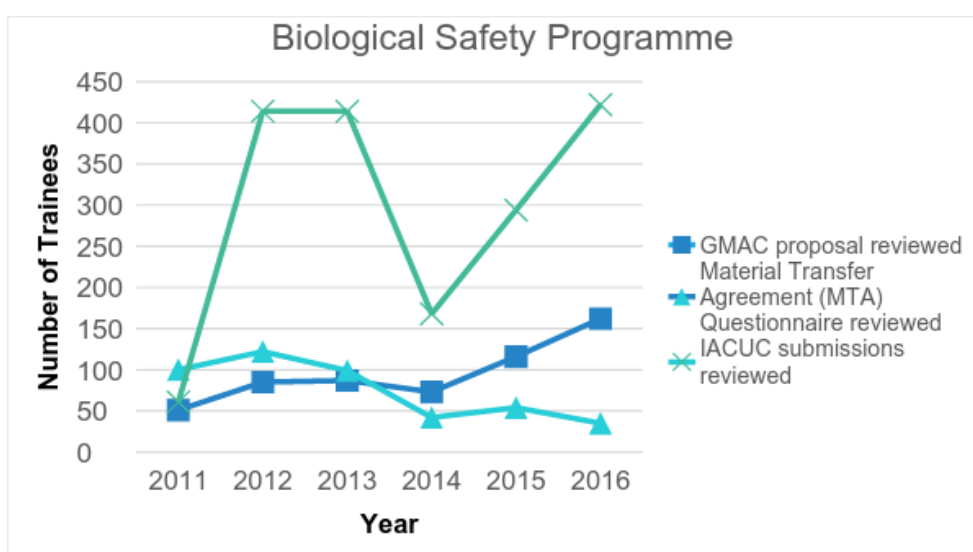


Figure 88. Number of PRA, GMAC proposal, MTA Questionnaire and IACUC submission reviewed

viii. Chemical Safety Programme

Description	2011	2012	2013	2014	2015	2016
No. of IAQ cases	10	4	10	10	15	29
No. of IH monitoring conducted	4	7	11	4	1	4

Table 18. Number of IAQ cases and IH monitoring conducted

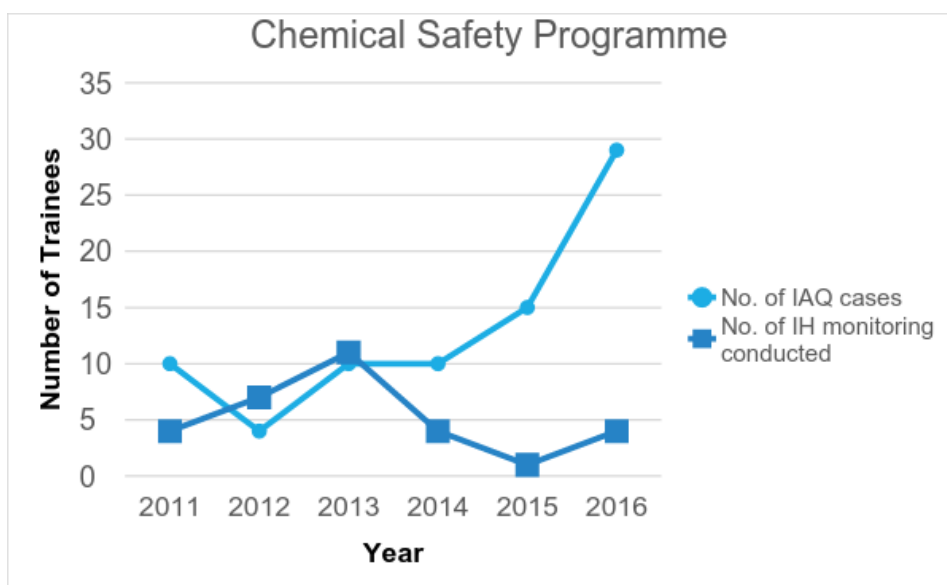


Figure 89. Number of IAQ cases and IH monitoring conducted

ix. Radiation Safety Programme

Radiation Safety Programme	2013	2014	2015	2016
No. of Safety Consultations on Radiation Safety	29	80	18	30
No. of bags of radiation waste disposed	188	270	301	231
Weight of radioactive waste disposed (kg)	430	510	770	690

Table 19. Radiation Safety Programme

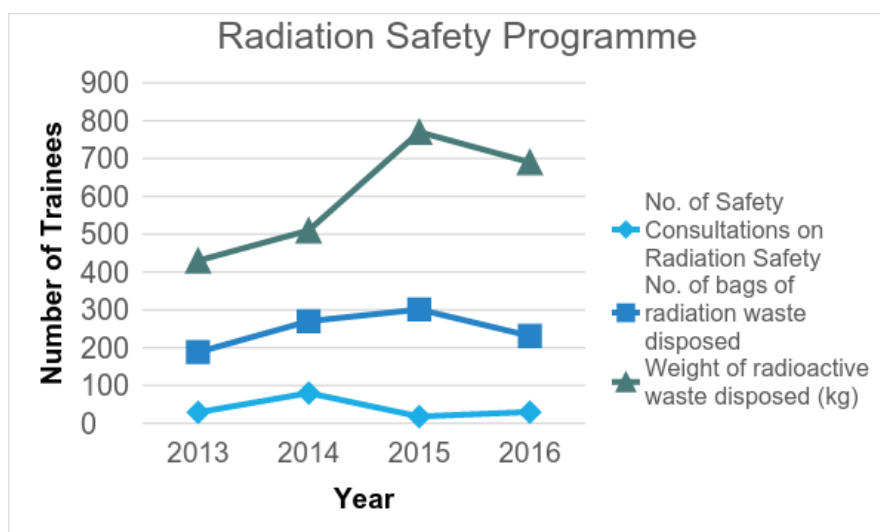


Figure 90. Radiation Safety Programme

x. Occupational Health Programme

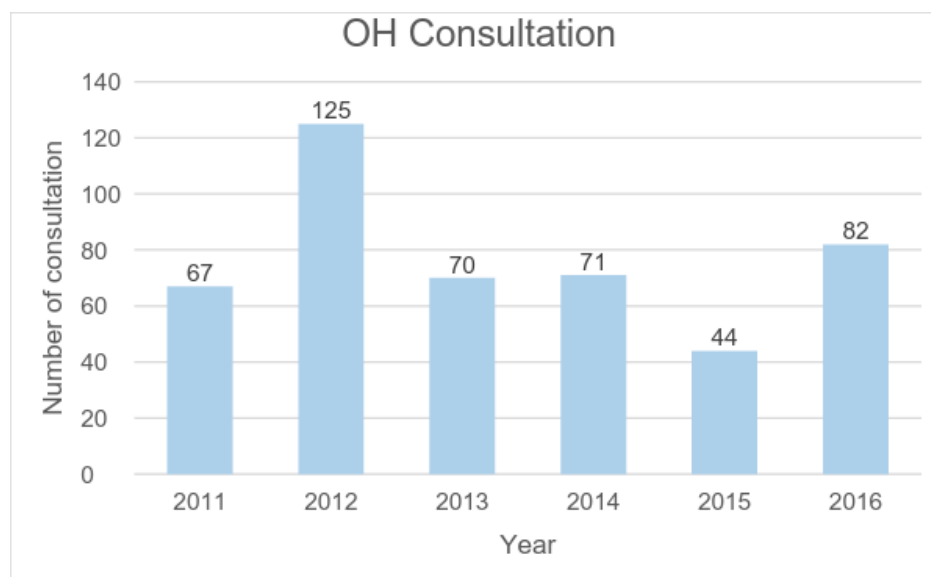


Figure 91. Occupational Health Consultations

OH Caseload	2010	2011	2012	2013	2014	2015	2016
Animal Work Questionnaire Reviews	226	609	610	566	636	522	640
BSL 2 Work Questionnaire Reviews	-	-	-	16	143	58	119
BSL 3 / ABSL 3	9	46	36	16	34	64	66
Statutory Medical Examination	21	420	193	186	221	174	280
Ionising Radiation	124	142	209	156	124	120	180
Laser	16	115	120	190	262	265	274
Respirator fitness	37	530	320	230	196	279	421
Research divers	22	56	61	25	14	17	29
Others (Misc.)	7	67	125	70	71	44	82
Total	462	1985	1674	1455	1701	1543	2091

Table 20. Occupational Health Caseload

xi. Audit Programme

Description	2011	2012	2013	2014	2015	2016
No. of PIs undergone certification audits	343	41	33	48	31	73
No. of PIs undergone surveillance audits	142	232	160	115	173	125
Total No. of PIs certified	655	645	657	673	655	695
Total No. of PIs	658	670	658	680	664	699
% PIs certified	99.5%	96.3%	99.8%	99.0%	98.6%	99.4%

Table 21. Audit & PI Certification Programme

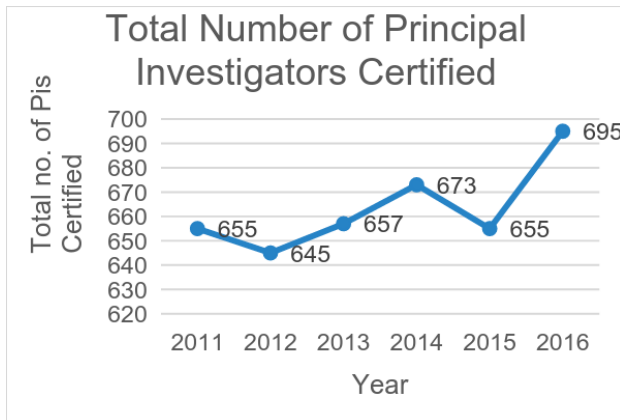


Figure 92. Total number of Principal Investigators certified

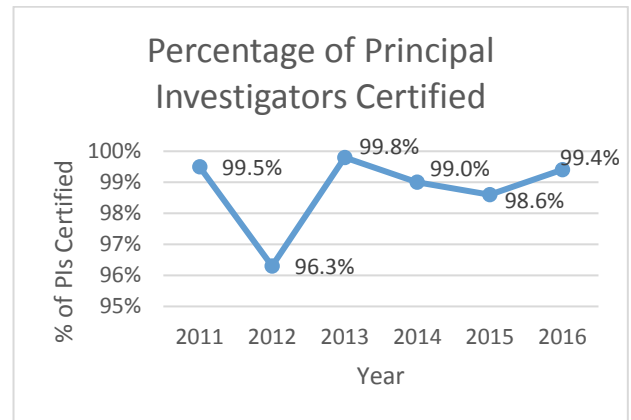


Figure 93. Percentage of Principal Investigators certified

xii. Fire Safety Programme

Fire Drills & Exercises	2011	2012	2013	2014	2015	2016
• Announced	95	81	73	62	75	59
• Unannounced	9	28	39	45	34	61
Total	104	109	112	107	109	120
Fire Safety Compliance Inspections	2011	2012	2013	2014	2015	2016
• Announced Inspection	91	96	70	104	153	100
• Unannounced Inspection	0	10	4	14	4	21
• Re-inspection	2	2	1	0	0	0
• SCDF Enforcement Checks	0	0	95	50	42	38
Total	93	108	170	168	199	159

Table 22. Fire Safety Programme

The NUS Building Fire Safety Excellence Award is an annual award given by OSHE to NUS buildings that have demonstrated excellent management in fire safety. 62% of NUS buildings have attained either the silver, gold or platinum awards in 2016, which is an increase from the previous year.

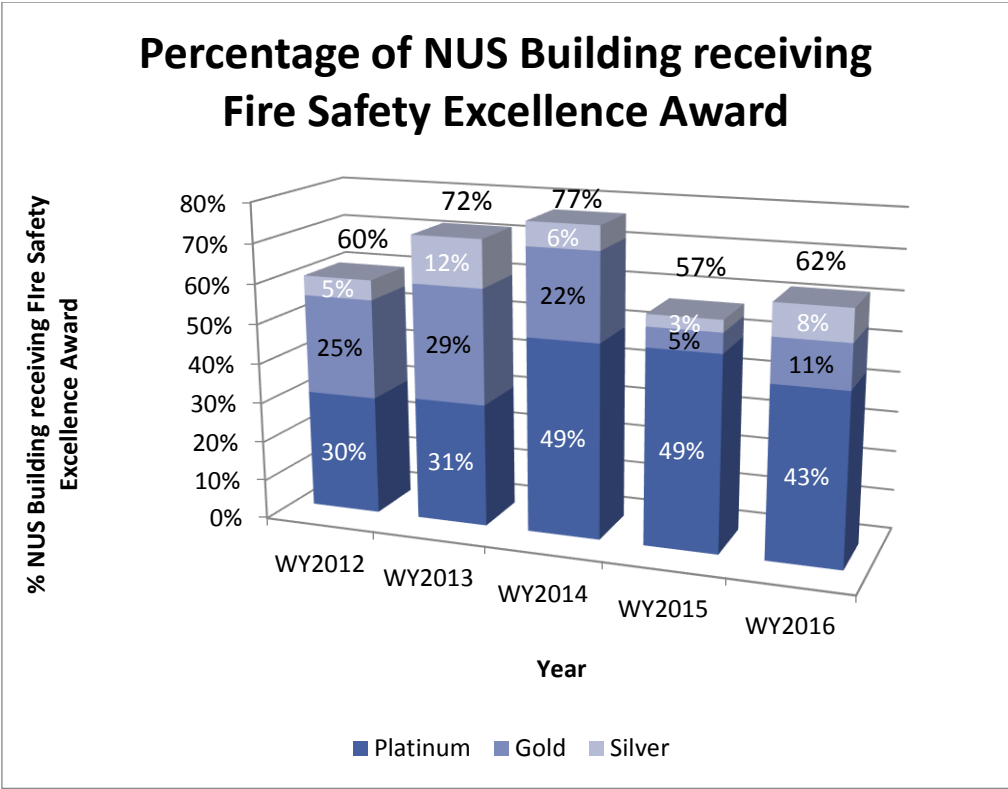


Figure 94. Percentage of NUS building receiving the Fire Safety Excellence Award

D. FINANCIAL & MARKET RESULTS

i. Expenditure Per Capita

OSHE continues to keep the expenditure per capita low, with \$2,154 in FY2016.

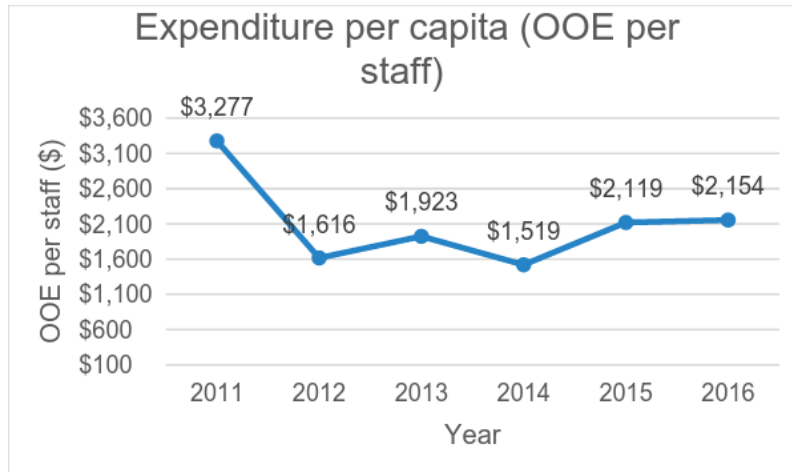


Figure 95. Expenditure per capita (OOE per staff)

ii. Training Budget

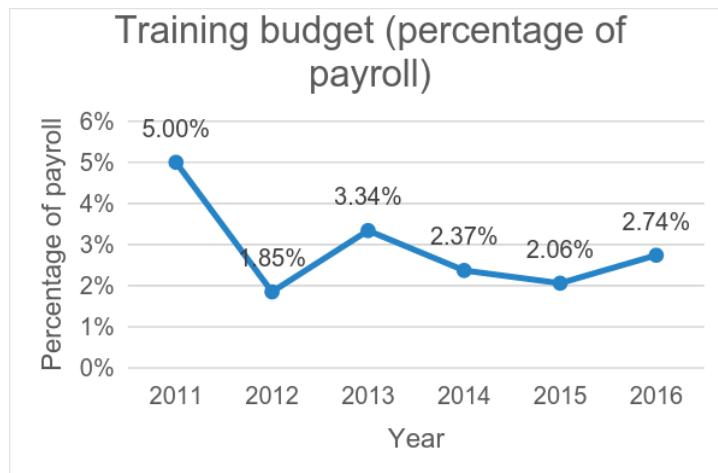


Figure 96. Training budget (percentage of payroll)

iii. Cost Savings achieved through OSHE's projects

Project Title	Cost Saving
Respiratory Protection Programme	\$10,000
3 new online course modules	\$31,878
Total Cost Saving	\$41,878

Table 23. Estimated cost savings for projects completed in 2016

iv. International Collaboration

8 NATIONAL AND INTERNATIONAL COLLABORATIONS & VISITS BY OTHER UNIVERSITIES

International Collaborations & Visits by Other Universities	
1.	Visit by Mr William J Pate, The University of Texas (1-5 Feb)
2.	Visit by Ministry of Education (2 June)
3.	Visit by Global Foundries (11 Aug)
4.	Visit by Ms Nancy Leppink, Chief of Labour Administration, Labour Inspection and OSH Branch, International Labour Organization, Geneva (23 Aug)
5.	Visit by Universiti Teknologi PETRONAS (19 Sep)
6.	Visit by Dr Ai Shuhara, The University of Tokyo (19-20 Sep)
7.	Collaboration with Dr Ai Shuhara, The University of Tokyo, on safety culture
8.	Collaboration with Mr Andrew Knight, University of Brighton, on safety culture

Table 24. International collaborations and visits by other universities



Figure 97. Visit by Ministry of Education to the Faculty of Engineering on 2 Jun 2016.



Figure 98. Ms Nancy Leppink's seminar on "International Labour Organisation Framework for Improving and Sustaining Occupational Safety & Health" on 23 Aug 2016.

v. New Programmes / Manuals / Policies / Standards / Guidelines

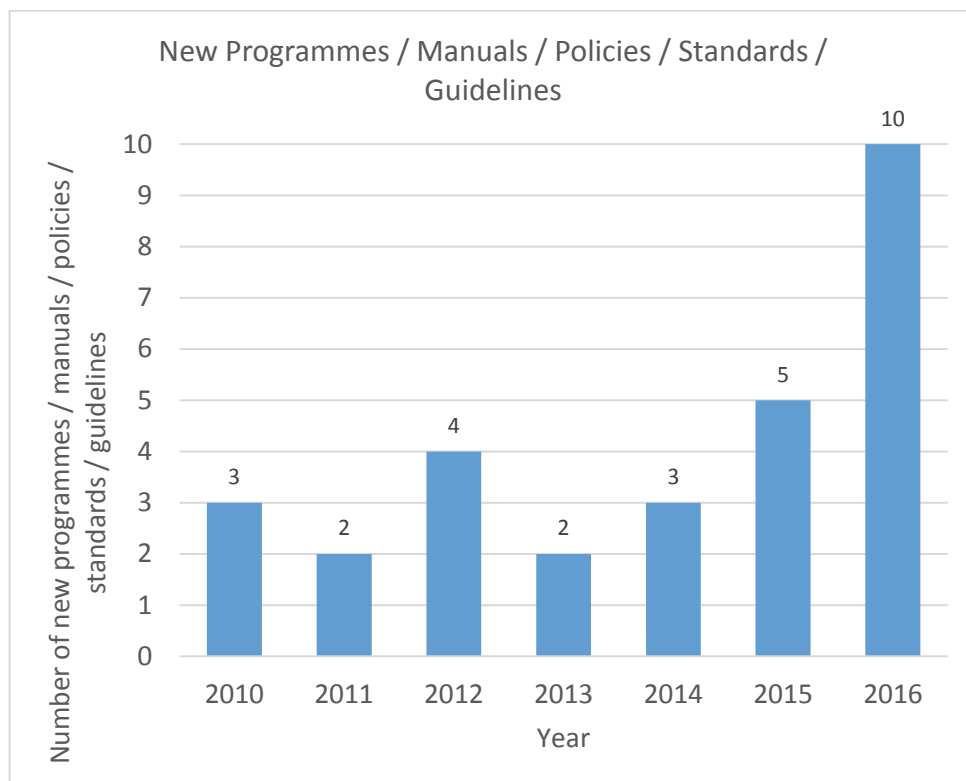


Figure 99. New programmes/manuals/policies/standards/guidelines developed and launched

AWARDS



NUS Quality Service Award

OSHE staff received several awards in 2016 and these are listed below.

S/N	Award Recipients	Awarded by	Name of Award	Date	Significance
1	Dr Vernon Seow Zi-Xing	Office of Deputy President (Administration)	Quality Service Advocate 2016	14 Dec 2016	The NUS Quality Service Award is conferred on individuals who shine in customer service.
2	Mr Daniel Wong Hsun Chien	Office of Deputy President (Administration)	Quality Service Advocate 2016	14 Dec 2016	The NUS Quality Service Award is conferred on individuals who shine in customer service.
3	Ms Huang Li Xia, Alicia	NUS	5 Years Long Service Award	2016	Long Service Award
4	Mr Lum Wai Kiong, Danny	NUS	5 Years Long Service Award	2016	Long Service Award
5	Mr Swee Dao Wen, Joel	NUS	5 Years Long Service Award	2016	Long Service Award
6	Dr Peck Thian Guan	NUS	15 Years Long Service Award	2016	Long Service Award
7	Ms Sania Binte Nader	NUS	15 Years Long Service Award	2016	Long Service Award
8	Dr Tessy Joseph	NUS	15 Years Long Service Award	2016	Long Service Award
9	006 Safety Agents: <ul style="list-style-type: none"> • Team Facilitator: Mr Saravanan Gunaratnam • Team Leader: Dr Lim Cheh Peng • Team Members: Ms Alicia Huang, Ms Tang Fenglin, Ms Louise Ng, Mr Hairulnizam Bin Ishak 	Office of Operational Excellence	International Convention of Quality Control Circles (ICQCC) Gold Award	2016	Winning Gold for the project entitled "Safer Chemical Transportation"
10	OSHE	Office of Human Resources	2015 HR Learning Award – Certificate of Participation	Mar 2016	OSHE obtained this award for implementing a Learning & Development Framework that is in line with the 70:20:10 learning model
11	OSHE	University Health Centre	World Mental Health Day Photo Contest – 1 st Prize	11 Nov 2016	The logo of the World Mental Health Day was created on the OSHE wall using completed cards received from fellow colleagues

Table 25. OSHE and OSHE staff awards

A. SERVICE ADVOCATE AWARD 2016

The NUS Quality Service Award is an annual university award that affirms individuals with an excellent service attitude. Two OSHE staff, Dr Vernon Seow and Mr Daniel Wong, were awarded the Service Advocate Award 2016.



Figure 100. Dr Vernon Seow – Recipient of the Service Advocate Award 2016



Figure 101. Mr Daniel Wong – Recipient of the Service Advocate Award 2016



Figure 102. Dr Vernon Seow and Mr Daniel Wong were amongst those awarded the Service Advocate Award 2016 (third row from bottom, second and third from left, respectively)

B. LONG SERVICE AWARDS



Figure 103. Long Service Award Recipients



Figure 104. OSHE Staff Celebrating with the Long Service Award Recipients

C. ICQCC AWARD



Figure 105. 006 Safety Agents receiving the ICQCC gold award at the Organizational Excellence Convention 2016

D. HR LEARNING AWARD



Figure 106. 2015 HR Learning Award presented to OSHE in March 2016 for advocating blended learning practices towards the continuous growth and development of staff

E. WORLD MENTAL HEALTH DAY PHOTO CONTEST



Figure 107. In November 2016, OSHE won the World Mental Health Day photo contest in which the logo of the World Mental Health Day was created on the wall with wellness cards that OSHE staff wrote to their colleagues to show their appreciation for one another.



OSHE staff at a tree planting event

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