



***Global Pharmacy***  
***Developing the Pharmacists of Tomorrow***

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# Presentation Outline

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## 1. Introduction to pharmacy

- History of pharmacy

## 2. Pharmacy education focus

- Collaborative care
  - Example: Interprofessional education (IPE) at Monash Malaysia

## 3. A career in pharmacy

- Career pathways

## 4. Global trends in pharmacy



A collage of pharmacy-related items. On the left, there are several glass bottles of various colors (green, brown, blue) and sizes. On the right, a hand is holding a pen and writing on a clipboard with a grid. In the background, there are various medical tools like a syringe, a pipette, and a mortar and pestle. The overall scene is brightly lit and has a soft, ethereal quality.

**Pharmacists are the first aid of society**

# How did it all begin?

## *A history of pharmacy*

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- Pharmaceuticals are among the most researched fields in the academic industry
- History indicates that prescriptions recording pharmacological knowledge predates to 15<sup>th</sup> BC in the Mesopotamian era
- European apothecaries began to appear in the 12<sup>th</sup> century
- Industrialization of the pharmaceutical world began in the 1800s
  - Purification of organic compounds
  - Organic chemical synthesis



# Where do pharmacists work?

## *Healthcare settings*

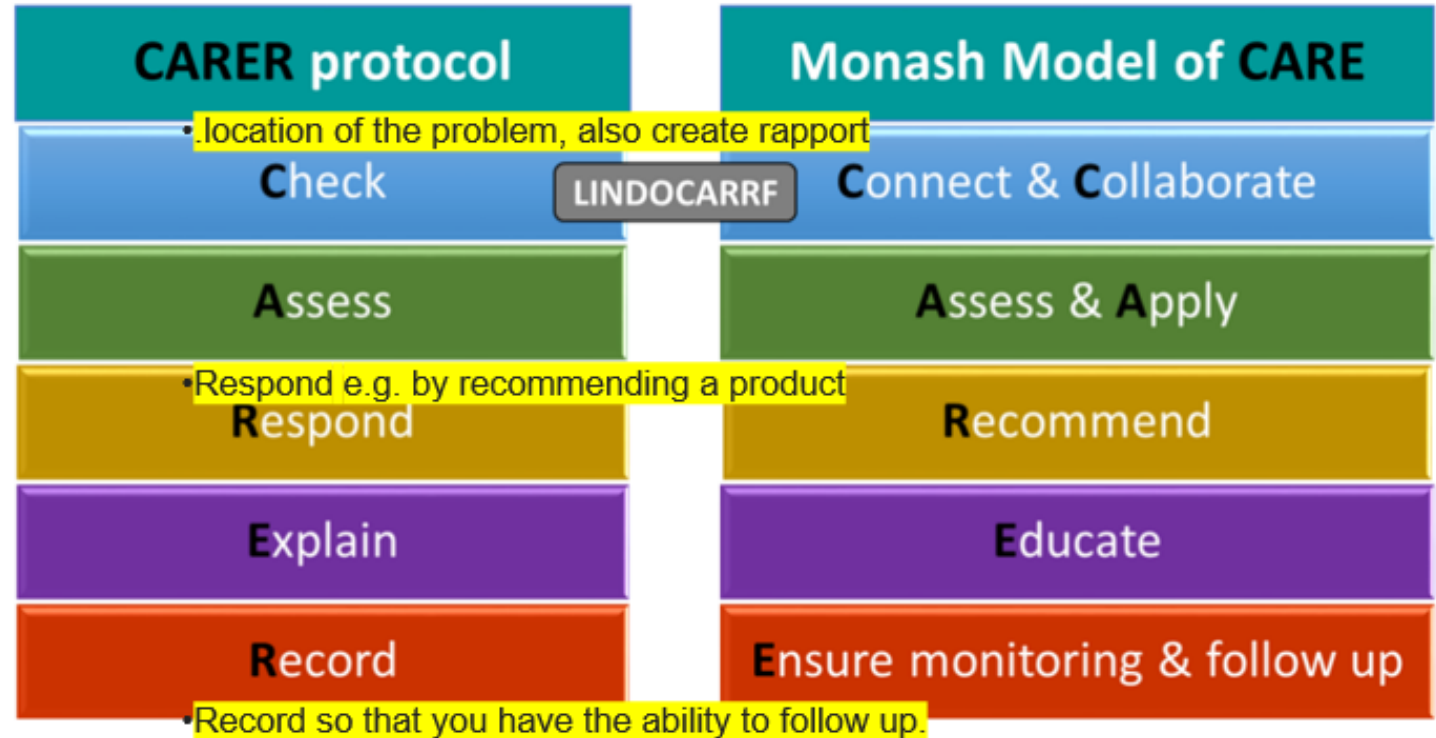
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- Community pharmacy
- Hospital
- Universities
- Pharmaceutical companies
- Ministries of health



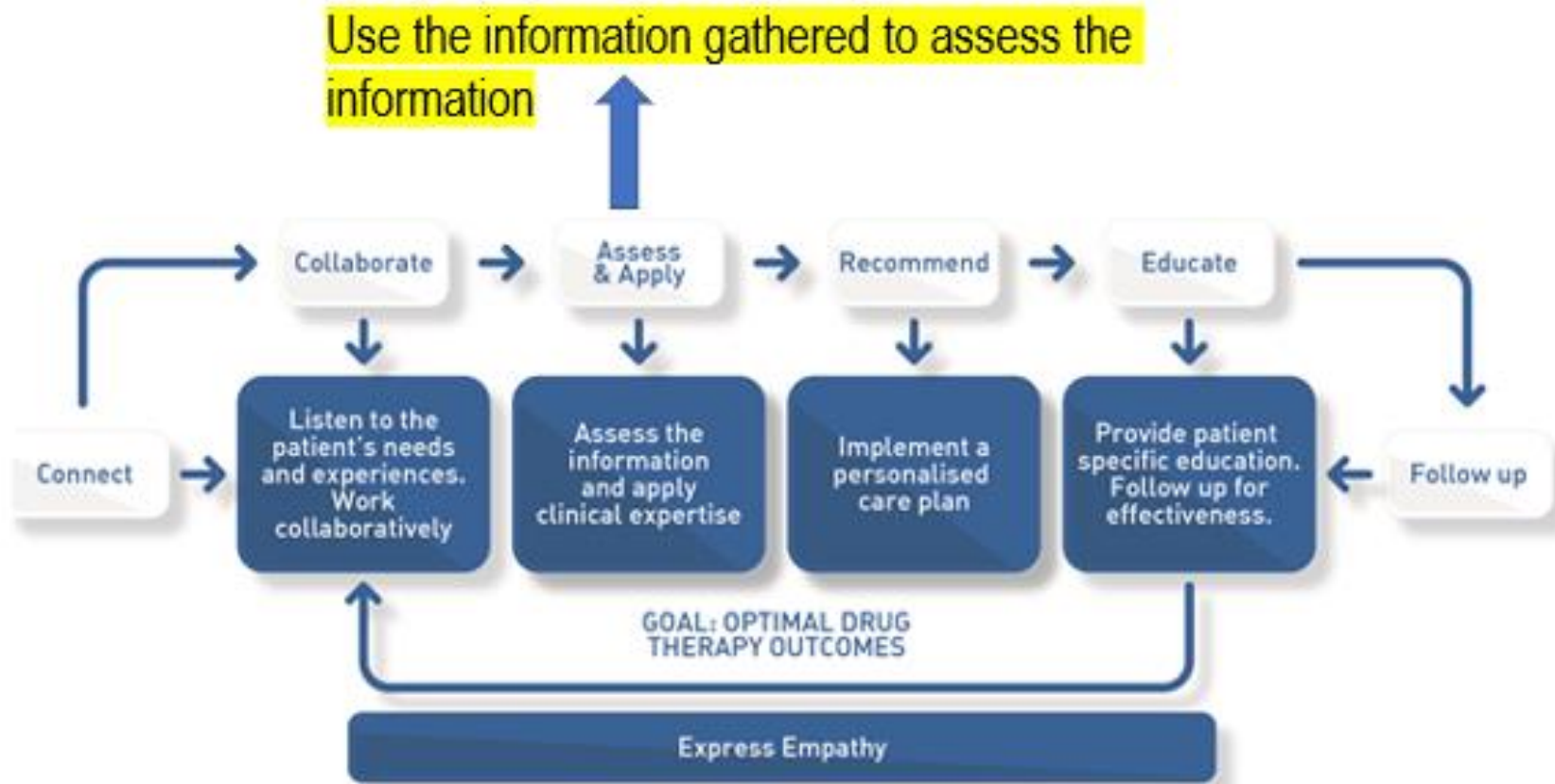
# What do pharmacists do now?

*Evolving to provide patient-centered care*



# What is the Monash Model of CARE?

*From patient presentation to patient education – the full CARE process*



# Pharmacist Interventions

## *Preventing medication-related problems (MRPs)*

**Paper-based recording for clinical interventions**

Modified from Peterson, Tenn et al. 2009

Date: \_\_\_\_\_

Consumer: \_\_\_\_\_

Drug involved in DRP: \_\_\_\_\_

Other drug(s): \_\_\_\_\_

Relevant medical conditions/allergies: \_\_\_\_\_

Notes: \_\_\_\_\_

- Some pharmacists in the community get paid for documenting interventions
- These documents help to determine if there are any clinical interventions & deduce if there are MRPs

Drug Related Problem (please circle)		Recommendations (please circle)			
<b>Drug Selection</b>		Difficulty using dosage form	O5	Dose increase	R1
Duplication	D1	Other compliance problem	O6	Dose decrease	R2
Drug interaction	D2	<b>Undertreated</b>		Drug change	R3
Wrong drug	D3	Condition undertreated	U1	Drug formulation change	R4
Incorrect strength	D4	Condition untreated	U2	Drug brand change	R5
Inappropriate dosage form	D5	Preventive therapy required	U3	Dose schedule/frequency change	R6
Contraindications apparent	D6	Other untreated indication problem	U4	Prescription not dispensed	R7
No indication apparent	D7	<b>Monitoring</b>		Other changes to therapy	R8
Other drug selection problem	D8	Laboratory monitoring	M1	Refer to prescriber	R9
<b>Over or underdose</b>		Non-laboratory monitoring	M2	Refer to hospital	R10
Prescribed dose too high	O1	Other monitoring problem	M3	Refer for medication review	R11
Prescribed dose too low	O2	<b>Education</b>		Other referral	R12
Incorrect or unclear dosing instructions	O3	Consumer requests drug information	E1	Education or counseling session	R13
Other dose problem	O4	Consumer requests disease management advice	E2	Written summary of medications	R14
<b>Compliance</b>		Other education or information problem	E3	Dose administration aid	R15
Under-use by consumer	C1	<b>Not classifiable</b>		Other written information	R16
Over-use by consumer	C2	Not classifiable under another category	N0	Monitoring, laboratory	R17
Erratic use of medication	C3	<b>Toxicity or adverse reaction</b>		Monitoring, non-laboratory	R18
Intentional drug misuse	C4	Toxicity, allergic reaction or ADR present	T1	No recommendation	R19

- Patients often present to hospital due to medication-related problems (MRPs)
- As a pharmacist, we play a large role in:
  - Identifying MRPs
  - Reducing MRPs
  - Reducing hospitalization rates
  - Improving a patient's QOL



# How do we identify MRPs?

## *The NESAs-U method*

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- Is this medication **necessary** for my patient?
- Is this medication **effective** for my patient?
- Is this medication **safe** for my patient?
- Does my patient have any **adherence** issues with this medication?
- Does my patient have any **unmet needs?** (e.g. referral to a healthcare professional, non-drug measures)

# How do we identify MRPs?

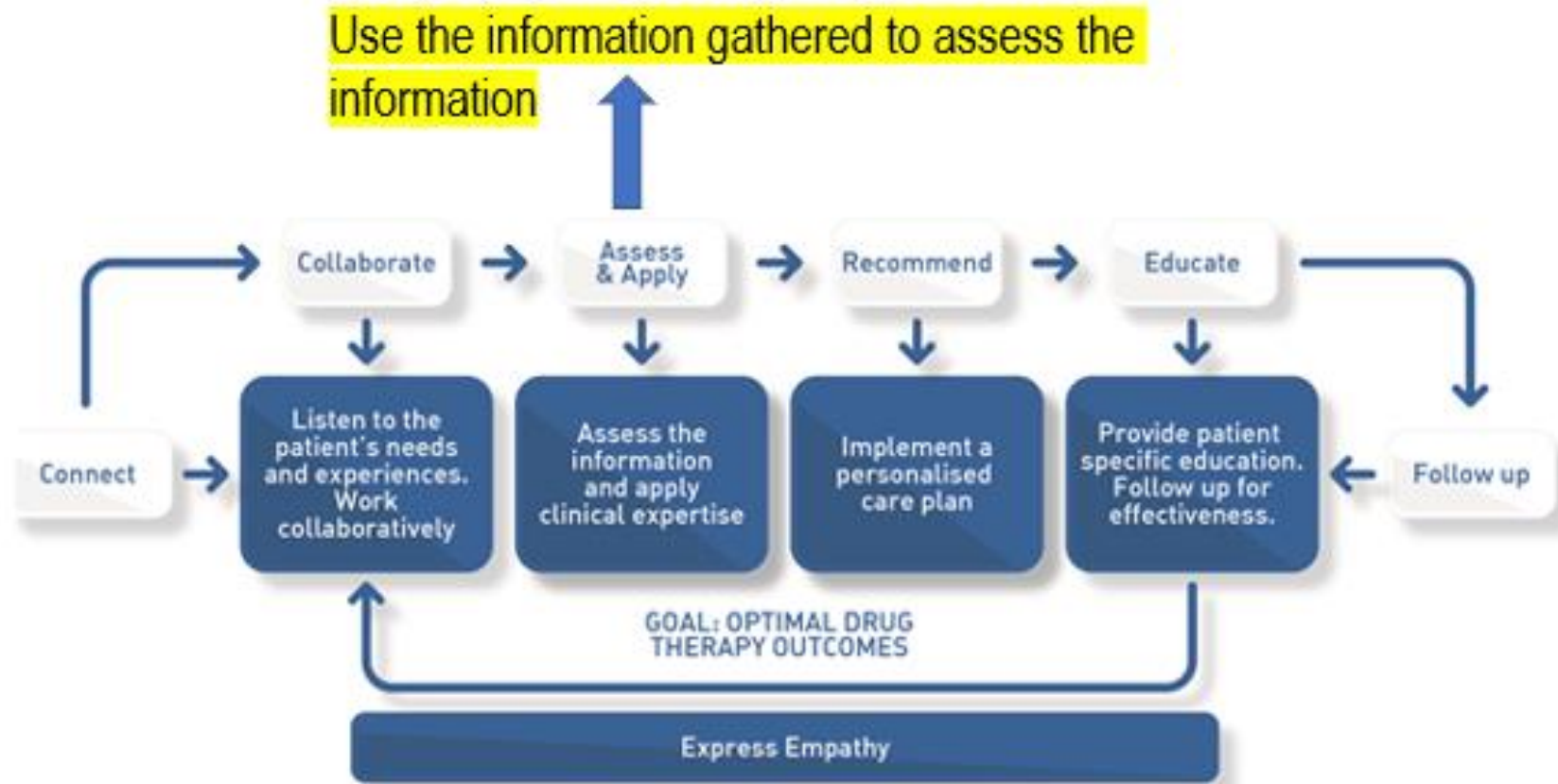
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# What is the Monash Model of CARE?

*From patient presentation to patient education – the full CARE process*




# Pharmacists are essential frontliners

## *Pharmacy contribution during the pandemic*

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- Pharmacists and pharmaceutical scientists contributed in:
  - *Adapting to digital health technologies*
  - *Ensuring continuity of care of their communities*
  - *Advocating health literacy*
  - *Supporting health promotion*
  - *Research & development of vaccines and medicines*
  - *Workforce development & education*



A collage of medical and laboratory equipment. On the left, there are several glass bottles of various sizes and colors (green, brown, blue). In the center and right, there is a clipboard with a pen, a microscope, and other laboratory tools. The background is a light, warm tone.

**Cutting across disciplinary boundaries because the health of all is the health of each**

# Guiding principles from FIP frameworks

*Creating a competent and resilient workforce*



Strong emphasis on provision of competent pharmaceutical care

- *Assessment of medicines*
- *Dispensing*
- *Therapeutics and monitoring*
- *Health promotion*
- *Medicines information and patient education*



# Guiding principles from FIP frameworks

## *Global vision for education and workforce*

**Global Vision for Education and Workforce**

Presented at the global conference on pharmacy and pharmaceutical sciences education 2016

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**Nanjing Declaration**

**Global Vision for a Global Pharmaceutical Workforce by Advancing Practice and Science through Transformative Education for Better Health Care: "The FIP Vision for Education and Workforce"**

Pharmacists and pharmaceutical scientists accept responsibility for the development and sustainability of an adaptable and capable global workforce working in partnership for better health care through transformative and continuous education. Our professional workforce will continuously strive to develop new medicines and to improve the use of existing medicines for better health care. Professional leadership organisations and government agencies can contribute to this vision by supporting progressive policies for professional development and practitioner recognition processes.

**Leading Change**

The FIP Centennial Declaration in 2022 on Improving Global Health by Closing Gaps in the Development, Distribution and Responsible Use of Medicines stated that: Pharmacists and pharmaceutical scientists accept responsibility and accountability for improving global health and patient health outcomes by closing gaps in the development, distribution and responsible use of medicines.

In support of this centennial declaration is the acknowledgement that worldwide variability exists in how pharmaceutical scientists, pharmacists and pharmacy support staff are educated, trained and utilised. The challenges of development, distribution and responsible use of medicines can only be met with an adaptable pharmaceutical workforce that deploys its knowledge, skills and abilities to the fullest degree in a wide array of environments and in collaboration with other stakeholders in health care.

FIP believes it is important that we articulate our vision for education, training and workforce development and for the progressive transformation of the overall workforce. This Vision links to current global health and health education policy for all our member organisations and partners and the anticipated health challenges of the future.

**Supporting and developing high standards of education and training**

Through this Vision for Education and Workforce, FIP seeks to promote and enhance the health and well-being of civil society through professional leadership and development of our professional workforce. FIP will also seek to ensure our professional workforce is of the highest quality and prepares them well for current and future roles.

In the delivery of these broad aims FIP believes that professional education, training and development should be primarily directed to:

- Producing high quality professionals for high quality patient care, public health and scientific advancement objectives, ensuring all education and training delivered to our professional workforce is of the highest quality and prepares them well for current and future roles.

FIP believes it is our responsibility to engage the whole pharmaceutical workforce with this vision, to lead on, and define, the skills, knowledge, attitudes and behaviours of pharmacists, pharmaceutical scientists, pharmacy technicians and other pharmacy support workforce roles in all settings.

**Developing our vision for the whole pharmaceutical workforce**

FIP believes that a needs based, outcomes focused approach to education, workforce development and continuing education and training should be adopted. This means promoting results of education and training that ensure that all members of our workforce have access to the highest quality education and training experiences possible.

Pharmacy is a science based profession and as a patient facing profession it is essential to build in learners, from initial education and training onwards, the capacity to demonstrate empathy for others, strong interpersonal communication skills and the understanding of the importance of teamwork and collaboration. The challenges of development, distribution and responsible use of medicines require a diverse workforce that is prepared to provide leadership for change in practice and to commit to lifelong learning to keep pace and lead the process with continuous change in science and patient care.

With these principles in mind, models of education and training need to be flexible and adaptable to allow for innovations and developments led by educational experts, practitioners and leaders, among others, within responsible organisations.

**fip** International Pharmaceutical Federation



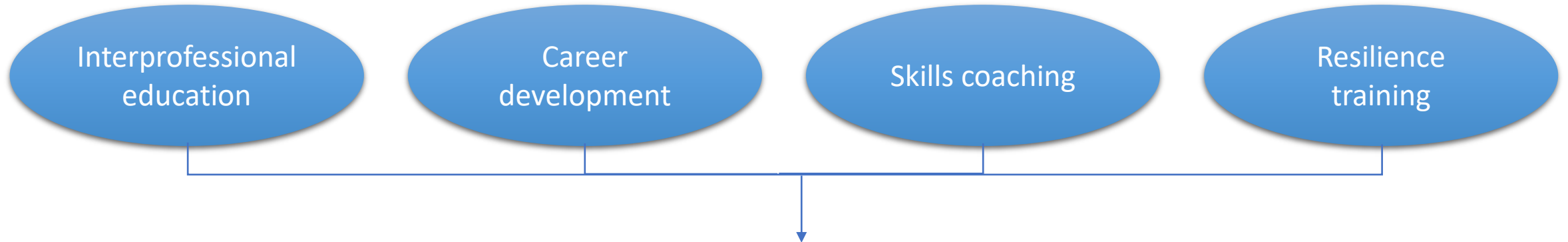
- 4.1 – Developing appropriate communication skills
- 4.2 – Identifying learning and development needs, evaluating progress and recognizing limitations, reflective practice
- 4.4 – Interprofessional collaboration
- 4.5 – Self-regulation/ resilience
- 4.7 – Recognizing professional limitations, responsibilities and practicing social accountability



# Addressing gaps in workforce readiness

*Holistic development in education and early career pharmacy*

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- Encourage collaborative learning and practice
- Provide insight and manage expectations on future career pathways
- Develop reflective practitioners
- Develop core skills in problem-solving, oral & written communication, empathy, reflective practice, teamwork, integrity and inquiry
- Create a flexible, adaptive future workforce



# Breaking down silos in healthcare

*Treating patients holistically & preventatively*

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- Silos in healthcare are detrimental to patient outcomes:
  - *Communication between healthcare professionals is limited*
  - *Patients dealt with episodically vs holistically*
  - *Patients are not included in medical care planning*
- Provider-centric focus is being replaced by **patient-partnered approach**
  - *Patient should be at the centre with healthcare team sharing information & working together to ensure optimal health outcomes*



# Patient-partnered care via interprofessional collaboration

*Hitting the reset button!*

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- Switching from reactive healthcare to become:
  - *Proactive*
  - *Preventative*
  - *Collaborative*
- Interprofessional collaboration is **necessary**
- Positive effects include:
  - *Better continuity of care*
  - *Shared decision-making in achieving patient therapeutic goals*
  - *Patient satisfaction*



# Championing collaborative care

*Approaches to interprofessional collaboration post-pandemic*

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## “One FIP” goals

We can have no pharmaceutical care without a pharmaceutical workforce, and we can have no pharmaceutical care without a scientific foundation for the next decade.



# Starting from the grassroots

## *Interprofessional education in classrooms -1*

### IPE

Encourages students to learn **with, from** and **about** each other<sup>1,2</sup>

- Monash University established the **Collaborative Care Curriculum** framework<sup>1,3</sup> encompassing **four** key learning themes:
  - **Person-centered care**
  - **Role understanding**
  - **Interprofessional communication**
  - **Collaboration across themes**
- Monash University Malaysia (MUM) has been carrying out IPE among medicine and pharmacy students since **2017**

## INTERPROFESSIONAL EDUCATION (IPE) IN MONASH UNIVERSITY MALAYSIA

2020 IPE Workshop - Introduction Module



# Starting from the grassroots

## *Interprofessional education in classrooms -2*





A career in pharmacy is to serve society impactfully



**PHARMACY**  
Always trusted  
for your health

WORLD 25 SEPTEMBER  
PHARMACISTS DAY



INTERNATIONAL  
PHARMACEUTICAL  
FEDERATION

# Career paths in pharmacy

*Serving society impactfully*

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- Hospital pharmacy
- Community pharmacy
- Academia
- Industry
- Regulatory & policy
- New & specialized fields are emerging e.g. astropharmacy







# Global trends in pharmacy



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INTERNATIONAL  
FEDERATION OF  
PHARMACEUTICAL SOCIETIES

# Wellbeing & resilience is key!

## *Highlighting the importance of mental health*

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- Greater emphasis on mental health support and personal wellness
- Importance of building communication and rapport with long-term clients & increasing the pharmacist profile within communities
- Redesigning existing curriculums to emphasize personal wellness in degree programs
- Online academic-led program e.g. Monash PIES, to improve student engagement by prioritising communication, wellbeing and social support



# Increasing the scope of pharmacy practice

*A valued member of the healthcare team*

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- Utilizing pharmacists effectively in the healthcare team to optimize health outcomes in the communities by:
  - Providing funding for services such as –
    - Disease prevention
    - Risk assessment
    - Screening
    - Referral
    - Disease management
    - Medicines optimization



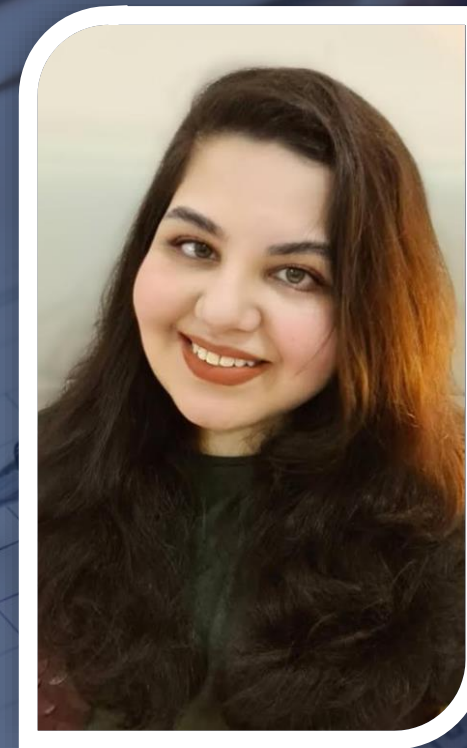
# Digital health

*The future is digital*

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- Novel digital health solutions:
  - Aimed at improving clinical documentation
  - Increasing efficiency of clinical services
  - Improving patient health literacy
  - Improving drug development processes





# Thank You

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