

Proposed Adult Immunization Training Program For Filipino Pharmacists

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Abstract: The objective of this study is to present an adult immunization training program for the Filipino Pharmacist. To do this, literature reviews of Pharmacy immunization training and other related program proposal publications were synthesized and combined with the known immunization guidelines in the Philippines so far as well as discussions from the authors which are pharmacy practitioners. About this study, a seven-part training cycle is proposed to train Filipino Pharmacists in immunizing adult patients and an outline for training is also provided consisting of an active learning and a self-study part. It can be concluded that there is feasibility of conducting a good training program for pharmacist immunization in the Philippines as long as it is well prepared for through good planning such as this proposal.

Index Terms: Immunization, immunization certification, training program, vaccine

1 INTRODUCTION

The Food and Drug Administration of the Philippines released an advisory of its plan to authorize Community Pharmacists in the Philippines to administer vaccines last September 9, 2014¹. Pharmacists Training was also conducted for the academe last 2nd quarter of 2018 at Centro Escolar University, Manila. More trainings are expected in the future especially for the front liners which are the Community Pharmacists. This practice of Pharmacist immunization though has been going on for more than 2 decades in developed countries like the United States of America where handbook and guidelines for immunization has been set². This practice has been growing globally as Pharmacist immunization proves to be effective in improving access to vaccines reducing Vaccine Preventable Deaths (VPD)³. In other countries like Australia, not only general vaccination but specific programs intended for a specific disease like influenza vaccination exists⁴. This paper proposes a training structure based on published practices from other countries and in established training programs from other fields⁵ to help provide insights mainly on training components and training administration which are major aspects of the training design. The immunization of Community Pharmacists to adult patients provides another challenge in the development of Pharmacy in the Philippines, this paper hopes that it may be able to contribute some ideas as this new milestone in Pharmaceutical care unfolds⁶.

2 Evolution of Immunization in the Philippines

The Expanded Program on Immunization (EPI) in the Philippines started in 1976 with the introduction of BCG, in the next 10 years additional vaccines were introduced including DPT, oral polio vaccine and Tetanus toxoid. As in-charge of the immunization in the Philippines, the EPI works with advisory committee, National Immunization Committee (NIC) to support sound decision making by the Department of Health (DOH)⁷. In 1987, Philippines adopted the UN General Assembly's commitment to Universal Child Immunization. The start of Hepatitis B immunization happened in 1992 and in the following year, the start of the annual National Immunization Days started. It was a triumph for the Filipinos when the country was certified polio free last 2000. From 2013-2015, more vaccines were introduced including HPV, PCV, Rotavirus and IPV. Child vaccinations has been one of the main focus of the EPI through school-based approach like most countries⁸. This recent years, adult vaccinations may be given more emphasis with the introduction of Pharmacy based immunizations. It is hoped that more developments may come after implementation of Immunizing Pharmacists such as specific trainings on vaccination supplies and vaccine handling as in other countries like Ireland⁹.

3 Rationale of the Training Program

Increasing the contact points for the people to seek immunization⁶ would help increase success in the immunization program. The Pharmacist will also be able to assist in the important vaccine decisions that are considered part of the global standards such as recognition of (a) the specific disease burden of the country (b) assessing severity of the disease (c) evaluating vaccine effectiveness and (d) vaccine safety¹⁰. This concept is evident in cases like the improved influenza vaccination rates in rural populations due to the efforts of the Pharmacists¹¹. Therefore, it is important to not only provide pharmacists for immunizations but to polish their skills¹² to provide service to all needing immunizations¹³.

4 Training, Objectives

The Food and Drug Memorandum indicated the following modules for the training course: (a) safe injection techniques; (b) cold chain management of vaccines and other biological products (c) pharmacovigilance; including recognition reporting of adverse event following immunization (AEFI) and (e) management of anaphylaxis, in the rare case it occurs¹. This proposed training envisions the following broadened

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objectives (a) explain the expansion of the role of pharmacists as vaccine providers and describe the status of pharmacists authorization to administer vaccine in the Philippines (b) demonstrate an understanding of the diseases where vaccination applies including its etiology, clinical features and epidemiology (c) discuss and compare available adult vaccines in the Philippines, including dosage and route of administration and describe important considerations when deciding which vaccines to offer (d) identify who are eligible to receive adult vaccination under the Philippine schedule of vaccination and recognize the implications for a pharmacy immunization service (e) outline clinical features of the most common adverse events following immunization and the appropriate management of these events (f) demonstrate the skills necessary in immunization delivery and (g) educate patients about the benefits of vaccines and address common concerns about vaccines. The objectives of this proposed program are also in line with that of the APhA which are (a) provide comprehensive immunization education and training (b) provide pharmacists with the skills, resources, materials necessary to establish and promote a successful immunization service (c) train pharmacists to identify high-risk patient population needing immunizations; and (d) train pharmacists to maintain necessary immunization records¹⁴. the proposed training objectives in this study is in line with that of the Philippine Department of Health (DOH) and that of the American Pharmacists Association (APhA) Immunization Training Certification Program.

training is the self-study part and the active learning part, which are the usual components of most immunization trainings¹⁴. A teach back technique is also incorporated in the actual training to ensure understanding of the subject matter¹⁵.

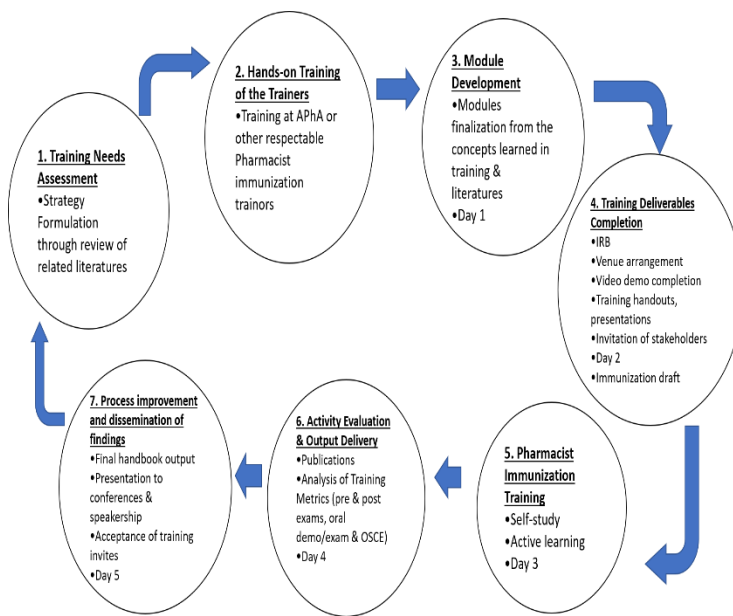


Figure 1 – Training Cycle

5 Training Design

There are 7 parts in the training design, these are: (a) training needs assessment (b) hands-on training of the trainers (c) module development (d) training deliverables completion (e) pharmacist immunization training (f) activity evaluation and output delivery, (g) process improvement and dissemination of findings. In the training needs assessment, strategy formulation happens through the ideas from the publications being reviewed, a training concept is then being constructed at the end of this stage. Hands-on training by the trainers is the next step in which availment of training from an experienced immunization training facility will be sought for, this will most likely be held abroad like in APhA as there is still no such facilities in the Philippines. Module development is the next stage where the learnings from the immunization training and the concepts from the literatures will be merged to form a guide with the different modules finalized. Since the training modules are finalized and the trainers are ready, the completion of training deliverables should follow in which the IRB permit, training venue management, video demo completion, training materials preparation (hand-outs & presentations) and invitations to the stakeholders (EPI, FDA, etc.) should now be accomplished. The actual Pharmacist Immunization Training should now take place where the different phases of training are undergone by the trainees (lecture, home activities, SGDs & actual practice). Activity Evaluation & Output Delivery should follow where analytics are conducted from the training metrics composed of pre-& post exams, oral demo & OSCE then, publication of the results in respectable journals. Finally, Process improvement and dissemination of findings takes place through the production of final handbook output, presentation of results to conferences & speakerships and acceptance of training invites, if any. This training cycle is shown in Figure 1. The vital part of this

This proposed training may be modified by adding tested evaluation techniques like self-assessment of the trainee¹⁶ and having specific guidelines for specific disease conditions¹⁷ but the main focus is the administration of the vaccine itself.

6 Training Components

6.1 Training Outline

This proposed training will cover 5 days, the activities for these days are listed in Table 1 below:

Table 1
Pharmacy Immunization Training Program

Day 1	- Pre-exam - Module 1: Pharmacists & Immunization - Module 2: Immunization Supplies & Preparation - Module 3: Vaccine Storage & Handling - Module 4: Immunization Protocols Documentation
Day 2	- Home Activity; Immunization Administration (video demonstration)
Day 3	- Small group discussion on Immunization Process in the Philippines - Module 5: Immunization Workflow Models & Marketing Immunization Services - Module 6: Immunization Reminder & Recall Systems - Module 7: ADE & Emergencies in Immunization - Oral/Demo Exam
Day 4	- Home Activity: Immunization Case Studies (video presentation)
Day 5	- Module 8: Infection Control

- | | |
|---|---|
| - | OSCE |
| - | Module 9: Vaccine Product Information & Philippine Immunization Schedules |
| - | Post-exam |

The program offers a self-study part on the 2nd and 4th days and active learning parts on the 1st, 3rd & 5th days.

6.2 Training Structure

The structure of this proposed training comprises a self-study part which is through a video presentation given to the trainee, this self-study part comprises 2 days of the 5 days. The other part is an active learning part comprising 3 days which includes 9 Modules, pre-exam, small group discussion, oral/demo exam & post-exam. The proposed modules in this study is based on readings from primary & tertiary sources, understandably, once the proposed training materialized, there will be modification brought about by the 2nd and 3rd parts of the previous training cycle discussed¹⁴.

6.2.2 Self Study

This part of the training will tackle immunization administration through a home video given to the participant so that the trainee will have the convenience of practicing the method in the comfort of his home, the other home video to be tackled on the 4th day is on immunization case studies which may include parental immunization refusals¹⁸ and other immunization challenges³.

6.2.3 Active Learning

The modules on the active learning include safe injection technique modules including the overview of Pharmacists & Immunization; Immunization Supplies & Preparation; Immunization Protocols Documentation; Immunization Workflow Models & Marketing Immunization Services & Vaccine Product Information & the Philippine Immunization Schedules. Module on cold chain management will also be discussed through Vaccine Storage and Handling, Pharmacovigilance module on Immunization Reminder and Recall Systems will be included. Modules on adverse event reporting will include ADE & Emergencies In Immunization and management of anaphylaxis included in the Infection Control module. A pre-exam and post-exam will also be included to measure the progress of the trainee after the course, an oral/demo exam or teach back exam is also in place to assure that the trainee is not just knowledgeable but skillful. Lastly, an Objective Structure Clinical Exam (OSCE) will be included on the last day to provide measures not only on knowledge and skills but also attitudes.

6.2.3 International Alignment

It is very important to learn from practices abroad specially if there is still no established practices like in the Philippine Immunization. Moreover, it is also a good strategy to ensure globally competitive pharmacists with globally competitive trainings as practiced in other fields¹⁹⁻²⁰. The majority of the modules in this proposed training is from the established guidelines of the APhA².

6.2.4. Research

Part of the continual improvement is a research that contributes lesson from the initial practices that will be carried to the next trainings & to avoid mistakes from repeating. In this proposed training, at least a publication on the knowledge,

confidence & experience of the trainees¹⁶ a descriptive publication on the experiences during this training & a satisfaction survey paper are required outputs. Additional scholarly works may be added as the training progresses.

7 Training Administration

7.1. Training Duration

The proposed training will cover 5 days. First day will comprise a pre-test and modular activities, second day will be a home-based study on immunization administration, third day will be composed on modular activities but with a small group discussion and an oral/demo exam. Fourth day will be another home-based study on immunization cases and the last day will still have modules, OSCE and a post-exam finale.

7.2 Training Supervision

The trainees will be supervised by one of the pharmacists sent abroad for training who is understandably involved in the proposal -of this research. Supervision should mainly focus on the 2 most important parts of the training which are the hands-on practice with the injection techniques and learning the immunization schedules¹⁹.

7.3 Curriculum Development

The Pharmacist Immunization has been supported by CDC and it has been found that pharmacists involved in immunization trainings are the usual pharmacist who would go on to be immunizers in the future²⁰. A good structure therefore should support production of highly qualified pharmacists¹⁹. As the proposed training in this paper is a cycle (Figure 1). this ensures improvement of the immunizing practices of the Filipino pharmacists continually which may likely be owed to a sound curriculum development structure stated at the project proposal stage.

7.4 Training Evaluation

The metrics of the training will be divided into 3 parts. The first part is the pre & post exam that would account for the 20% of the training grade. The 2 exams will cover competencies in knowledge, skills, and attitudes based on the 9 modules. The second part of the grade will comprise 40% of the training grade coming from the demo, oral or teach back exam from the 3rd day. Finally, the third part of the grade will comprise another 40% from the OSCE exam on the last day which may comprise 10 stations that may be completed in a 2-hour period. A suggested passing rate is a zero-based 70%.

7.5 Funding

This proposal may materialize should there be institutional organizations and/or government fundings that may be utilized. Grants may also be a good source for funds to organize this training. Sources of training funds may actually vary, and it would be possible to conduct training by different sponsors and different organizers.

8 Limitations

Prerequisites for training such as a CPR certificate from organizations like Red Cross is not discussed in this paper, it is important to declare though that most if not all pharmacists immunization training program requires a CPR certificate²¹. There are a number of studies that proposes a good result when the training for immunization are embedded in the

curriculum through the pharmaceutical care laboratory class equivalent to the dispensing laboratories in the Philippine Pharmacy curriculum. The study though focuses on professional pharmacists. There may also be a need to give more emphasis to patient satisfaction measurement that may be extended to qualitative studies from a mere cross-sectional survey²².

9 Conclusion

As the pharmacists role evolve in the Philippines, it is important to be open to good practices including pharmacist immunization, which remains a challenge as to start a training activity in a developing country requires trained experts, sponsors and an open-mind from all the pharmacists which is hard to come by based on the initial studies being conducted for pharmacist immunization in the country⁶. Nevertheless, the support of the FDA and the PPhA is a good starting point. Moving forward, it would be better to train the future pharmacists in the school other than a training program where a BS Pharmacy degree is a sole requirement that speaks of the immunizing competency of the pharmacist as in other professions²³.

REFERENCES

- [1]. Hartigan-Go, K. Y. (2014, September 9). FDA Advisory No. 2014-067. Retrieved from Food and Drug Administration: <https://www2.fda.gov/ph/attachments/article/192675/FDA%20Advisory%20No.%202014-067.pdf>
- [2]. Angelo, L. B. (2018). APhA's Immunization Handbook, 4th Edition. American Pharmacists Association.
- [3]. Kamal, K. M., Madhavan, S. S., & Maine, L. L. (2003). Pharmacy and Immunization Services: Pharmacists' Participation and Impact. *Journal of the American Pharmacists Association*, 470-482
- [4]. Pharmacy Guild of Australia. (2017, August 25). Retrieved from Pharmacist Administration of Influenza Vaccine: <https://www.guild.org.au/guild-branches/wa/training/immunisation>
- [5]. Aggarwal, R., Grantcharov, T. P., Eriksen, J. R., Blirup, D., Krisitansen, V. B., Funch-Jensen, P., & Darzi, A. (2006). An Evidence-Based Virtual Reality Training Program for Novice Laparoscopic Surgeons. *Annals of Surgery*, 310-314.
- [6]. Ongpoy, Romeo C. (2016). Level of Preparedness of the Filipino Pharmacists as Providers of Immunizations for Adult Patients. *ASIO Journal of Pharmaceutical and Herbal Medicines*, 4-8.
- [7]. Loreto-Garin, J. (2015, November 24). Department Personnel order No. 20165. Reconstitution of the National Immunization Committee (NIC) and its different Technical Working Groups. Manila, Philippines: Department of Health.
- [8]. Vandelaer, J., & olaniran, M. (2015). Using a school-based approach to deliver immunization-Global update. *Vaccine*, 719-725.
- [9]. Training for Pharmacists for the Supply and Administration of Emergency Medicines and Vaccinations. (n.d.). Retrieved from The Pharmaceutical Society of Ireland: https://www.thepsi.ie/gns/education/training_for_pharmacists.aspx
- [10]. Nohynek, H., Wichmann, O., D' Ancona, F., & Gatekeepers, V. N. (2013). National Advisory Groups and their role in immunization policy-making processes in European countries. *Clinical Microbiology and Infection*, 1096-1105.
- [11]. Test Your Knowledge: Immunization Delivery. (2017). Retrieved from American Pharmacists Association: <https://www.pharmacist.com/test-your-knowledge-immunization-delivery>
- [12]. Van Amburgh, J. A., Waite, N. M., Hobson, E. H., & Migden, H. (2012, January 17). Improved Influenza Vaccination Rates in a Rural Population as a Result of a Pharmacist-Managed Immunization Campaign.
- [13]. Moore, A., & Caetano, P. (2014, September 10). RE: Pharmacist Administration of Vaccines in Manitoba. Retrieved from Manitoba: <https://www.gov.mb.ca/health/publichealth/cdc/docs/hcp/2014/091014.pdf>
- [14]. Kamal, K. M., Madhavan, S. S., & Maine, L. L. (2003). Impact of the American Pharmacists Association's (APhA) Immunization Training Certification Program. *American Journal of Pharmaceutical Education*, 1-7.
- [15]. Kripalani, S., Jacobson, K. L., Brown, S., Manning, K., Rask, K. J., & Jacobson, T. A. (2009). development and Implementation of a Health Literacy Training Program for Medical Residents. *Medical Education Online*, 1-6.
- [16]. Banh, H. L., & Cor, K. (2014). Evaluation of an Injection Training and Certification Program for Pharmacy Students. *American Journal of Pharmaceutical Education*, 1-5.
- [17]. Department Memorandum No. 2016-0096. (2016, February 24). Guidelines in the School-based Immunization of Tetravalent Dengue Vaccine . Manila, Philippines: Department of Health.
- [18]. Olpinski, M. (2012). Anti-Vaccination Movement and Parental Refusals of Immunization of Children in USA. *Polish Pediatric Society*, 381-385.
- [19]. Vanrooyen, M. J., Clem, K. J., Holliman, C. J., Wolfson, A. B., Green, G., & Kirsch, T. D. (1999). Proposed Fellowship Training Program in International Medicine. *Academic Emergency Medicine*, 145-149.
- [20]. Marcum, Z. A., Maffeo, C. M., & Kalsekar, I. (2010). The impact of an immunization training certificate program on the perceived knowledge, skills and attitudes of pharmacy students toward pharmacy-based immunizations . *Pharmacy Practice*, 103-107.
- [21]. Welch, A. C., Olenak, J. L., & Culhane, N. (2009). Incorporating an Immunization Certificate Program into the Pharmacy Curriculum . *American Journal of Pharmaceutical Education*, 1-5.
- [22]. Bounthavong, M., Christopher, M. L., Mendes, M. A., Foster, E. B., Johns, S. T., Lim, L., . . . Stewart, A. G. (2010, March 30). Measuring patient satisfaction in the Pharmacy specialty Immunization Clinic: a pharmacist-run immunization clinic at the Veterans Affairs San Diego Healthcare System. *Royal Pharmaceutical Society of Great Britain*.
- [23]. Frank Romanelli, P. M. (2012). Immunization Training: Right or Privilege? *American Journal of Pharmaceutical Education*, 1.