

#### **EDITORIAL**

♦ On the Occasion of Publication of Volume 12 No. 2

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#### ADC INTERNATIONAL SYMPOSIUM

#### PEER-REVIEWED ARTICLES

ORIGINAL ARTICLE

No. 14

Clinical manifestation and complication of seasonal influenza in Vietnamese children from 2022-2024

Huong Thi Ngo, et al.

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• Author's Information:

https://www.teikyo-u.ac.jp/application/files/2515/9470/2032/ADC\_english.pdf

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# **EDITORIAL**

このたび、帝京大学アジア国際感染症制御研究所(ADC)の所長に2024年度より就任し、本号より ADC Letter の編集長を務めることになりました。読者の皆さま、関係各位に心より御礼申し上げます。 ADC Letter は、ADC の研究・教育・国際連携の取り組みをわかりやすく伝えるとともに、内外からの投稿を広く受け付け、厳正な査読を経て質の高い論文を公表する場であり続けます。

本号では、2025年3月25・26日に帝京大学板橋キャンパスで開催した第15回 ADC 研国際シンポジウムの報告を掲載しました。1日目は「Childhood disease and AI-based diagnostic imaging」をテーマに、ハノイ国立小児病院のTran Minh Dien 院長、Assoc. Prof. Phung Thi Bich Thuy、Dr. Tran Huu Dat をお招きし、また国内の専門家の先生方にご参加いただき、講演や活発な議論を行いました。詳細は本誌内をご覧ください。

2日目は、2024年度をもって本学をご退職される河内正治教授の退職記念講演を行い、「Influenza and Related Diseases — from the Cases in PICU of Vietnam National Children's Hospital —」と題して、これまでの共同研究と臨床の知見をご披露いただきました。河内先生は2007-2014年に同院と高病原性鳥インフルエンザの共同研究を行い、医学部5年生のベトナム実習でも初回から引率教員として深く関わってこられました。

また本号には、Dr. Huong Thi Ngo らによるベトナムにおける小児季節性インフルエンザに関する原著論文を掲載しています。地域の小児診療と公衆衛生の双方に資するデータを提示しており、臨床現場での意思決定やワクチン政策・教育活動の検討に有用な視点を与えてくれる重要な報告です。

本誌は、原著論文・総説・ケースレポートに加え、院内感染対策やアウトブレイク対応、ワクチン導入などの実践報告、データノートや研究プロトコル、医療安全の取り組みなど、幅広いご投稿を歓迎します。読者の皆さまと共に、確かなエビデンスを社会に還元する誌面づくりを進めてまいります。今後ともご支援・ご投稿をよろしくお願いいたします。

I will assume the position of Director of the Asia International Institute of Infectious Disease Control (ADC) at Teikyo University in 2024, and also being serving as Editor-in-Chief of ADC Letter starting with this issue. I would like to express my sincere gratitude to all readers and contributors. ADC Letter will continue to serve as a forum for communicating ADC's research, education, and international collaboration efforts, welcoming submissions from both Japan and abroad, and publishing high-quality papers after following rigorous peer review.

This issue includes a report on the 15th ADC International Symposium, held at Teikyo University's Itabashi Campus on March 25-26, 2025. On the first day, we invited Director Tran Minh Dien of Hanoi National Children's Hospital, Assoc. Prof. Phung Thi Bich Thuy, and Dr. Tran Huu Dat to speak on the theme of "Childhood disease and AI-based diagnostic imaging," along with domestic experts, for lectures and lively discussions. Further details appear in this issue.

On the second day, Professor Masaharu Kawachi, who retired from our university in 2024, delivered a commemorative lecture titled "Influenza and Related Diseases – From the Cases in the PICU of Vietnam National Children's Hospital." He shared insights from years of collaborative research and clinical findings. From 2007 to 2014, Professor Kawachi conducted collaborative research on highly pathogenic avian influenza with the hospital, and has been closely involved in the Vietnam clinical training program for fifth-year medical students since its inception as a supervising instructor.

This issue also features an original article on pediatric seasonal influenza in Vietnam by Dr. Huong Thi Ngo and colleagues. This important report presents data with implications for pediatric care and public health, offering valuable perspective for clinical decision-making and the consideration of vaccine policy and educational activities.

In addition to original articles, reviews, and case reports, we welcome a wide range of submissions, including practice reports on hospital-acquired infection control, outbreak response, vaccine introduction, data notes, research protocols, and medical safety initiatives. Together with our readers, we aim to build a publication that delivers reliable evidence to society. We appreciate your continued support and contributions.

編集長:吉野友祐 Editor-in-Chief: Yusuke Yoshino, Director 事務局:伊藤吹夕 Editorial Office: Fuyu Ito, Ph.D.

表紙写真: 河内教授の退職記念講演「Influenza and Related Diseases – from the Cases in PICU of Vietnam National Children's Hospital – 」

# ADC INTERNATIONAL SYMPOSIUM

# The 15th ADC Lab International Symposium

日時: 2025年3月25、26日

会場:帝京大学板橋キャンパス講義室

2025年 3 月25、26日帝京大学板橋キャンパス講 義室にて、第15回 ADC研国際シンポジウムを開 催しました。ベトナムからハノイ国立小児病院 の Tran Minh Dien 院長はじめ Assoc. Prof. Phung Thi Bich Thuy、Dr. Tran Huu Datをお招きし、1 日目はChildhood disease and AI-based diagnostic imagingというテーマで先生方にご講演頂きまし た。また2日目は、2024年度で帝京大学を退職さ れる河内正治教授の退職記念講演を行いました。

ハノイ国立小児病院と帝京大ADC研とは、 2016年から医学部5年生が公衆衛生学実習の中 で感染症研究・医療研修として毎年訪問させて 頂いています。また、ハノイ国立小児病院から もこれまでに3名を帝京大学大学院博士課程に 受け入れてきました。さらに2015年からはJST の「さくらサイエンスプラン」の一環として、医 師、看護師の方々と毎年交流を続けてきました。



集合写真

今後もベトナムをはじめとするアジア諸国の医療機関と帝京大学との連携がさらに深まることを願っています。

The 15th ADC Lab International Symposium was held on March 25-26, 2025, at Teikyo University Itabashi Campus Lecture Hall. We invited Dr. Tran Minh Dien, Director of Vietnam Children's Hospital, along with Assoc. Prof. Phung Thi Bich Thuy and Dr. Tran Huu Dat, to speak on the topic of "Childhood disease and AI-based diagnostic imaging" on the opening day. On the second day, Professor Masaharu Kawachi, who retired from Teikyo University in 2024, delivered a commemorative lecture.

Since 2016, fifth-year medical students from the Vietnam Children's Hospital and the Teikyo University ADC Lab have visited annually as part of their public health training in infectious disease research and clinical training. We have also welcomed three students from Vietnam Children's Hospital into the Teikyo University Graduate School's doctoral program. Furthermore, since 2015, we have continued exchanges with doctors and nurses as part of the JST "Sakura Science Plan."

We hope to further strengthen collaboration with medical institutions in Vietnam and other Asian countries.

Program Th	ne 5th Joint (	Conference of Vietnam National Children's Hospital and Teikyo University
		Date: March 25 (14:00-18:00) and 26 (9:30-11:00), 2025 Place: Room B102 (basement 1, Building 2) in Teikyo University Topic: Childhood disease and Al-based diagnostic imaging
	14:00 Opening	Prof. Yusuke Yoshino and Prof. Masakazu Mimaki from Teikyo University
	14:10 - 14:40	Dr. Naoki Ito from Teikyo University Title "Artificial Intelligence in Neonatal Care: Predicting RDS and TTN with X-ray Imaging"
	14:40 - 15:10	Dr. Kazuhiro Takahashi from Teikyo University Title "Non-invasive evaluation for children with renal diseases"
	15:10 - 15:40	Dr. Tran Huu Dat from Vietnam National Children's Hospital Title "Trends in Neonatal Disease Patterns at the National Children's Hospital, Vietnam: Five-Year Analysis."
March 25	15:40 - 16:10	Assoc. Prof. Phung Thi Bich Thuy from Vietnam National Children's Hospital Title "Nasal - spraying probiotic spores for respiratory infections in children"
		Break
	16:30 - 17:10	Prof. Yasuaki Aratani from Yokohama City University Title "Role of Myeloperoxidase for Host Defence, Inflammation, and Neutrophil Function"
	17:10 - 17:50	Prof. Hiroyuki Nunoi from Aisenkai Nichinan Hospital Title "Immunodeficiencies in Japan, especially about phagocyte disorders. – Actinopathies and Chronic Granulomatous Disease –"
	Closing	Prof. Shoji Kawachi from Teikyo University
	18:30 - 21:00	Social gathering (Dinner)
March 26	9:30 - 10:00	Dr. Noboru Yoshioka from Teikyo University Title "Developing Behavioral Assays to Assess Cell Therapy in Cerebral Palsy"
March 20	10:00 - 11:00	Prof. Shoji Kawachi from Teikyo University (final lecture) Title "Influenza and Related Diseases – from the Cases in PICU of Vietnam National Children's Hospital –"



### 1. Professor Yusuke Yoshino and Professor Masakazu Mimaki from Teikyo University





### 2. Dr. Naoki Ito from Teikyo University

Title "Artificial Intelligence in Neonatal Care: Predicting RDS and TTN with X-ray Imaging"





# 3. Dr. Kazuhiro Takahashi from Teikyo University

Title "Non-invasive evaluation for children with renal diseases"





# 4. Dr. Tran Huu Dat from Vietnam National Children's Hospital Title "Trends in Neonatal Disease Patterns at the National Children's Hospital, Vietnam: Five-Year Analysis."





### 5. Associate Professor Phung Thi Bich Thuy from Vietnam National Children's Hospital Title "Nasal – spraying probiotic spores for respiratory infections in children"





## 6. Professor Yasuaki Aratani from Yokohama City University

Title "Role of Myeloperoxidase for Host Defence, Inflammation, and Neutrophil Function"





### 7. Professor Hiroyuki Nunoi from Aisenkai Nichinan Hospital

Title "Immunodeficiencies in Japan, especially about phagocyte disorders. - Actinopathies and Chronic Granulomatous Disease -





# 2日目

2024年度で帝京大学を退職される河内教授の退職記念講演会を行いました。

河内先生は2007年から2014年までハノイ国立小児病院と高病原性鳥インフルエンザに関する共同研究を行ってお りました。また帝京大学医学部5年生の公衆衛生学実習でのベトナム訪問では第1回目から引率教員として参加し ており、ハノイ国立小児病院との関わりは大変深いものであります。これらの思い出とともに、これまでのご研究 についてご講演頂きました。

またこの日の最初に講演を行いました医療共通教育研究センターの吉岡昇准教授とは、帝京大学ADC研の所長に なられてからStem Cell Therapyプロジェクトで脳性麻痺の回復を自家骨髄単核球髄腔内移植により行う研究で関 わっておられます。このプロジェクトに関してはまだ道半ばであり、今後も河内先生にご指導ご助言を頂く予定です。

We held a commemorative lecture marking Professor Kawachi's retirement from Teikyo University in 2024.

From 2007 to 2014, Professor Kawachi conducted collaborative research on highly pathogenic avian influenza with Hanoi National Children's Hospital. He also served as a supervisor for the inaugural visit to Vietnam by fifth-year medical students from Teikyo University's School of Medicine as part of their public health training, and has long maintained a close connection with Hanoi National Children's Hospital. He shared these memories and reflected on his research to date.

Furthermore, Associate Professor Noboru Yoshioka of the Medical General Education and Research Center, who gave the first lecture of the day, has been conducting research on cerebral palsy recovery through intrathecal transplantation of autologous bone marrow mononuclear cells as part of the Stem Cell Therapy project since becoming director of the Teikyo University ADC Laboratory. This project remains in its early stages, and we intend to continue benefiting from Professor Kawachi's guidance and advice.

### 1. Dr. Noboru Yoshioka from Teikyo University

Title "Developing Behavioral Assays to Assess Cell Therapy in Cerebral Palsy"





### 2. Professor Shoji Kawachi from Teikyo University (final lecture)

Title "Influenza and Related Diseases

- from the Cases in PICU of Vietnam National Children's Hospital - "







ベトナム小児病院のTran Minh Dien院長



# PEER-REVIEWED ORIGINAL ARTICLE

# Clinical manifestation and complication of seasonal influenza in Vietnamese children from 2022-2024

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#### Abstract

Seasonal influenza is a common and widespread virus that affects public health, particularly in children, each year. In this study, we aimed to examine the clinical features and complications of influenza in Vietnamese children (under 16 years old) to inform influenza prevention and complication management programs. The results show that, over a two-year period from 2022 to 2024, 1,061 patients were hospitalized at the Vietnam National Children's Hospital, with the most common diagnoses being respiratory diseases (44%), high fever (30.7%), and febrile seizures (13.9%). Among the respiratory disease group, 34.7% of patients had severe conditions with respiratory failure. The majority of patients (76.8%) were under 5 years old, and influenza A was the most prevalent strain, accounting for 77.9% of cases. Notably, 89% of the patients had not received any dose of the influenza vaccine, and the mortality rate was 1.4%. We conclude that the complication rate in this study, particularly for severe conditions, was higher, and the high rate of unvaccinated individuals may indicate a need for greater emphasis on vaccination and prevention programs.

Key words: influenza; children.

#### Introduction

Seasonal influenza virus is the most prevalent and highly contagious pathogen, leading to acute respiratory illness and hospitalization in children, particularly those under five years old (1). It can induce a wide range of conditions, from mild to severe complications, or even death (2). In Vietnam, 1.6 to 1.8 million people suffer from influenza-like illness annually. The core treatment is the antiviral drug Tamiflu. Additionally, prevention plays an important role. There are four types of vaccines available in Vietnam (Influvac Tetra, Vaxigrip Tetra, GC FLU Quadrivalent, and Ivacflu-S); however, the coverage rate of influenza vaccination is less than 1% of the population in Vietnam each year (3). According to the latest WHO data published in 2020, influenza and pneumonia deaths in Vietnam reached 27,836, accounting for 4.06% of total deaths (4). This article provides an overview of the clinical features and complications of influenza in Vietnamese children, with the aim of raising awareness regarding preventive programs and vaccination efforts within the general population.

#### **Materials and Methods**

#### **Study Period and Population**

This study was conducted at Vietnam National Children's Hospital (VNCH) which is the country's leading pediatric medical facility, equipped with 2,300 beds to provide specialized care for children aged 0 to 16 years.

This was a retrospective, descriptive study. All influenza patients under 16 years of age who were admitted to the Center for Tropical Diseases at the Vietnam National Children's Hospital between September 2022 and September 2024 were included in the research. The diagnosis was confirmed by an influenza rapid test or PCR test using nasopharyngeal swab fluid. Rapid test: Influenza A/B Antigen rapid test, Genesign Biotech (Xiamen) Co., Ltd, China; PCR test: Respiratory Panel 1, Allplex, Germany.

#### **Definition**

The diagnosis of acute respiratory distress syndrome (ARDS) was made following criteria: acute onset, bilateral lung infiltrates on chest radiography or CT scan (who are of noncardiac origin), and a PaO2/FiO2 ratio of less than 300 mm Hg.

Influenza-associated encephalitis was diagnosed when patients met encephalitis criteria and either influenza PCR testing in respiratory secretions or rapid test was positive, while common causes of encephalitis were ruled out.

Respiratory diseases were account for pneumonia, bronchiolitis and laryngitis. Among them, severe illness is defined as all cases with respiratory distress syndrome. The other is non-severe illness.

Death cases were defined as all patients died in-hospital with influenza virus test positive.

#### **Statistical Analysis**

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 26.0 (SPSS for Windows, IBM, Chicago, IL). Pearson's test, Fisher's exact test and Binary logistic regression were used to assess the association between two variables.

This study was approved by the Vietnam National Children's Hospital Ethics Committee on 8th Nov 2022, Number 2661/ BVNTW-HDDD.

#### Results

As illustrated in Figure 1, the majority of patients admitted to NCH in 2023 were observed over the course of two years,

with an annual total exceeding 500 cases. The highest number of admissions occurred between November and April, with approximately 100 to 200 cases recorded per month.

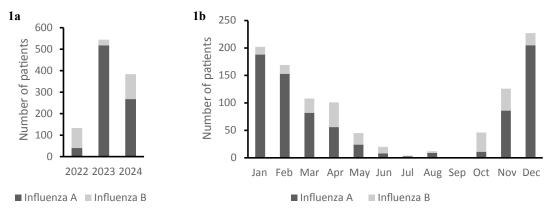


Figure 1. Number of patients by year (1a) and by month (1b)

Table 1 showed that a total of 1,061 patients were included in the study, with the proportion of influenza A and B cases being 76.8% and 22.1%, respectively. Of the patients, 62.3% were male, and 76.8% were under the age of 5 (Fig.2). The incidence of cases was higher among younger children (Fig.1). The majority of patients (over 90%) presented with fever and

cough, while 21.9% and 16.3% of patients experienced seizures and vomiting, respectively. Other less common symptoms included diarrhea and muscle aches.

Furthermore, the results indicate that only 11% of the patients had received at least one dose of the influenza vaccine during their lifetime.

Table 1. Demo	ographic and	l clinical fe	eature of	patients
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Characteristic		n (1061 cases)	%
Sex	Male	661	62.3
	Female	400	37.7
Age	≤ 5 years old	815	76.8
	> 5 years old	246	23.2
Type of influenza	Influenza A	826	77.9
	Influenza B	235	22.1
Fever (≥ 38.3)		1056	99.5
Cough		976	92
Seizure		232	21.9
Vomiting		173	16.3
Diarrhea		71	6.7
Muscle aches		16	1.5
Underlying diseases		204	18.9
Vaccination		117	11
Mortality rate		15	1.4

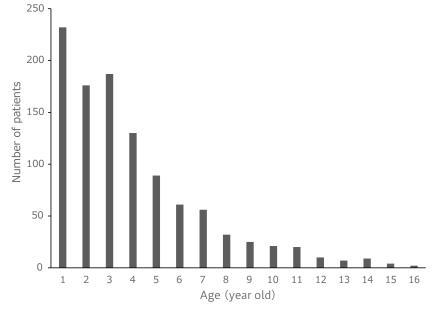


Figure 2. Number of patients by age

Table 2 describes a range of complications associated with influenza infection. Respiratory diseases were the most common, accounting for 44% of cases, followed by high fever (30.7%) and febrile seizures (13.9%). Encephalitis and myalgia were less common, each with a proportion of less than 2% (20 and 16 cases, respectively).

Table 2. Complication of influenza

	n (1061 cases)	%
Respiratory disease include:	467	44
Pneumonia with respiratory failure (without ARDS) (n=155)		
Pneumonia without respiratory failure (n=289)		
Bronchiolitis (n=12)		
Laryngitis (n=7)		
ARDS (n=4)		
High grade fever*	326	30.7
Febrile seizure	147	13.9
Encephalitis	20	1.9
Myalgia	16	1.5
Other **	85	8

<sup>\*</sup>High grade fever is defined as the body temperature is over 39 degree and does not response to antipyretics.

Respiratory disorders are among the most common and severe complications of influenza infection. Therefore, we further investigated the complications affecting the respiratory system. Table 2 shows that one-third of patients developed pneumonia with respiratory failure, while 60% had pneumonia without respiratory failure. In contrast, bronchiolitis and laryngitis were less prevalent, with occurrences under 3%. Acute respiratory distress syndrome (ARDS) is a fatal complication of influenza infection; however, only 4 cases (0.9%) were reported.

Next, we examined the association between the severity of respiratory diseases and factors such as age, the history of vaccination, the type of influenza virus and gender. Severe condition is defined as all pulmonary diseases with respiratory distress syndrome. On table 3, there is no association between type of virus, gender and severity of respiratory disorder. However, there is a significant correlation between age, vaccination history and severity (p = 0.003; 0.011), in which the smaller age the more severe (OR = 0.874).

Table 3. The association between severity of respiratory diseases and type of virus and age

	F	Respiratory disease (n	=467)	
		Severe condition	Not severe	p-value
Age (year	old)	n (159 cases)	n (308 cases)	
	1	64	78	0.003
	2	35	71	
	3	22	68	
	4	10	40	
	5	12	14	
	Over 6	16	37	
Vaccinati	on history			
	Yes	10	38	0.011
	No	117	176	
Influenza				
	Type A	125	242	0.991
	Type B	34	66	
Gender			·	
	Female	71	202	0.068
	Male	88	106	
		·	·	

All patients admitted to the hospital with diagnosis of influenza were prescribed antiviral Tamiflu for at least 5 days accompany with support treatments. However, there still were 15 death cases with the mortality rate was 1.4%. Table 4 listed the causes of death as follows: ARDS (4 cases), encephalitis (3 cases), severe pneumonia (3 cases), and complications related to underlying diseases, such as brain hemorrhage, kidney failure, and heart failure which caused by underlying diseases.

Table 4. Cause of death

	Total number of patients	Death case
	n (576 cases)	n (15 cases)
Pneumonia	467	3
ARDS	4	4
Encephalitis	20	3
Underlying disease	85	5

Next, we examine the association between vaccination history and underlying disease with survival (table 5). The result showed that comorbidities had association with mortality in which underlying diseases increase the mortality (p = 0.000, OR = 0.153). We also check the association of vaccination and mortality; however, it did not show the association.

Table 5. The association between mortality and Vaccination history and underlying diseases.

	Surv	ival	
	Alive (cases)	Death (cases)	p-value
Vaccination history			
Yes	117	0	0.145
No	642	15	(Fisher's exact test 0.001)
Underlying diseases			
Yes	195	9	0.000
No	851	6	OR =0.153 (95% CI: 0.05-0.434)

#### Discussion

During the two-year study period (Sep 22 to Sep 2024), a total of 1,061 pediatric patients were included, with the majority being under 5 years old (76%). This duration of research has coincided in a short time with COVID-19 pandemic. According to the World Health Organization, the COVID-19 pandemic was officially declared over on May 5, 2023. Consequently, there is an overlap of approximately eight months between the COVID-19 pandemic and the period of our study. As shown in Figure 1a, 80% of influenza cases were admitted to the hospital towards the end of 2023 and into 2024, indicating that most patients were outside the direct impact of the COVID-19 pandemic. Additionally, Figure 2 showed that approximately 50% of the subjects in our study are children under the age of two who were born after the pandemic so they unlikely had change exposure to the COVID-19. Therefore, we do not possess data on COVID-19 cases within the scope of this study. We also can see the seasonality of influenza during the year in Vietnam, in which December, January and February accounted for the highest prevalence. This phenomenon was explain by some environment factors such as humidity (1).

Besides, the research showed the incidence of infection and the severity of respiratory diseases were higher among

<sup>\*\*</sup>Other includes all of the condition in which patient with disorder of underlying disease and without the other complication of influenza

younger children, which is consistent with studies from the UK and the United States (2)(3). This may be attributed to the underdevelopment of their immune systems. The most common symptoms observed were fever and cough, which aligns with other studies (4). Overall, the prevalence of influenza A was higher than that of influenza B. However, no association was found between the type of virus and the severity of pulmonary diseases. This finding is similar to other research (5), although, according to the World Health Organization Regional Office for the Western Pacific in 2021, influenza B was reported as the most common strain. The reasons for this discrepancy need to further investigation.

In this study, the rate of serious complications was similar to that observed in other studies (2). Respiratory disorders were the most common complication of influenza, accounting for 44% of cases, with 34% of these patients experiencing respiratory failure, a rate higher than that reported in another research. Respiratory disorders were also the leading cause of death, accounting for 50% of fatalities. Among these, ARDS was the most critical condition, with all 4 patients who developed it dying. Encephalitis was the second most severe complication, with a mortality rate of 15%. This is a rare and fatal condition with a high mortality rate; in the US for the 2024-2025 season, the rate is 13% (6) Since the treatment for this condition remains challenge, the prevention may prove to be the key.

Some studies have shown that the influenza vaccine can reduce morbidity and mortality associated with seasonal influenza, particularly in high-risk groups (7). This is similar to our study, where vaccination was strong inversely associated with the severity of the pulmonary illness, although it did not show a significant association with survival. In our study, 89% of the patients had not received the influenza vaccine, and all the patients who died had not been vaccinated. One possible explanation is the lack of availability of the vaccine and low public awareness (8). Additionally, socio-economic factors may play a role, as the price of the influenza vaccine is not subsidized by the government, and the vaccine needs to be administered annually (9). This suggests that greater attention should be given to vaccination efforts.

#### Limitation

Our research faces 2 limitations. Firstly, within the public healthcare system, parents are provided a hard copy of the vaccination record, which can be challenging to recall. Some parents did not remember the vaccination history. As the result, the proportion of vaccination may be either underestimated or overestimated. Secondly, some patients with underlying medical conditions had died due to multiorgan dysfunction. In such cases, it becomes difficult to determine whether the cause of death was Influenza virus or the underlying diseases.

#### **Policy implications**

Our research showed that the cover of vaccination has been increase by 11%, compared to only 1% in the previous study; it remains at relatively low rate. This suggests that the need for further advocacy regarding the importance vaccination. Additionally, increase support from the government may be necessary to enhance vaccination rates.

#### Conclusion

Influenza virus induces a variety of complications, most commonly observed in children under 5 years of age, with respiratory diseases being the most frequent. The majority of patients presented with clinical features such as cough and fever. Influenza A was the predominant strain. However, the proportion of unvaccinated individuals in our study was high, and all of the death cases were unvaccinated. These findings suggest that vaccination efforts should be further investigated and receive increased attention in the future.

#### References

- 1. Thai PQ, Choisy M, Duong TN, Thiem VD, Yen NT, Hien NT, et al. Seasonality of absolute humidity explains seasonality of influenza-like illness in Vietnam. Epidemics. 2015 Dec;13:65–73.
- 2. Rothberg MB, Haessler SD, Brown RB. Complications of Viral Influenza. Am J Med. 2008 Apr;121(4):258–64.
- Izurieta HS, Thompson WW, Kramarz P, Shay DK, Davis RL, DeStefano F, et al. Influenza and the Rates of Hospitalization for Respiratory Disease among Infants and Young Children. N Engl J Med. 2000 Jan 27;342(4):232–9.
- 4. Wolf RM, Antoon JW. Influenza in Children and Adolescents: Epidemiology, Management, and Prevention. Pediatr Rev. 2023 Nov 1;44(11):605–17.
- Davido B, Lemarie B, Gault E, Jaffal K, Rottman M, Beaune S, et al. Comparison between clinical outcomes in influenza A and B Infections: A multicenter retrospective cohort study. CMI Commun. 2025 Mar;2(1):105072.
- Fazal A, Reinhart K, Huang S, Kniss K, Olson SM, Dugan VG, et al. Reports of Encephalopathy Among Children with Influenza-Associated Mortality — United States, 2010–11 Through 2024–25 Influenza Seasons. MMWR Morb Mortal Wkly Rep. 2025 Feb 27;74(6):91–5.
- Trombetta CM, Kistner O, Montomoli E, Viviani S, Marchi S. Influenza Viruses and Vaccines: The Role of Vaccine Effectiveness Studies for Evaluation of the Benefits of Influenza Vaccines (Basel). 2022;10(5):714.
- 8. WHO-HIS-TTi-17.2-eng.pdf.
- Pieter T de Boer a,\*, Joel K Kelso b, Nilimesh Halder b, Thi-Phuong-Lan Nguyen a,c, Jocelyn Moyes d,e, Cheryl Cohen d,e, Ian G Barr f, Maarten J Postma a,g,h, George J Milne b. The cost-effectiveness of trivalent and quadrivalent influenza vaccination in communities in South Africa, Vietnam and Australia. Vaccine 2018 Feb 8367997–1007 Doi 101016jyaccine201712073.

# **ADC LABORATORIES-1**

# 2024年度 ADC 研運営委員会 Steering Committee Report

March, 2025

#### 2024年度 ADC 研運営委員会記録

#### 審議内容

<2024年度事業報告> 2024年度事業報告の承認:運営委員数33名

- 1) 2024年度事業報告 河内正治 (運営委員長)
  - 一附属病院支援(インフルエンザ)、(SARS-CoV-2 解析)
  - 一大学院留学生: Do Dinh Hai さんの研究概要
- 2) ADC研究所プログレスレポート
  - 一プロジェクト研究、他大学との共同研究、JICA フィリピンプロジェクト

【ADC Letter Vol.12 No.1 ページ18、19参照】

- 3) 海外医療機関との研究交流
  - 医学部5年生:ベトナム感染症実習、医学部6年生:海外BSC

【ADC Letter Vol.12 No.1 ページ3~17参照】

-2023年度さくらサイエンスプログラム:ベトナム医療スタッフ研修受入れ

【ADC Letter Vol.11 No.2 ページ20~30参照】

- 4)Stem Cell Therapy Project「特定認定再生医療等」基礎研究
- 5) ADC Letter Vol.11 No.2、Vol.12 No.1・・・所長就任挨拶、第 7 回帝京大学研究交流会シンポジウム、編集長挨拶(各号初ページEDITORIAL内)

#### <2025年度事業計画案> 2025年度事業計画案の承認:運営委員数33名

- ・継続事業の計画
  - 一プロジェクト研究、他大学・機関との共同
- ・海外医療機関との研究交流、共同研究
- · 医学部 5 年生海外 BSL
- · ADC Letter: Vol. 12 No. 2、Vol. 13 No. 1 発刊予定

#### <外部委員の先生方より頂戴したご意見(一部抜粋)>

- 1. 今年度のさくらサイエンスプログラムは、"感染症医療におけるベトナムとの協力体制の強化と適切な感染制 御技術の習得"というテーマのもとに12人のベトナム研修生が参加して行われ、医学部5年生のベトナム感染 症実習も過去最多の14人が参加、2期目がスタートしたJICAのフィリピンプロジェクトも6人のフィリピン 研修生を迎え、病原体核酸の全ゲノムシークエンスの手技を習得させるなど、アジア諸国との交流により世界 的視野にたった感染症制御を目指すADC研の目標へ向けて、年々発展と充実がうかがわれ大いに評価される。
- 2. Stem Cell Therapy プロジェクトは、慢性期脳性マヒモデル動物の実験系が確立し、モデル動物への細胞移植により有効性を示唆する治療結果が得られたことなど、臨床研究へ向けての基礎研究が着実に進展したことは評価される。今後は、臨床試験へ向けた基礎実験のさらなる加速推進を期待する。
- 3. 附属病院支援: 2024/2025シーズンの季節性インフルエンザが猛威をふるい、関係者の皆さんはその対応にご 苦労されたと拝察する。検体数はA型が33検体と昨シーズンの2倍強でしたが意外と少ないと感じた。
- 4. JICA フィリピン国感染症ネットワーク強化プロジェクト: 2024年度から本プロジェクトが第二期に移行されたとのことだが、ADC Letterの報告を拝見すると2024年度夏も板橋キャンパスでの研修が予定通り実施され、研修員のモチベーションが引き続き高く、有意義な成果を挙げられたようで関係者の皆さんのご尽力に敬意を表する。
- 5. 海外医療機関との研究交流:医学部5年生ベトナム感染症実習について。河内先生が仰っているように、本実習は医学部の海外実習の中では大変ユニークな実習で、今後も引き続き継続していくべきと思う。また学生のセキュリティーの向上等の観点から女性引率教員の追加を始めとした引率教員数の増員も検討していく必要があると思う。
- 6. 2024年4月に吉野教授がADC所長に就任され、河内先生が顧問に、そして2024年度いっぱいで河内先生が大学を退官されるとの由。河内先生はCOVID-19のパンデミックという未曾有の状況の中でも、ADCの活動を低迷されることなくリーダーシップを発揮されたことに敬意を表したいと思う。お疲れ様でした。

# **ADC LABORATORIES-2**

# **TAVP-Training for Students**

July 14-19, 2025

医学部 5 年生:衛生学公衆衛生学実習「1.ベトナム感染症」

医学部5年生:衛生学公衆衛生学実習「1.ベトナム感染症」 今年度も現地開催できることになりました。

#### 実習概要

臨床実習、国際保健・予防医学や医療システムについての学習

2025年7月14日(月)~19日(土)

#### 研修先

- ·国立小児病院:ICU、呼吸器、循環器、感染症、救急、 臨床疫学、他
- · JICA
- ・ハノイ医科大学

#### 付添教員

ADC研:吉野友祐、鈴木章一

小児科:髙橋和浩

大学院生、小児科医: Do Dinh Hai

#### 実習参加予定者(医学部5年生 14名)

氏	名
小林 大起	青山 友美
西尾耕太郎	伊東 瞳
大竹 高継	大城 敬升
大久保美華	矢部 直尚
星野 未有	倉岡 翔
山中 麗華	小川 華歩
阿部 光莉	吉川 未来

美温	習予定 A TENTATIVE AGENDA July 14 (Mon) - 19 (Sat), 2025					
	14 Mon.	15 Tue.	16 Wed.	17 Thu.	18 Fri.	19 Sat.
	9:00 - 10:00	8:30 - 10:00	9:00 - 10:30	9:00 - 16:00	9:00 - 11:30	9:00 - 15:00
	Opening Ceremony :Board of Director	Heart center (G1) :Dr. Ngo Quoc Thai	Infectious Disease Center (G1) :Dr. Nguyen Phuong Hanh	Hospital Site Visit HAI DUONG CHILDREN'S HOSPITAL	Closing & Remark :Board of Director	Public Health Inspection
AM		NICU (G2) :Dr. Tran Huu Dat, Dr. Tran Thi Ly	Respiratory center (G2) :Dr. Dang Mai Lien	9:00am to 11:00am		in Vietnam
/ (141	10:30 - 11:30	10:10 - 11:30	10:30 - 11:30			
	Laboratory :Assoc. Prof. Phung Thi Bich Thuy	Heart center (G2) :Dr. Ngo Quoc Thai	Free Discussion			
	(G1+2)	NICU (G1) :Dr. Tran Huu Dat, Dr. Tran Thi Ly	(G1+2)			
		Lunch in VNCH		Lunch outside	Lunch outside	
	13:30 - 16:30	13:30 - 15:00	14:00 - 15:30		14:00 - 16:30	
	<b>ER</b> :Dr. Pham Van Tuan	PICU (G1) :Dr. Nguyen Van Thang	Infectious Disease Center (G2) :Dr. Nguyen Phuong Hanh		HMU :Ms. Nguyen Thu Thuy	
PM	(G1 +2)	Surgical ICU (G2) :Dr. Nguyen Dung Tien	Respiratory center (G1) :Dr. Dang Mai Lien		Lecture :Dr. Nguyen The Hung	
		15:10 - 16:30	15:30 -		(Department of Tropical Diseases and Harm	19:00
		PICU (G2) :Dr. Nguyen Van Thang	Open Discussion		Reduction)	Airport
		Surgical ICU (G1) :Dr. Nguyen Dung Tien	(G1+2)			

G1: Group 1, G2: Group 2, HMU: Hanoi Medical University

# **EVENTS LIST**

#### 開催したイベント (2025.1.1~2025.6.30)

日程	イベント名	演者など	
2025年6月28日(土)	大学院中間発表会	本館講義室 Mr. Do Dinh Hai (D3)	
2025年3月25日(火)~3月26日(水)	16th International Symposium	2号館 ゼミ室4	
2025年3月	2024年度 ADC運営委員会		

#### 今後のイベント情報(2025.7.1~2025.12.31) ※新型コロナウイルスの情勢により変更になる場合があります。

日程	イベント名	演者、参加者など	
2025年10月	TAVP 報告会(ベトナム感染症)	医学部5年生 14名、教員	本部棟
2025年9月9日(火)	2025年度 第1回 バイオセーフティ講習会	棚林 清 感染研バイオセーフティ管理室	大学棟
2025年8月29日(金)	第8回 帝京大学研究交流シンポジウム	ADC研	大学棟
2025年7月14日(月)~19日(土)	TAVP Training for 14 Students (5-year)	国立小児病院、ハノイ医科大学、他	

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