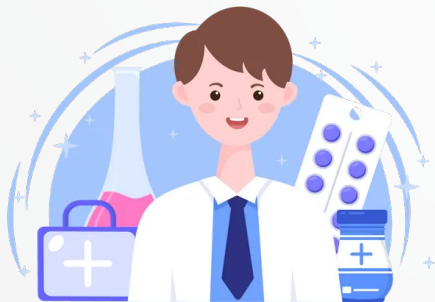


Impact of Pharmacist Evaluation in Penicillin Allergy Label Stewardship in HKWC



Hospital Authority Convention 2025
HA Young Investigators Session [F9.4]

LO CHUN KIT JASON

Resident Pharmacist

Department of Pharmacy, Queen Mary Hospital



醫院管理局
HOSPITAL
AUTHORITY

Hong Kong West Cluster

Penicillin Allergy in Hong Kong

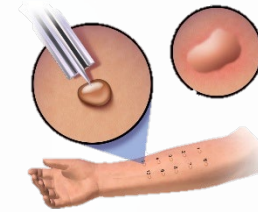
Penicillin allergy labels

QMH Inpatients in 2018¹ HK population in 2019²



> 85%
inaccurate¹

8000+
new labels
per year²



Quality
of Care



Clinical
Safety

HKWC: the **only** centre

Allergist : HK adults³:

1 : 2,800,000

HA Immunology Clinic:

8 years waiting time⁴



1. Li PH, Siew LQC, Thomas I et. al. Beta-lactam allergy in Chinese patients and factors predicting genuine allergy. *World Allergy Organ J.* 2019 Sep 16;12(8):100048.
2. Li PH, Yeung HHF, Lau CS et. al. Prevalence, Incidence, and Sensitization Profile of β -lactam Antibiotic Allergy in Hong Kong. *JAMA Network Open.* 2020 May 1;3(5):e204199.
3. Lee TH, Leung TF, Wong G, et al. The unmet provision of allergy services in Hong Kong impairs capability for allergy prevention-implications for the Asia Pacific region. *Asian Pac J Allergy Immunol.* 2019 Mar;37(1):1-8. doi: 10.12932/AP-250817-0150. PMID: 29223147.
4. Li PH, Wong JCY, Chan JMC, et al. Hong Kong Drug Allergy Delabelling Initiative (HK-DADI) consensus statements for penicillin allergy testing by nonallergists. *Front Allergy.* 2022;3:974138. Published 2022 Sep 5.

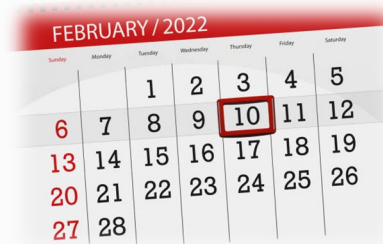
Pharmacist Evaluation on Penicillin Allergy

frontiers | Frontiers in Allergy | TYPE Original Research
PUBLISHED 05 September 2022
DOI 10.3389/falgy.2022.974138

Hong Kong Drug Allergy Delabelling Initiative (HK-DADI) consensus statements for penicillin allergy testing by nonallergists

Philip H. Li^{1*}, Jane C. Y. Wong¹, Jacky M. C. Chan², Thomas S. H. Chik², M. Y. Chu³, Grace C. H. Ho⁴, W. S. Leung², Timothy C. M. Li⁵, Y. Y. Ng⁶, Rocky Shum⁷, Winnie W. Y. Sin⁸, Eugene Y. K. Tso⁹, Alan K. L. Wu¹⁰ and Elaine Y. L. Au¹¹

Pharmacist Allergy Delabelling Clinic (PADC) @ QMH



MULTIDISCIPLINARY
COLLABORATION

Hooi et al. *World Allergy Organization Journal* (2024) 17:101003
<http://doi.org/10.1016/j.waojou.2024.101003>



WORLD ALLERGY
ORGANIZATION
JOURNAL

Open Access

Comparing pharmacists versus allergists in low-risk penicillin allergy delabelling: The Hong Kong Penicillin Allergy Pharmacist Initiative (HK-PAPI)

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Penicillin Allergy Label Stewardship (PALS)

2024 Jan onwards



醫院管理局
HOSPITAL
AUTHORITY

- Li PH, Wong JCY, Chan JMC, et al. Hong Kong Drug Allergy Delabelling Initiative (HK-DADI) consensus statements for penicillin allergy testing by nonallergists. *Front Allergy*. 2022;3:974138. Published 2022 Sep 5.
- Hooi JKY, Low MCH, To JCL, et al. Comparing pharmacists versus allergists in low-risk penicillin allergy delabelling: The Hong Kong Penicillin Allergy Pharmacist Initiative (HK-PAPI). *World Allergy Organization Journal*. 2024; 17: 101003. Published 2024 Nov 21.

INTRODUCTION

Penicillin Allergy Label Stewardship (PALS)

To **PREVENT** inaccurate penicillin allergy labelling for **low-risk** patients with **no documented label** or **documented label but unconfirmed histories**

PALS Pilot Direct Referral

HKWC
GOPC & FM
QMH A&E
& Medical
admission ward
GH TBCU

Pharmacist-led Triage Clinic

Pharmacist

Allergist

Pharmacist-assisted Drug Allergy Testing

Pharmacist

Allergist

Nurse

Pharmacist-led Delabelling Clinic

Pharmacist

Allergist

Pharmacist-led Phone Follow-Up

Pharmacist

Allergist

Referral to High-risk Clinic (if needed)



Clinical Pharmacist Clinic

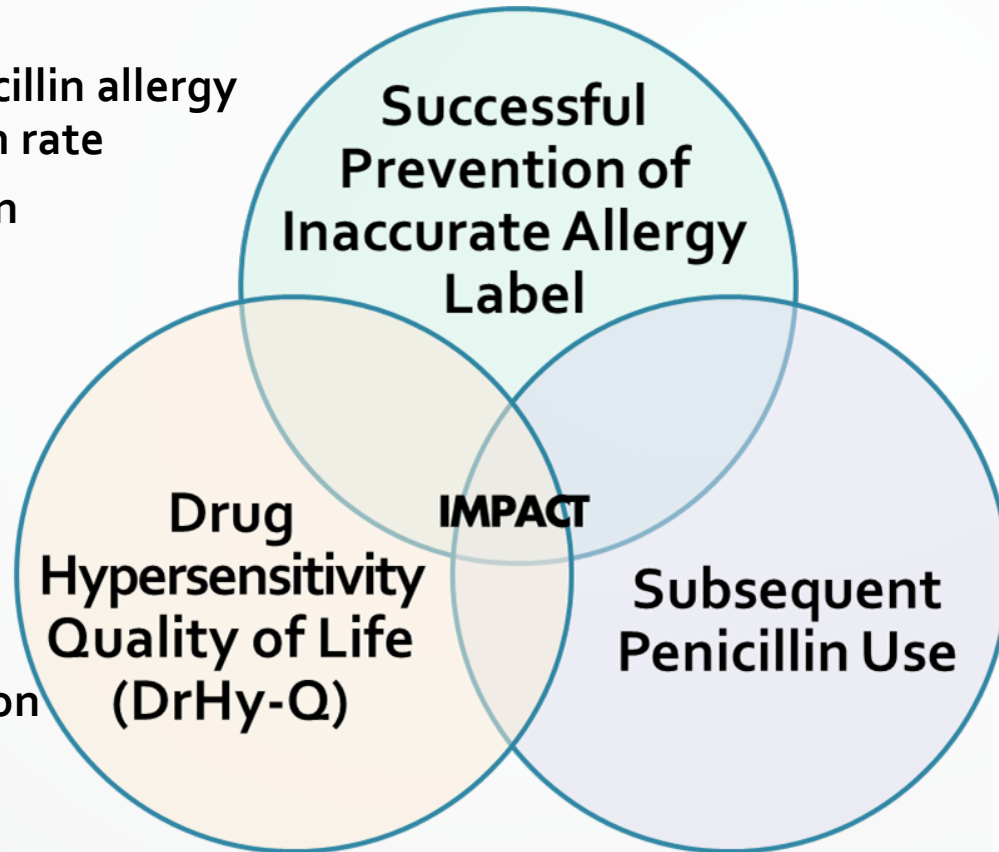


Day Centre



METHODOLOGY

- Allergy history
- Inaccurate penicillin allergy label prevention rate
- Positive reaction

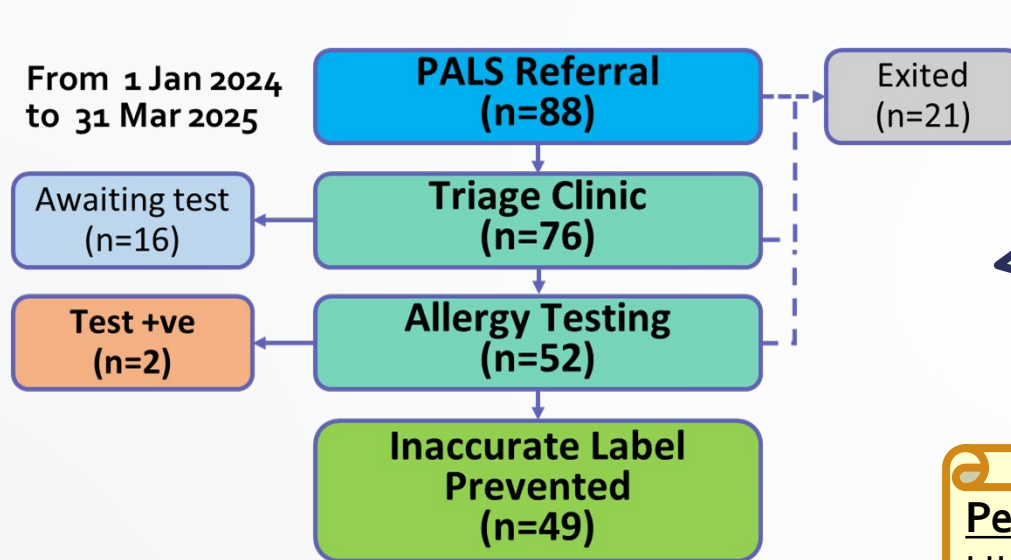


- Pre-/post-evaluation questionnaire

- Penicillin reuse rate
- Allergy label awareness



Patient Pathways & Outcomes



Inaccurate Label Prevention Rate
 = 49/52 cases
 = **94.2%**

EFFECTIVE ✓

Penicillin Allergy Disproven Rate:

HK-DADI (nurse) ⁶ :	90.5 %
(allergist) ⁶ :	89.5 %
HK-DADI ₂ (non-allergist) ⁷ :	93.3 %
(allergist) ⁷ :	94.1 %
HK-PAPI (pharmacist) ⁵ :	92.8 %
(allergist) ⁵ :	93.9 %

5. Hooi JKY, Low MCH, To JCL, et al. Comparing pharmacists versus allergists in low-risk penicillin allergy delabelling: The Hong Kong Penicillin Allergy Pharmacist Initiative (HK-PAPI). *World Allergy Organization Journal*. 2024; 17: 101003. Published 2024 Nov 21.
 6. Kan AKC, Hui HKS, Li TS, et al. Comparative Effectiveness, Safety, and Real-World Outcomes of a Nurse-Led, Protocol-Driven Penicillin Allergy Evaluation From the Hong Kong Drug Allergy Delabelling Initiative (HK-DADI). *J Allergy Clin Immunol Pract*. 2023 Feb;11(2):474-480.e2. Published 2022 September 17.
 7. Wong JCY, Kan AKC, Chik TSH, et al. Prospective, Multicenter, Head-to-Head Comparison Between Allergists Versus Nonallergists in Low-Risk Penicillin Allergy Delabelling: Effectiveness, Safety, and Quality of Life (HK-DADI₂). *J Allergy Clin Immunol Pract*. 2024 Jul;12(7):1801-1808.e2. Published 2024 April 16.

FINDINGS

Clinical Characteristics & Outcomes

Parameter	(n=52, until 31 Mar 2025)	n (%) or Median (IQR)
Male		21 (40.4%)
Age (y)		56.5 (40.8 – 71)
Duration (reaction → workup) (y)		8.0 (0.1 – 20)
Duration (referral → triage) (d)		8.5 (5 – 18.3)
Other non-penicillin allergies		14 (26.9%)
Classification of reactions		
Immediate		11 (21.2%)
Delayed		21 (40.4%)
Unknown		20 (38.5%)
Outcomes		
Inaccurate label prevented		49 (94.2%)
Positive skin test (N=23)		2 (8.3%)
Positive drug provocation test (N=51)		1 (1.9%)

HA Immunology Clinic:
8 years waiting time⁴ 🙄

EFFICIENT ✓

- All 29 patients who done **direct DPT were negative**
- All positive ST or DPT had **minor reactions only**
- **Negative Predictive Value (NPV) of ST**

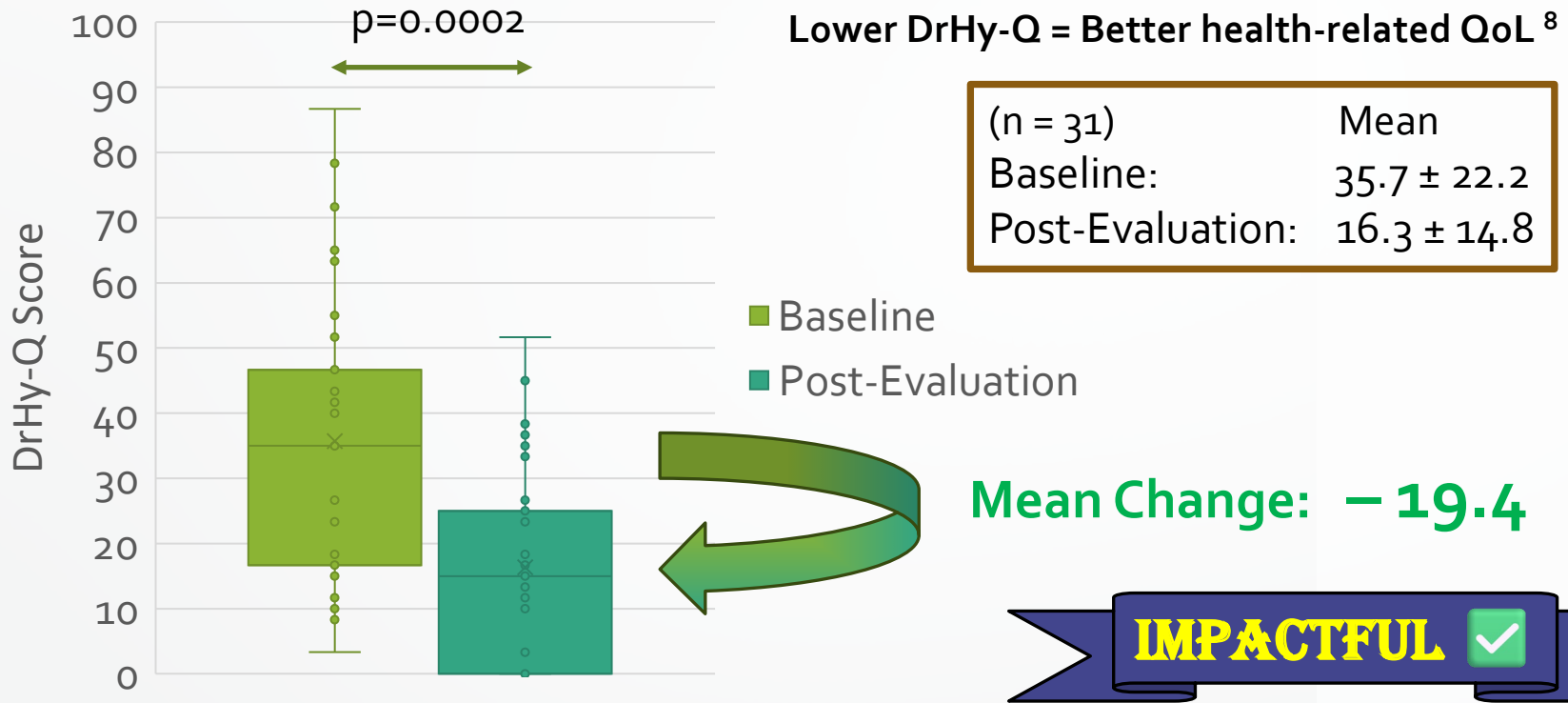
$$= \frac{20 (ST- \& DPT-)}{21 (ST- \& DPT+ \text{ or } -)}$$

$$= 95.2\%$$

SAFE ✓

FINDINGS

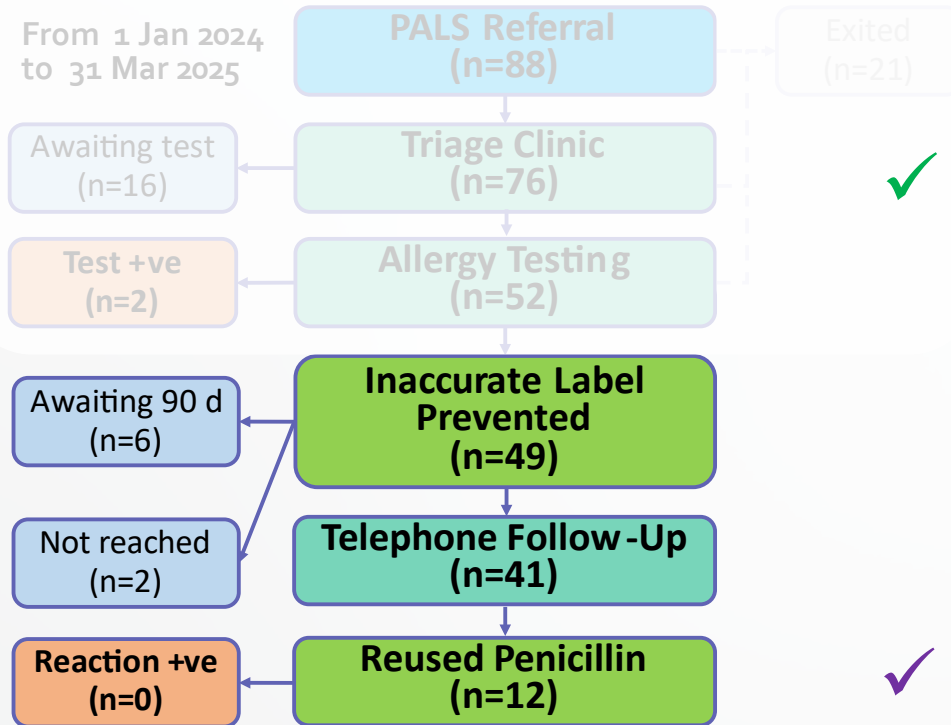
Drug Hypersensitivity Quality of Life



Wilcoxon signed-rank test.
Two sided p-value < 0.05 confers statistical significance.



FINDINGS



IMPACTFUL ✓

Penicillin Reuse

Median FU: 211 days (170 – 288)

✓ **12/41 (29.3%)**
safely reused penicillin

Penicillin Re-use:

HK-DADI (nurse)⁷: 32 %
(allergist)⁷: 19 %

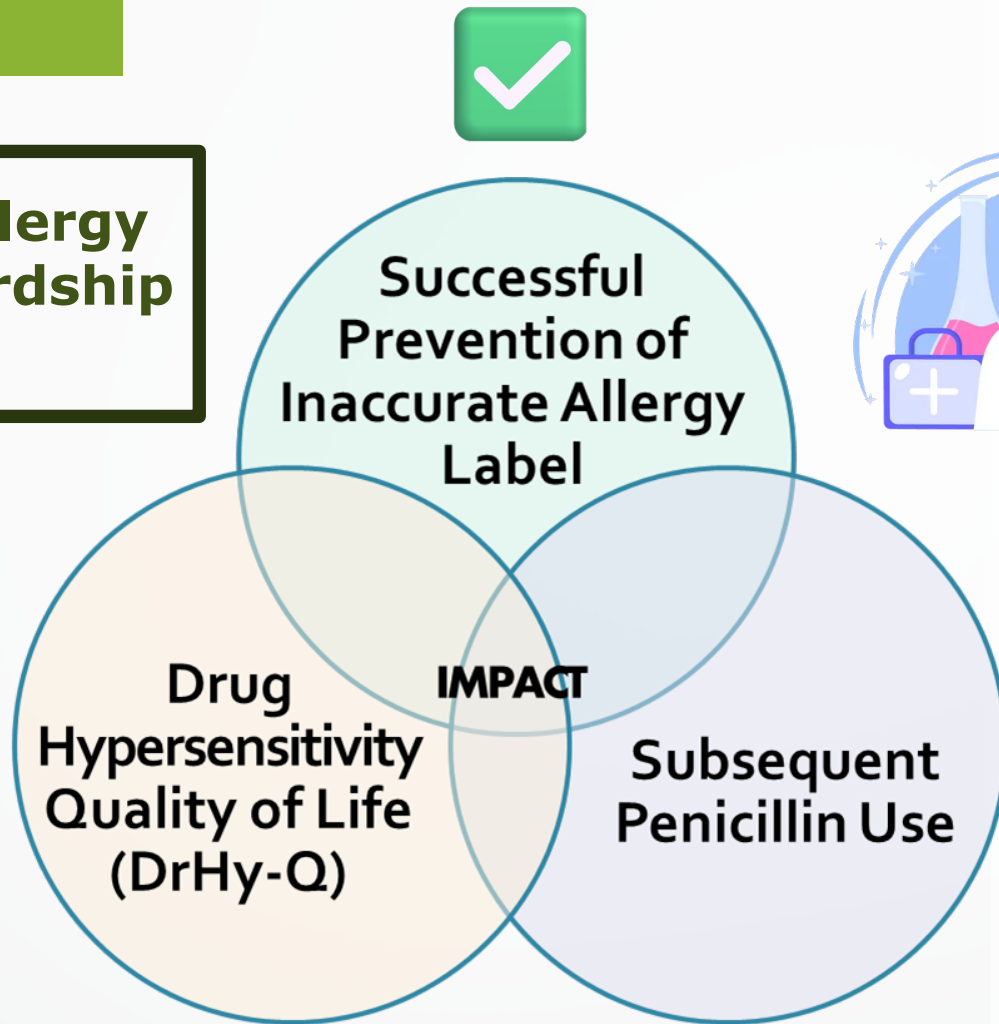
Median FU: 10 months

✓ **39/41 (95.1%)** aware that
same penicillin allergy risk
as normal person



CONCLUSION

Penicillin Allergy Label Stewardship (PALS)



COURTESY

- **Prof Philip Li, Dr Jane Wong, Dr Gordon Chu, Dr James Hooi,**
and their team,
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- Allergy Clinic Pharmacists, Department of Pharmacy, QMH
Mr Vincent Wong, Senior Pharmacist
Mr Andrew Li, Mr Raymond Mak, Mr Timo Chan, Ms Charlie Mak

