

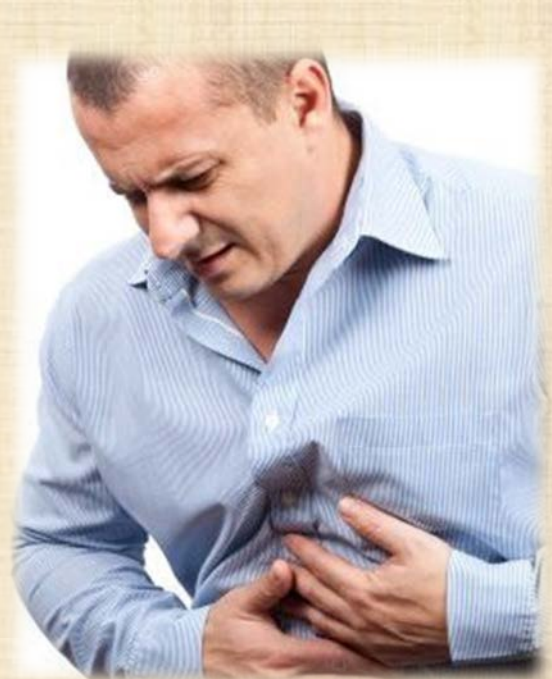


Direct access endoscopy booking by family physicians: evaluating a new service model and clinical predictors of positive endoscopy findings at primary care setting

Dr. LEUNG Lok Hang, Will

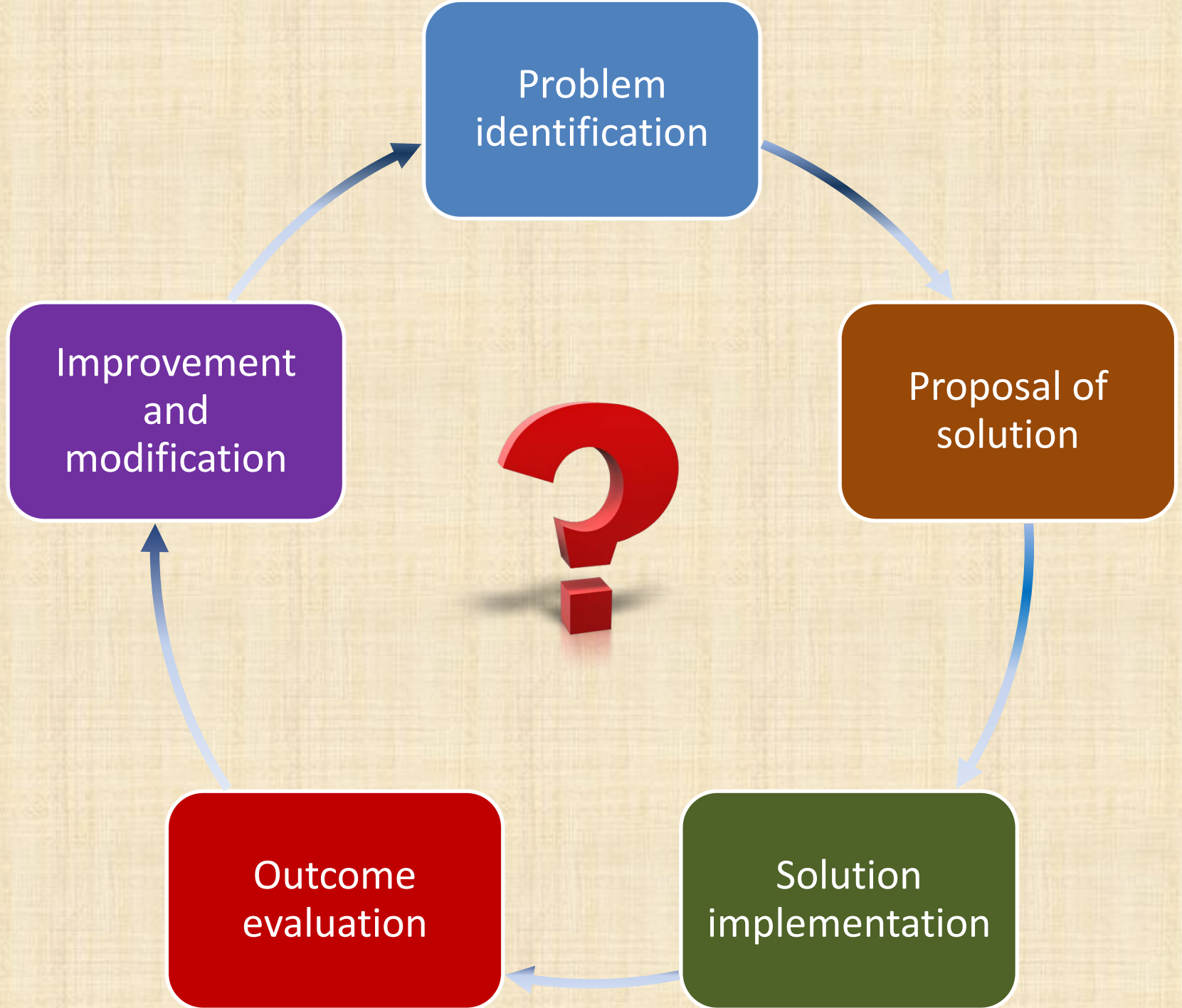
Department of Family Medicine & Primary Health Care

Kowloon West Cluster



Background

- Dyspepsia is a **common** clinical problem affecting 10–20% of the population in the Asia-Pacific region
- Could have a **variety of presentation** e.g. pain, bloating, or reflux symptoms etc
- **15%** of the Hong Kong (HK) primary care patients receiving endoscopy revealed **peptic ulcer disease**
- Classical **red-flag features**: gastrointestinal bleeding, weight loss, dysphagia, recurrent vomiting, older age...***are they applicable to local primary care settings?***



Problem identification

Doctor, I want an OGD...

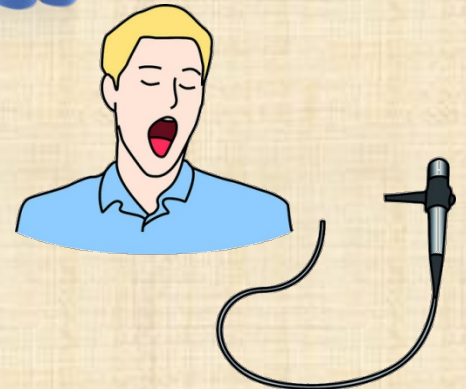
- Why – why an OGD needed?
- What – what could OGD be helping me?
- Where – OGD in public sector?
- Who – who should be having OGD?
- When – how long I'm going to wait for OGD?
- How – how can I book OGD?

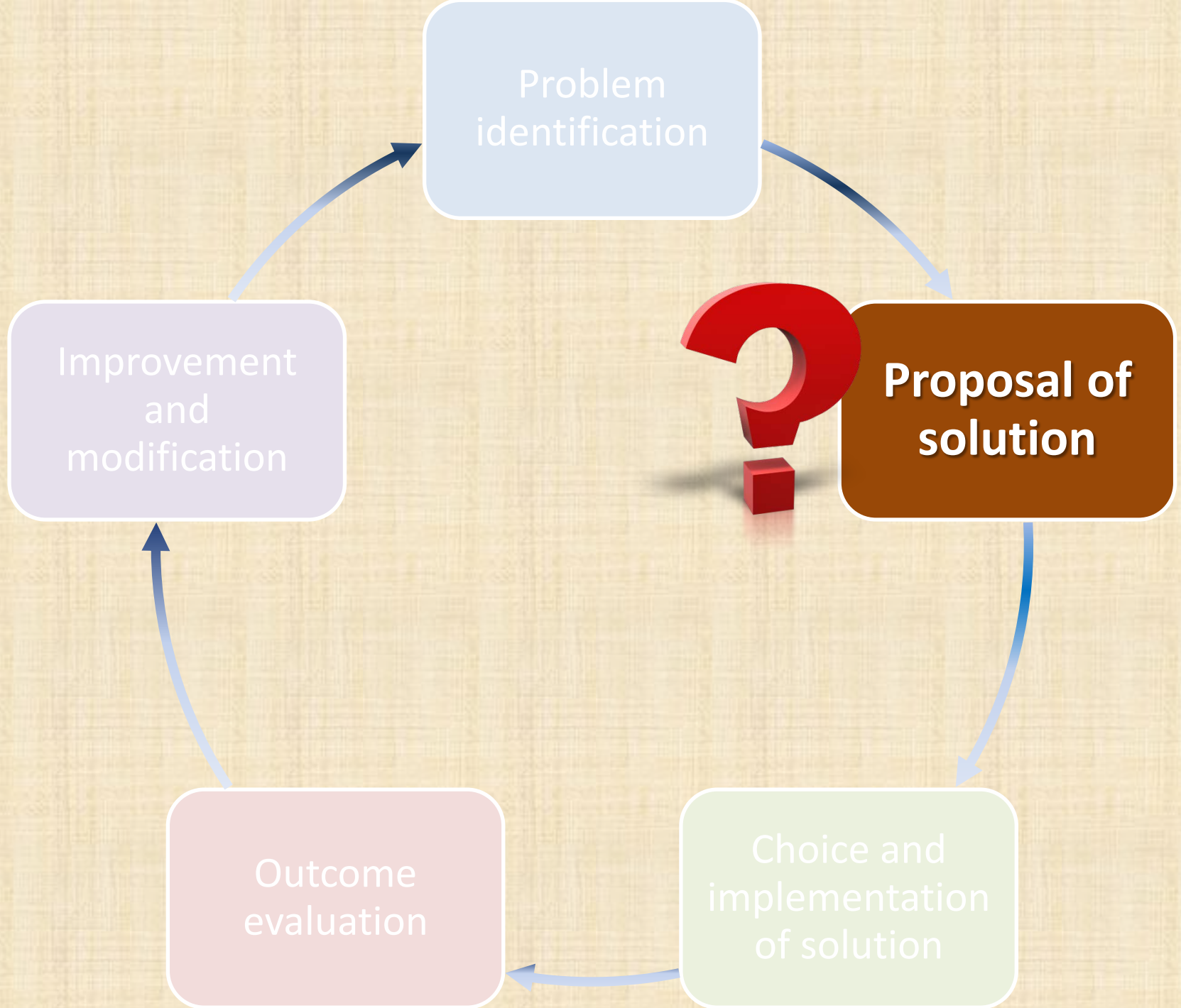


Let's book an OGD!



GOPC-SOPC-OGD model
(3-stop with long waiting time)





MANAGEMENT OF DYSPEPSIA

Evaluation of a new referral system for the management of dyspepsia in Hong Kong: Role of open-access upper endoscopy

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MAN FUNG YUEN, KAM CHUEN LAI, WAYNE HC HU, GEORGE KK LAU,
CHING LUNG LAI AND SHIU KUM LAM

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Abstract

Background: In the management of dyspepsia, upper endoscopy is an important component. In our locality, patients requiring upper endoscopy are conventionally referred to specialist clinics by family physicians. We have introduced the first open-access upper endoscopy service in Hong Kong, which has allowed family physicians to arrange endoscopy without prior specialist consultation. A study on the outcome of open-access upper endoscopy in contrast with the conventional referral system was conducted.

Methods: For patients presenting with dyspepsia, family physicians in our region were given the option to arrange upper endoscopy directly with our Medical Endoscopy Unit in addition to the conventional referral to specialist clinics. The results were compared with those from the specialist clinic. A detailed prospective follow up was performed from June to September 1997 to evaluate the outcome and impact of open-access upper endoscopy.

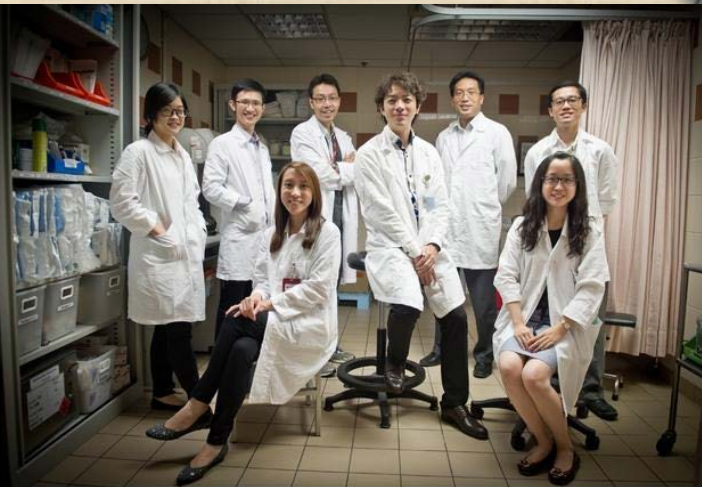
Results: From November 1996 to September 1999, 978 referrals for open-access upper endoscopy were received. The service significantly reduced the waiting time for the procedure by 16 weeks. Open-access upper endoscopy had similar detection rates for peptic ulcers and cancers compared with referrals from specialist clinics. Seventy-five percent of patients did not require further consultation with their family physicians within 2 months after endoscopy. It is a safe and effective procedure in establishing a definitive diagnosis. All family physicians were satisfied with the open-access upper endoscopy service.

Conclusions: This is the first Asian report on this service. Open-access upper endoscopy reduced waiting time from the patient perspective, decreased subsequent consultations with family physicians and reduced referral to specialist clinics as well as increased patient and doctor satisfaction. Both referral systems for endoscopy were similar in terms of the diagnostic yield.



Cheung Sha Wan
Jockey Club
General Out-Patient Clinic

Nam Shan GOPC



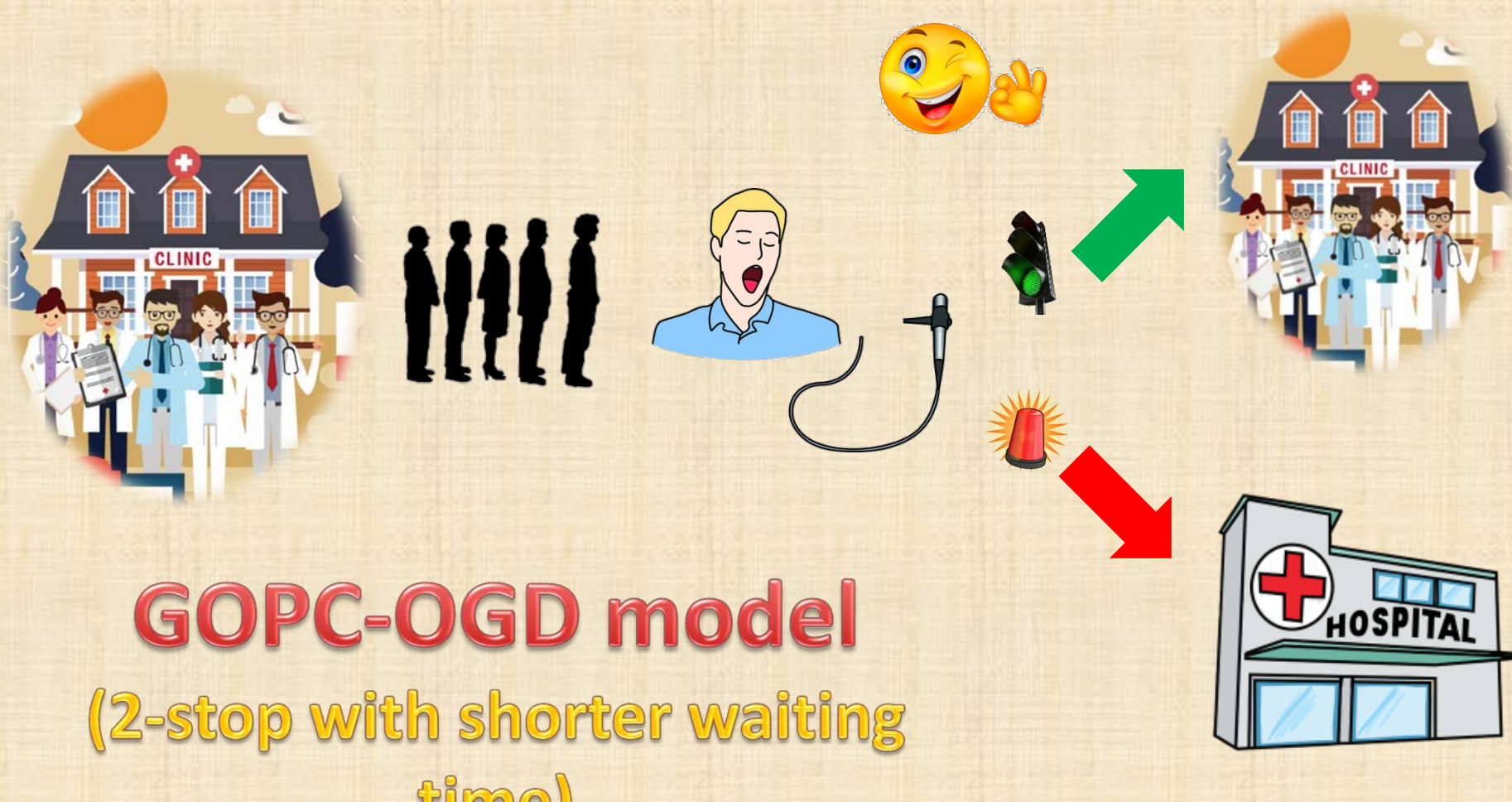
West Kowloon
General Out-Patient Clinic

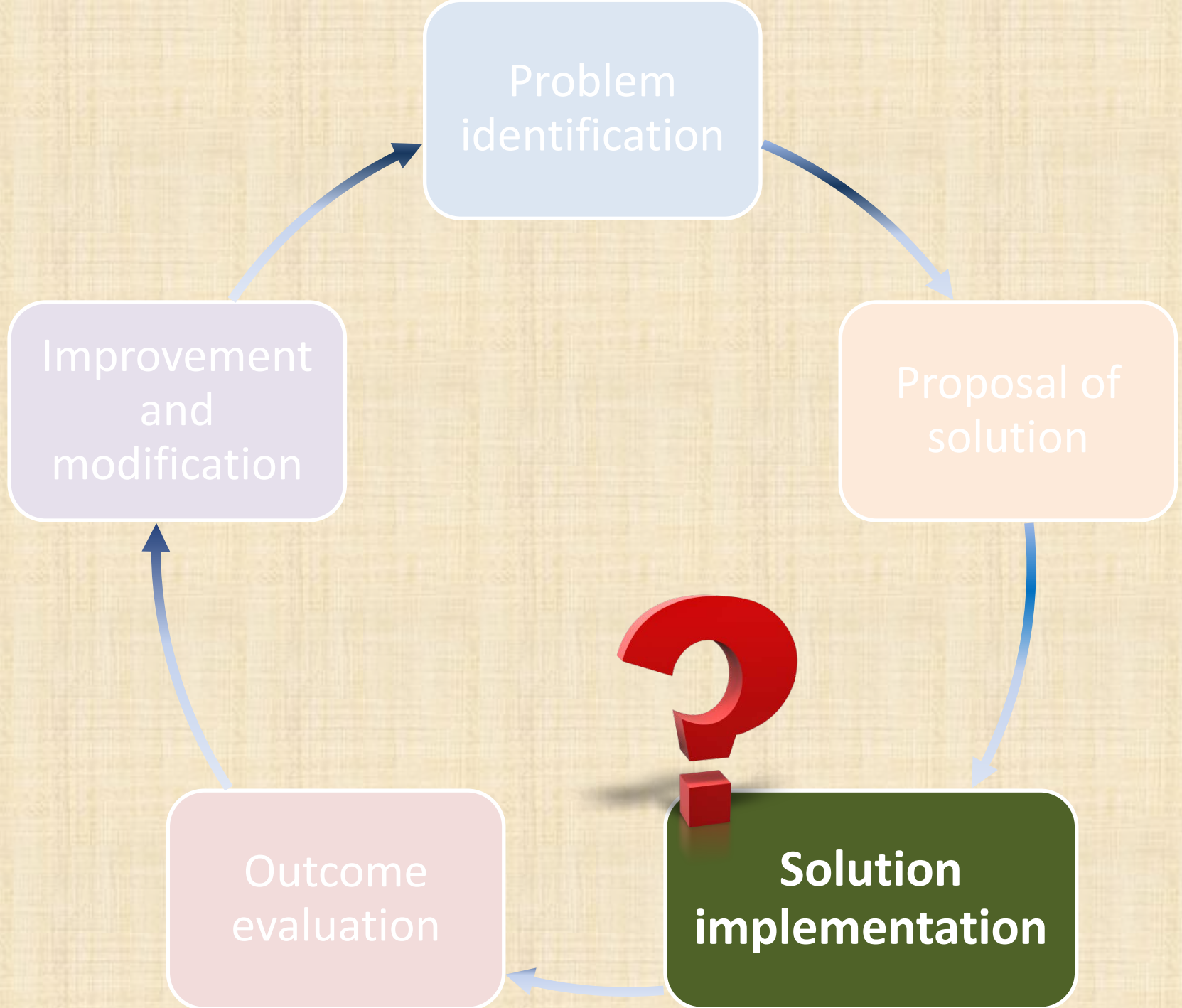


THE "SHEK KIP MEI GOPD" FAMILY

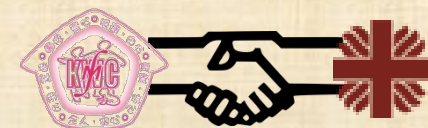


Direct access endoscopy
service model

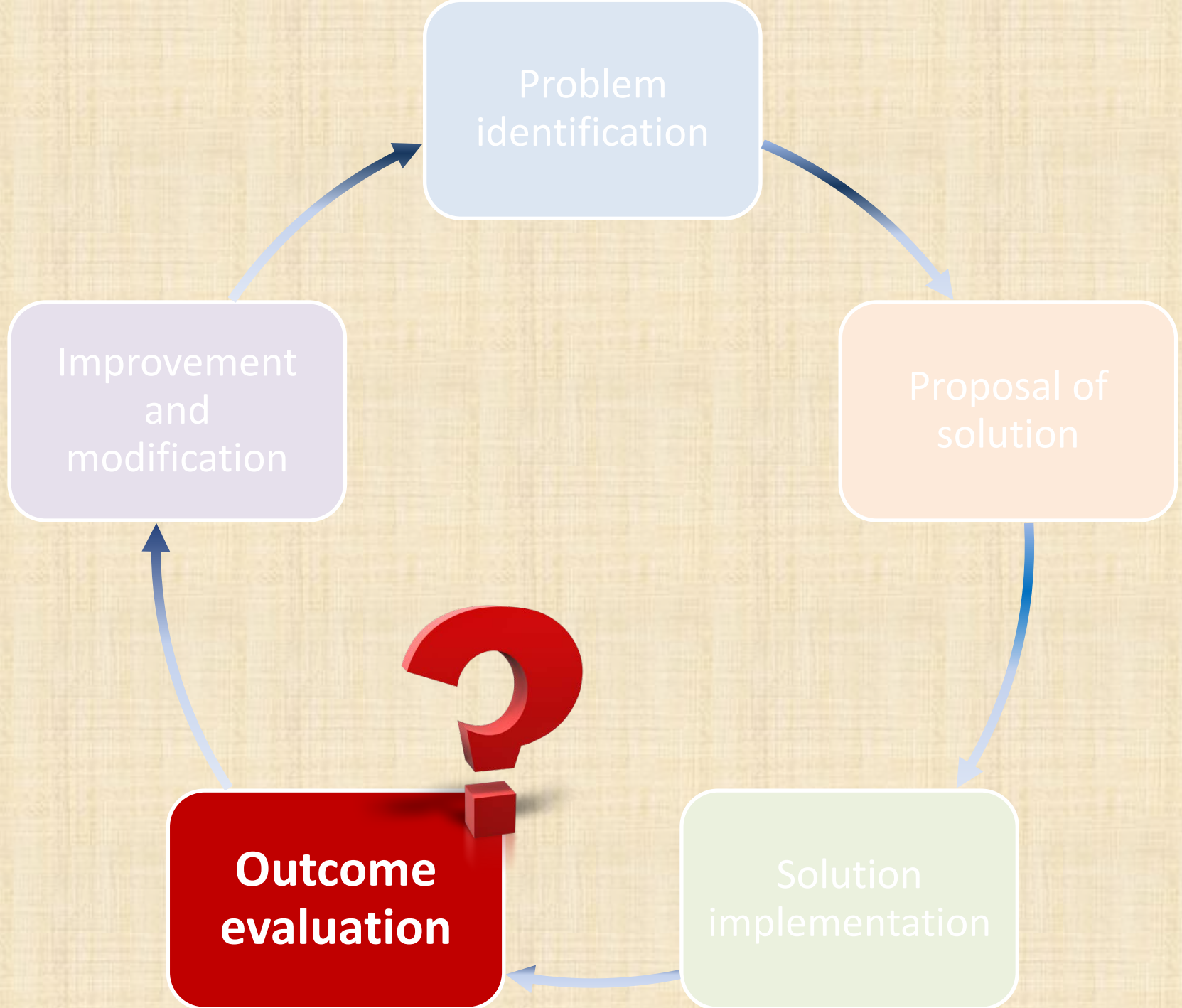




Inter-departmental collaborative model



- **5 local GOPCs** in Sham Shui Po district under KWC FM&PHC
- Collaboration with **Department of Surgery, CMC**
- Direct access endoscopy service **launched 10/2015**
- Booking initiated by GOPC **Family Physicians**
- OGD performed by CMC **Surgeons**
- Post-OGD FU 2/52 at GOPC by **Family Physicians**
- SOPC visits **avoided** if condition manageable at GOPC
 - 1st visit (new case)
 - 2nd visit (FU OGD result) +/- subsequent visits



Study Design

- Retrospective study from 1st October, 2015 till 31st December, 2016 (14 months)
- Subjects inclusion criteria:
 - adult patients (age \geq 18years old when OGD was booked)
 - had OGD booked directly at the 5 participating GOPCs
- Subjects exclusion criteria:
 - with untraceable booking record
 - had the OGD appointment cancelled under the direct access endoscopy booking programme
 - defaulted the endoscopy session

Data collection

The patients were identified by the OGD booking logbook stored at each participating clinic. The demographic information and medical records of the recruited subjects will be retrieved from the Clinical Medical Management (CMS) system. The following variables will be collected: age, sex, symptomatology, onset duration, smoking status, concomitant Aspirin or NSAID use, Helicobacter Pylori (HP) status.

Statistical analysis

IBM SPSS Statistics for Windows will be used for the analysis of data. Frequencies, mean, median, and standard deviation will be calculated with descriptive statistics on all measures data. Chi-square test will be used to detect difference in categorical data, t-test will be used to detect the difference of mean values for continuous data. All categorical data and continuous data that are significantly different between ulcer and non-ulcer groups will be used to undergo logistic regression. A P-value of <0.05 will be considered statistically significant.

Sample size calculation

The sample size is 200, based on the relaxed rule of thumb: $6 \times \text{number of independent variables for the smaller group}$. Assuming the positive findings among the patients with OGD booking is 25% and 7 potential risk factors will be collected (age, sex, symptomatology group, onset duration, smoking status, concomitant Aspirin or NSAID use and helicobacter Pylori status), the estimated required sample size would be $6 \times 7 / 0.25 = 168$.

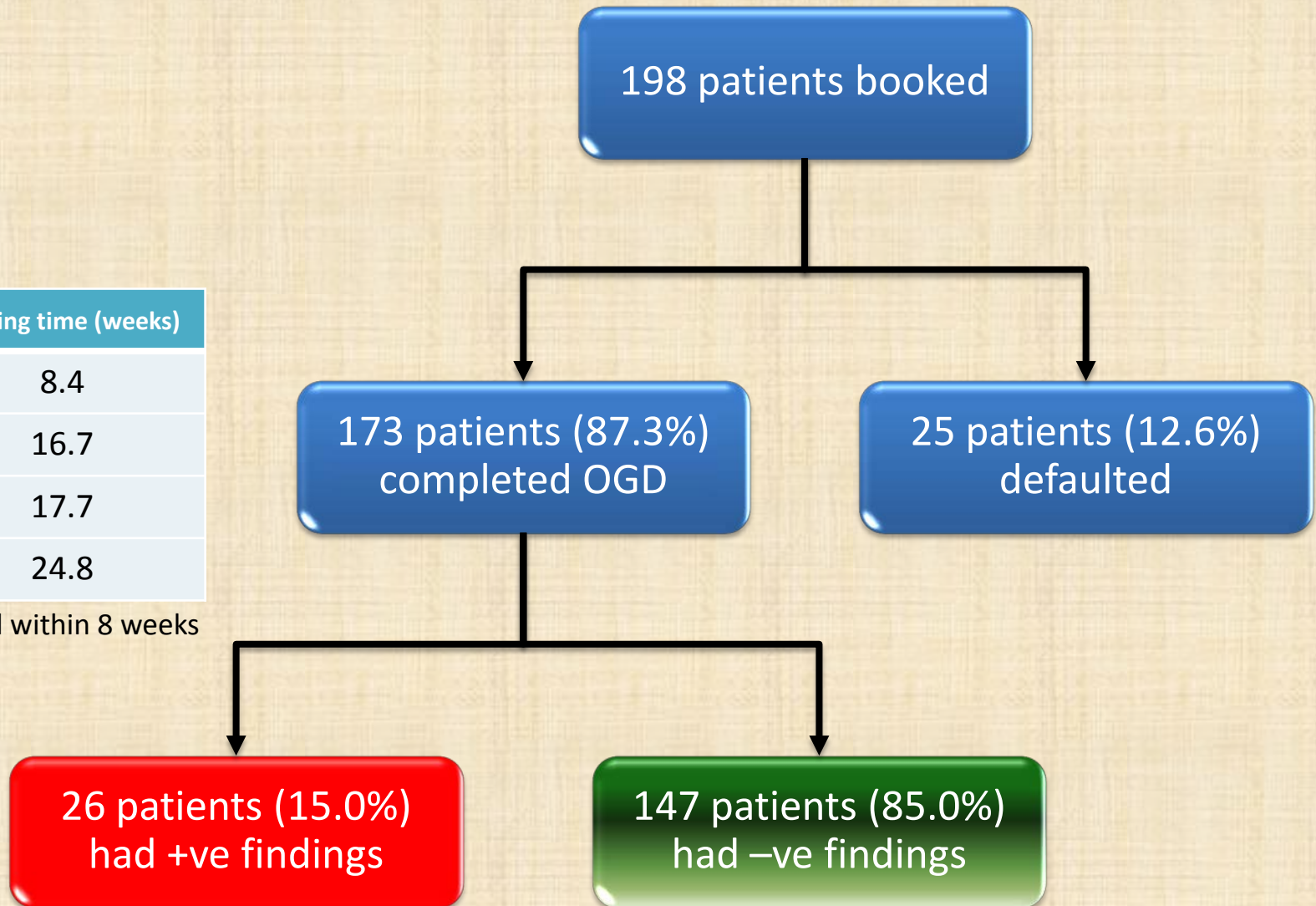
Ethics consideration

This study was submitted to the KWC Research Ethics Committee with approval [KWC REC reference no.: KW/EX-17-084(112-01)].

Results

Percentile	Waiting time (weeks)
25	8.4
50	16.7
75	17.7
95	24.8

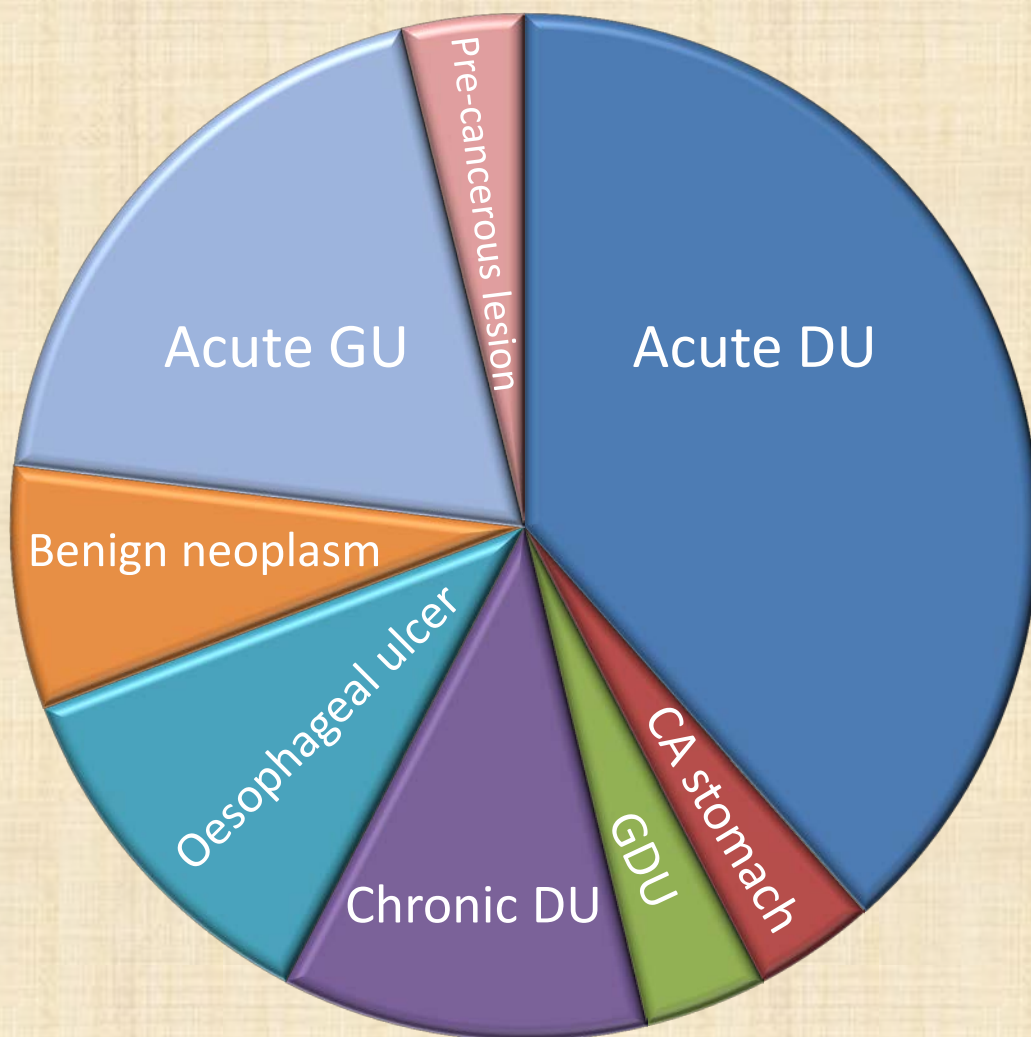
23.7% completed within 8 weeks



Among 26 patients having significant OGD findings...



Positive OGD findings: classification by pathologies



- Acute DU (N=10)
- Adenocarcinoma of stomach (N=1)
- Gastroduodeneal ulcer (N=1)
- Chronic DU (N=3)
- Oesophageal ulcer (N=3)
- Benign neoplasm (N=2)
- Acute GU (N=5)
- Pre-cancerous lesion (N=1)

Table 1. Demographic and clinical parameters in patients with positive and negative OGD findings*

	Negative (n=147)	Positive (n=26)	P value†	All (n=173)
Male gender	48 (32.7)	14 (53.8)	0.038	62 (35.8)
Age, mean ± SD, year	55.6 ± 13.8	54.7 ± 14.0	0.742	55.5 ± 13.8
Epigastric pain	73 (49.7)	20 (76.9)	0.010	93 (53.8)
Red flag code	12 (8.2)	2 (7.7)	1.000	14 (8.1)
Onset code			0.479	
Acute/subacute	57 (38.8)	12 (46.2)		69 (39.9)
Chronic	90 (61.2)	14 (53.8)		104 (60.1)
Aspirin	9 (6.1)	1 (3.8)	1.000	10 (5.8)
NSAID	9 (6.1)	4 (15.4)	0.110	13 (7.5)
Smoking			0.005	
Never	120 (81.6)	14 (53.8)		134 (77.5)
Previous	16 (10.9)	6 (23)		22 (12.7)
Current	11 (7.5)	6 (23.1)		17 (9.8)
HP positive	30 (20.4)	13 (50)	0.001	43 (25)
Baseline Rx code			0.056	
Proton pump inhibitors	70 (47.6)	7 (26.9)		77 (44.5)
Pepcidine	65 (44.2)	17 (65.4)		82 (47.4)
Others	4 (2.7)	2 (7.7)		6 (3.5)
No	8 (5.4)	0 (0)		8 (4.6)
Previous OGD	42 (28.6)	6 (23.1)	0.564	48 (27.7)
Waiting time over 8 weeks	108 (73.5)	23 (88.5)	0.100	131 (75.7)
Change in management	63 (42.9)	26 (100)	<0.001	89 (51.4)

* Values are expressed as count (%) except where noted

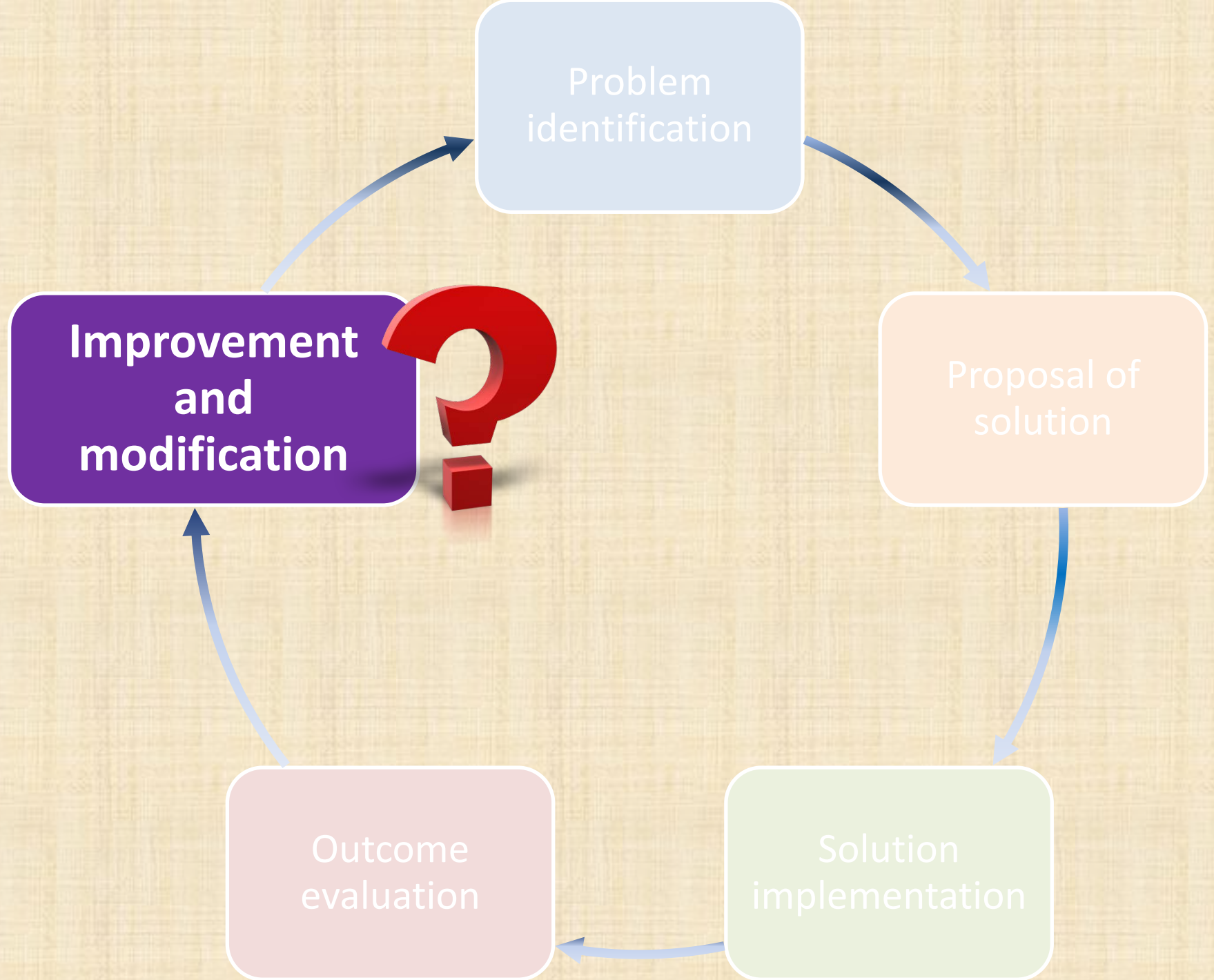
†Pearson's chi-square test, independent t test or Fisher's exact test, as appropriate

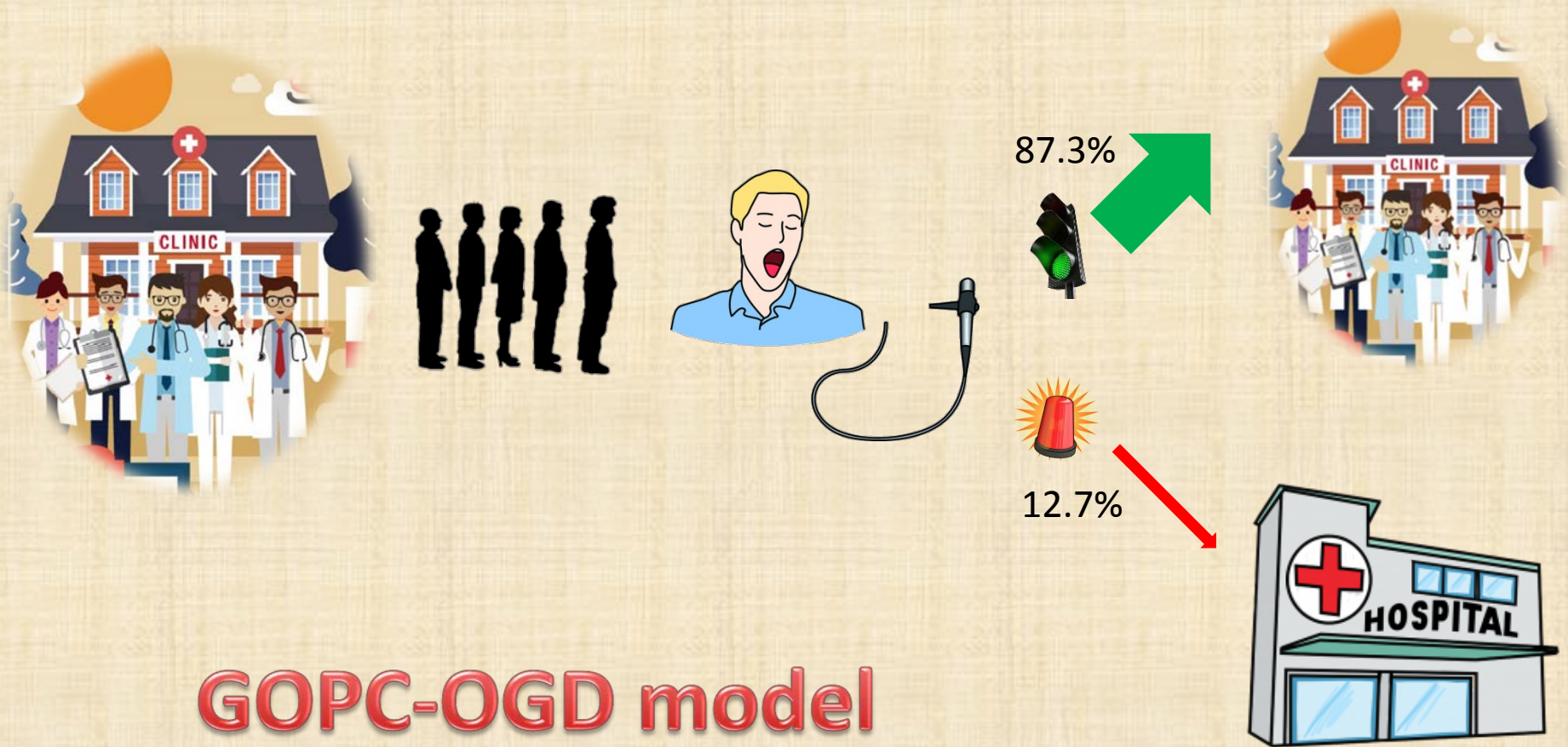
Table 3. Factors associated with positive OGD finding: binary logistic regression

	Simple regression		Multiple regression	
	OR _{unadj} (95%CI)	P value	OR _{adj} (95%CI)	P value
Male gender	2.41 (1.03-5.60)	0.042	1.36 (0.45-4.10)	0.590
Age, year (<50 as ref)				
50-65	0.79 (0.30-2.10)	0.637	–	–
>65	0.86 (0.27-2.73)	0.798	–	–
Epigastric pain	3.38 (1.28-8.89)	0.014	3.32 (1.19-9.26)	0.022
Red flag code	1.35 (0.58-3.13)	0.480	–	–
Acute/subacute onset	1.35 (0.58-3.13)	0.480	–	–
Aspirin	0.61 (0.07-5.06)	0.650	–	–
NSAID	2.79 (0.79-9.84)	0.111	–	–
Ever smoking	3.81 (1.59-9.16)	0.003	3.15 (1.00-9.86)	0.049
Positive HP	3.90 (1.64-9.28)	0.002	3.60 (1.39-9.36)	0.009
Previous Rx code - PPI	0.41 (0.16-1.02)	0.056	0.64 (0.23-1.75)	0.382
Previous OGD done	0.75 (0.28-2.00)	0.565	–	–

Clinical predictors for a positive OGD:

- ever **smoking** status (adjusted OR 3.15; 95%CI 1.00-9.86; **P 0.049**)
- presence of **epigastric pain** on history (adjusted OR 3.32; 95% CI 1.19-9.26; **P 0.022**)
- positive **H. Pylori** status (adjusted OR 3.60; 95%CI 1.39-9.36; **P 0.009**)



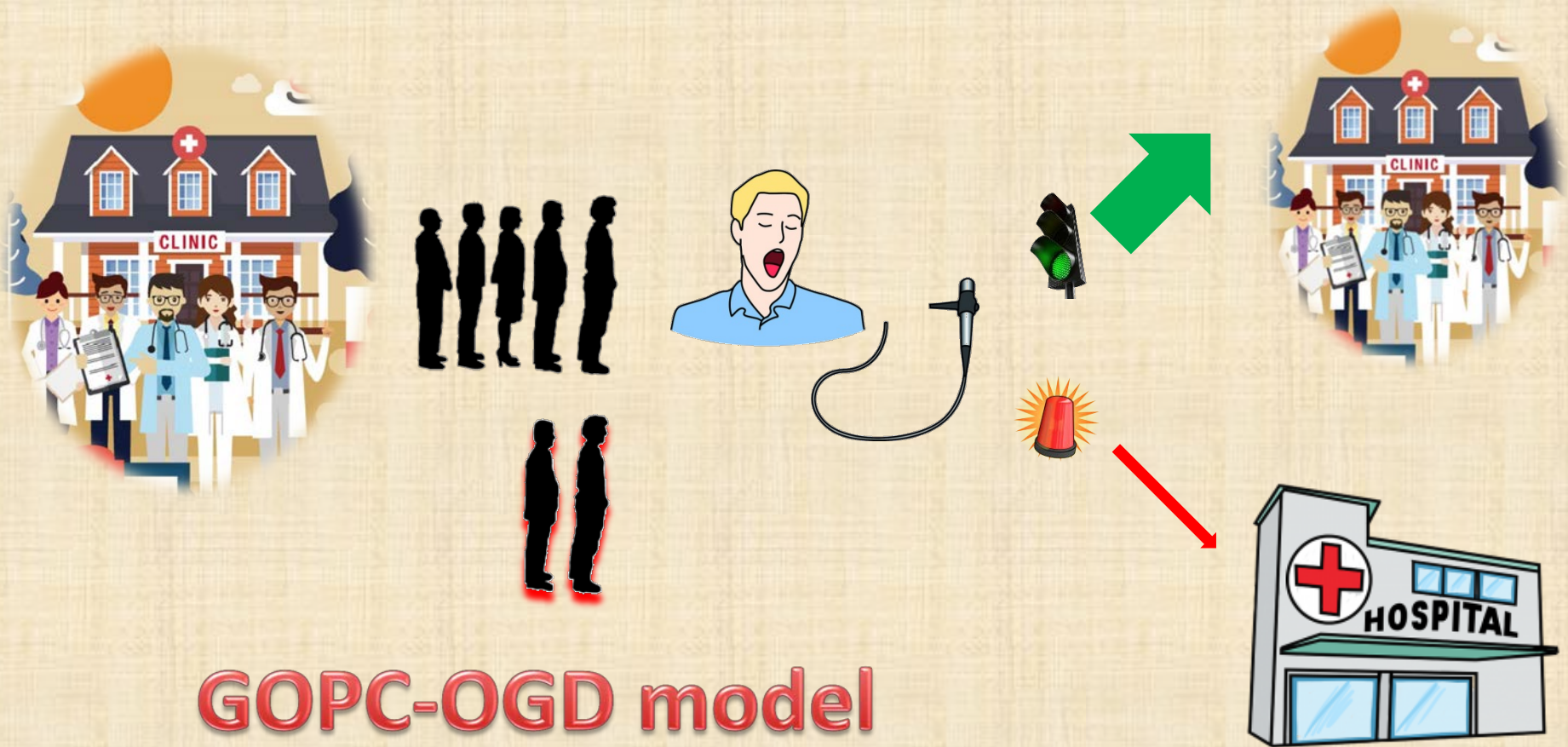


GOPC-OGD model

Only 12.7% (22 patients) in the booked sample required SOPC FU

Rest of **87.3%** patients were followed up by GOPC without need of further hospital input

Saved time for both the user (patients); and the secondary care service provider (surgeons, at least two SOPC visits of new case + FU)



GOPC-OGD model

Problem: no **triage** or priority queue as bookings are cumulative

Improvement: **priority queue** based on the risk factors

Aim: **early** pick-up of significant findings

Summary

- Direct access endoscopy services, a 2-stop GOPC-OGD model, had demonstrated an overall **shorter waiting time** compared with the 3-stop GOPC-SOPC-OGD model
- Positive endoscopy findings was **15%** which was similar in previous local literature figures*
- **Clinical predictors** for a positive OGD in GOPC patients included ever smoking status, presence of epigastric pain on history and positive H. Pylori status
- Development of a “priority queue” vs a “routine queue” may be considered to further **streamline** the 2-stop GOPC-OGD model based on risk assessment and clinical predictors to improve early detection of significant findings

*Xia B, Xia HHX, Ma CW, Wong KW, Fung FMY, Hui CK, Chan CK, Chan AOO, Lai KC, Yuen MF, Wong BCY. Trends in the prevalence of peptic ulcer disease and Helicobacter pylori infection in family physician-referred uninvestigated dyspeptic patients in Hong Kong. Alimentary Pharmacology & Therapeutics 2005, 22: 243–249.

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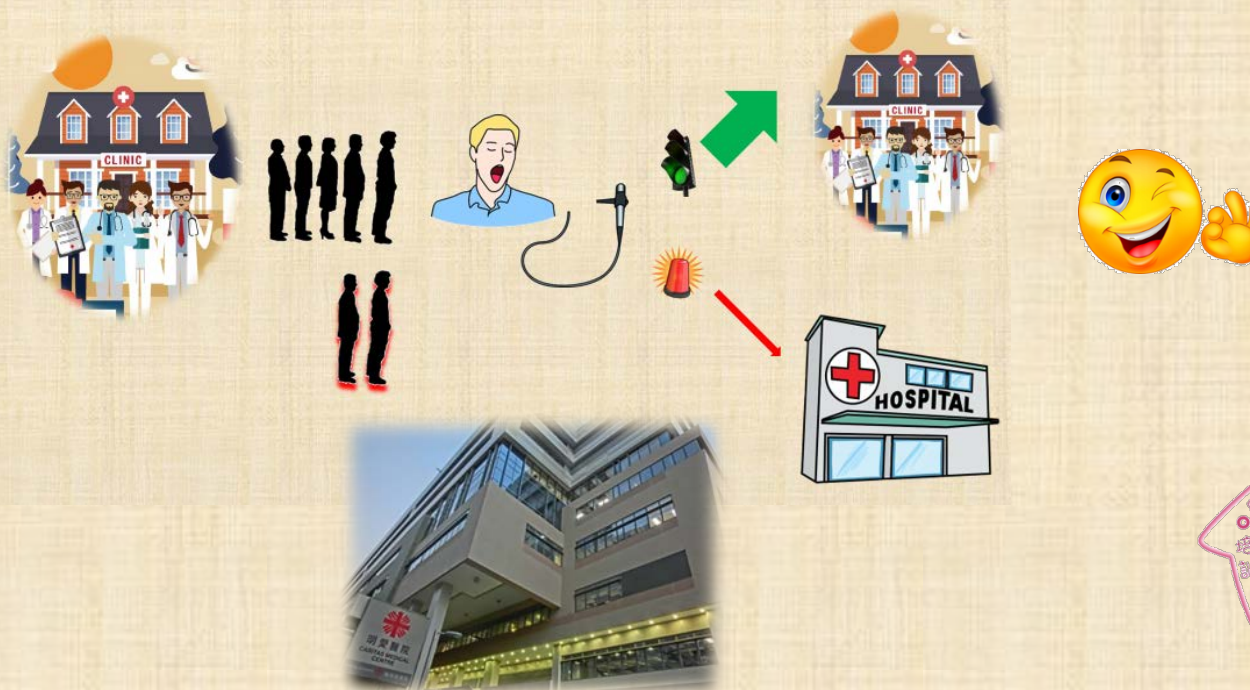
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Q&A session



Cheung Sha Wan
Jockey Club
General Out-Patient Clinic



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General Out-Patient Clinic



THE "SHEK KIP MEI GODD" FAMILY