

# The effectiveness of national HIV prevention education program on behavioral changes for men who have sex with men and transgender women in Thailand

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## Abstract

**Purpose** – The purpose of this paper is to investigate the effectiveness of the national HIV prevention outreach program for men who have sex with men (MSM) and transgender women (TGW).

**Design/methodology/approach** – It examined changes in condom use, lubricant use, HIV testing and counseling (HTC) uptake and sexually transmitted infection (STI) screening uptake, as well as how and why changes did or did not occur. The study applied mixed methods of both quantitative and qualitative approaches.

**Findings** – There were 16,539 MSM, and TGW reached at least three times in the program during October 2011–September 2012. The program was found to affect changes in condom use with steady partners ( $p < 0.000$ ), condom use with casual partners ( $p < 0.000$ ), water-based lubricant use ( $p < 0.000$ ), HTC uptake ( $p < 0.000$ ) and STIs screening uptake ( $p < 0.000$ ). Age and province of outreach are associated with HTC uptake and STI screening ( $p < 0.000$ ), slightly as well as gender identity ( $p < 0.1$ ). Gender identity and province of outreach are associated with condom use with steady partners ( $p < 0.000$ ). Gender identity ( $p < 0.000$ ) and sex work ( $p < 0.05$ ) are associated with the use of lubricant. The qualitative results showed that the program had an immediate effect on HTC and STIs screening due to successful bond between the outreach workers and their clients, leading to trust and influencing behavior change.

**Originality/value** – HIV prevention by peer educators continues to be proved the most effective method, assuming its program consistency. TGW are more vulnerable to MSM to protect themselves, and they have steady partners. Future program for MSM can be replicated and scaled up, but more empowerment component and self-esteem building should be integrated to target TGW.

**Keywords** Effectiveness, Outreach, HIV prevention, Men who have sex with men, Transgender women, Thailand

**Paper type** Research paper

## Background

At the beginning of HIV epidemic, men who have sex with men (MSM) were affected severely by HIV, but HIV prevention was not prioritized due to the stigma surrounding the disease and its association with homosexuality. The first AIDS case in Thailand was discovered in 1984[1], and the early cases of HIV patients were men who reported to have sex with other men always[2]. The national HIV program for MSM and transgender women (TGW) started after 20 years of HIV epidemic.



The first HIV-related knowledge article was published in a Thai gay magazine “Mithuna (lit. June),” Vol. 2, in 1984. It was regarding gay-related immune deficiency, which highly stigmatized the gay community in the USA[3]. During 1990–1995, the first HIV prevention campaign for MSM was launched under the name of Fraternity for AIDS Cessation in Thailand, targeting male sex workers (MSW) in bars and sex work establishments[4]. In 2001, Rainbow Sky Group was established. The first batch of its volunteers was mostly from Wednesday Friends’ Club, which was the first self-support group for people living with HIV (PLHIV) as an affiliation of the Thai Red Cross AIDS Research Center, and it was initially supported by Médecins Sans Frontières Belgium to mainly distribute condoms and IEC materials on HIV prevention knowledge[5].

Thailand only has specific HIV data for MSM since 2003 when the first HIV surveillance survey among MSM was conducted[6]. The surveillance study indicated that there was 17.3 percent of HIV prevalence among MSM[7], and it continued to rise to 28.3 percent in 2005 and 30.8 percent in 2007[8]. In 2015, the national HIV prevalence was 19.8 percent among MSM, 11.9 percent among MSW and 11.8 percent among TGW[9].

Such documented evidence led to the support by the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) to implement a larger national-scale HIV prevention program for key populations, including MSM. This national program included MSW and TGW under the MSM category. The project was implemented under different phases, started in 2007 [10], including Comprehensive HIV Prevention Among MARPs by Promoting Integrated Outreach and Networking for three years, then Aligning Care and Comprehensive HIV Prevention among Youth, MARPs, Children infected and affected by HIV/AIDS and other vulnerable children by Promoting Integrated Outreach and Networking (ACHIEVED) for two years, implemented in 30 provinces by 36 MSM and TGW community organizations, and Stop TB and AIDS through RTTR (STAR) for three years, applying the model of Reach–Recruit–Test–Treat–Retain/Repeat[11]. The Project STAR indicates that outreach workers must receive capacity building for the following: reduction of stigma and discrimination; promoting human rights; advanced counseling skill; legal knowledge relevant to HIV and human rights; knowledge of antiretroviral (ARV) treatment, post-exposure prophylaxis (PEP) and pre-exposure prophylaxis (PrEP)[12]. This national program is also currently supported by the United States Agency for International Development funding through FHI360 and the National Health Security Office funding directly to both government and private health facilities.

The purpose of peer education outreach activities is to reach people to influence knowledge, attitude and behavioral changes in their own communities[13, 14]. A systematic review of 21 HIV prevention interventions among MSM in Europe revealed that these interventions may decrease high HIV risk behaviors through a combination of increased knowledge, social learning and influence of peers[15, 16]. After repeated exposure, behaviors will change not only based on the knowledge they pass on but also with the opinions and behaviors of the peers they trust[17–20].

In 2010, the first National Monitoring and Evaluation Plan for HIV prevention targeting most-at-risk populations and migrant workers was developed[21], and the evaluation of HIV program among the MSM and TGW populations was conducted in 2011. There were two parallel evaluation studies, both conducted by the Institute for Population and Social Research, Mahidol University. The final report of the Evaluation of HIV programs among female sex workers, people who inject drugs and MSM was a qualitative study, interviewing the Principal Recipient Department of Disease Control of the Ministry of Public Health sub-recipient organizations[22]. The other study, “Evaluation of the National HIV Prevention Program for Key Affected Populations, Migrant Workers and Prisoners,” applied both qualitative and quantitative methods in three selected cities funded by the global fund, including Bangkok and two other provinces[23]. None of the studies measured changes within the intervention group before and after exposure to the intervention.

The objective of this study is to investigate the effectiveness of this National HIV Prevention Education Program on Behavioral Changes for MSM and TGW in Thailand. The program effectiveness is defined by whether there are any positive changes in condom use with steady and casual partners, the use of lubricant, HIV testing uptake and sexually transmitted infection (STI) screening uptake.

## Methods

### *Eligibility*

In both quantitative and qualitative methods, samples were selected on the basis of the following criteria: age of 18 years and above; reported to have sex with other men in the past six months; residing in the city of selection in the past six months; being reached for more than three times by outreach program; and consent to participate in this study.

### *Quantitative part*

The quantitative data used for this study refer to the monitoring data sourced from the database of the National HIV Program for MSM and TGW under the support of the GFATM (Round 8). Specifically, this study draws from the outreach database of the Project ACHIEVED Year 1 during October 1, 2011–September 25, 2012. There was the total number of 40,989 MSM and TGW cases reached in this period.

The data were collected by outreach workers from each outreach visit with MSM and TGW individuals who were reached by the outreach program in 30 provinces by 33 MSM and TGW community organizations. These provinces were selected on the basis of a national consultation led by the Bureau of AIDS, TB and STIs, providing that there is evidence or strong possibility of high risk among MSM/TGW and the existence of local MSM/TGW groups to implement the activities. The data were recorded in the database by date of visit with the unique identification codes to identify whether the same person was reached. In this study, behaviors of those reached at the first time and the third time were compared. All cases in this database that were reached at least three times were included in this study since the first timers are baseline and the third timers are the onsets of behavioral changes assumed in this study. All reported to have sex with other men during the past six months. There were 16,539 persons who were reached at least three times by the program under the project ACHIEVED Year 1; hence, they are eligible in this study.

### *Qualitative part*

The qualitative data for this study refer to the primary qualitative data from in-depth interviews of selected populations who were also reached by the program. There were 40 interviewees, recruited by the investigator and identified through the community organization's outreach team. Bangkok and Ubon Ratchathani province were purposively selected in the qualitative study. Bangkok was selected due to its highest HIV prevalence, and Ubon Ratchathani was selected, as it has a continued existence of peer network and is one of the only few provinces that distinguish MSM and TGW populations, resulting in possible recruitment of participants. The investigator was the sole interviewer, using semi-structured question guidelines. Questions were formulated within the scope of how and why their behaviors have changed after exposure to the program, including condom use with different types of partners, use of lubricant, HIV testing and counseling (HTC) and STIs screening. But this also allowed new ideas and additional information to be brought up during the interview such as topics around stigma, discrimination and the use of chemoprophylaxis (Table I).

In this study, MSM are referred to as men who have sex with other men and do not necessarily identify themselves as gay men. In three Thai language terminologies, the TGW are referred to as “Katoey,” “Sao Pre Ped Song” and “Pu Ying Kham Ped.”

*Ethical consideration*

This study was reviewed and approved by the IPSR–Ethical Review Board (IPSR–ERB) on November 26, 2015 (IRB0001007) without any issues of violating research ethics.

*Intervention*

The national HIV prevention outreach program is part of the national HIV program, which further includes HIV care and treatment, targeting key populations, including MSM and TGW. Under the support of the Global Fund (GFATM), HIV prevention outreach program includes the following components, in which all eligible cases included in this study were received within the first three encounters:

- (1) explaining about HIV epidemic among MSM and TGW populations so that the target populations are aware that HIV is closer than they may think;
- (2) the level of HIV risks in which sexual behavior lead to high risk, low risk and no risk of HIV infection, and basic HIV prevention methods;
- (3) condom demonstration to ensure that the target populations use condoms correctly with a suitable water-based lubricant;
- (4) risk assessment to enable the target populations to assess their own risk by using QQR model (quality of HIV, quantity of HIV, transmission route into and out of the human body);
- (5) risk reduction – discussing with each individual to explore if that person can plan to reduce risk of HIV exposure;
- (6) safer sex knowledge;
- (7) referral for HTC every three months;
- (8) knowledge of STIs; and
- (9) referral for STI screening every three months.

*Analyses*

For quantitative data, McNemar test is used to compare condom use with steady partners, condom use with casual partners, the use of lubricant, HTC uptake and STI screening uptake between the first outreach visit and the third outreach visit. Logistic regression was used to identify factors associated with positive behavior changes.

For qualitative data, the logical and matrix analysis[24] is applied to investigate how and/or why changes occur or do not occur and which factors of the changes are affected by the outreach program. A matrix is created in MS Excel with different sheets in the same file, setting codes for extracting statements in the interview. Then, those statements were thematically analyzed to generate findings. Main codes were initially created such as condom use (CONUSE), use of lubricant (LUBE), HTC (HTC), STI screening (STI) in accordance with quantitative logic,

	In-depth interviews			
	Below 27 years		27 years and above	
	Young MSM	Young TGW	MSM Adult	TGW Adult
Bangkok	5	5	5	5
Ubon Ratchathani	5	5	5	5
Total	20		20	
Grand total	40			

**Table I.**  
Characteristics of  
participants in the in-  
depth interviews

and then they were expanded to additional codes such as stigma (STIG), discrimination (DICS), PEP and PrEP to the extent of the expanded ideas and information from the semi-structured interviews. Then, sub-codes were created to further analyze the data more profoundly.

### Results

Out of the eligible 16,539 MSM and TGW, the minimum age was 12 years and maximum age was 61 years, and the mean age was 22.3 years, with the standard deviation of 6.0 years. Also, 53.5 percent identified themselves as gay, 26.6 percent as transgender, 16.0 percent as straight, 3.8 percent as bisexual and 0.1 percent did not identify their genders in any of those categories. All of them reported to have sex with other men. In total, 4.8 percent reported to have ever sold sex at the first visit and 5.3 percent at the third visit. The majority of MSM and TGW reached in this program are not sex workers (Table II).

#### *Changes in reported behaviors*

It can be observed from Table III that MSM and TGW populations before and after exposure to the outreach program have a significant difference in condom use with steady partners recently, from 76.3 percent at the first visit to 86.1 percent at the third visit. This is similar to condom use with casual partners, from 89.6 to 95.8 percent. The use of water-based lubricant has greatly increased from 57.8 to 83.7 percent. The number of those

Characteristics	%
<i>Age (years)</i>	
15 and below	3.9
16–20	45.7
21–25	29.1
26–30	12.4
31–35	4.7
36 and above	4.2
Average = 22.3, SD = 6.0, Min–Max = 12–61	
<i>Gender identity</i>	
Gay	53.6
Transgender	26.6
Straight	16.0
Bisexual	3.8
<i>City of residence</i>	
Bangkok	
First visit	8.6
Third visit	8.3
Other provinces	
First visit	91.4
Third visit	91.7
<i>Reported sex work</i>	
Yes	
First visit	4.8
Third visit	5.3
No	
First visit	95.2
Third visit	94.7

**Table II.**  
Characteristics of  
MSM and TGW  
samples in this study

**Note:**  $n = 16,539$

reported to have ever visited HTC service has risen from 5.1 to 6.4 percent, similar to STI screening uptake, from 4.4 to 5.3 percent.

It can be observed from Table IV that MSM and TGW who identified themselves as transgender and other genders than gay are less likely to change to condom use with steady partners. Those who were reached in other provinces are more likely to change to condom use with steady partners. Different factors in the age group and reported sex work experience at third visit have no effect on positive change to condom use with steady partners. For the change to water-based lubricant use, MSM and TGW who do not identify themselves as gay, including transgender and other genders (straight, bisexual, etc.), are less likely to change. Those who reported to have never sold sex are more likely to change.

HTC, MSM and TGW, whose age is above 25 years, are more likely to get the service than those whose age is 25 years and below. People who were reached in other provinces are less likely to get the service.

For STI uptake, MSM and TGW, whose age is above 25 years, are more likely to get the service. Those who identified themselves as transgender are more likely to get the service. People who reported no sex work experience are more likely to get the service. Those who were reached in other provinces are less likely to get the STI screening service.

**Table III.**  
Percentage of MSM and TGW populations who reported the use of condoms with their steady partners, with their casual partners and the use of water-based lubricant, HTC visit and STI screening at first visit and third visit

Behaviors		First visit (%)	Third visit (%)	p-value
<i>McNemar's test</i>				
Condom use with steady partner	Yes	76.3	86.1	$p < 0.000$
Condom use with casual partner	Yes	89.6	95.8	$p < 0.000$
Water-based lubricant use	Yes	57.8	83.7	$p < 0.000$
HTC visit	Yes	5.1	6.4	$p < 0.000$
STI screening	Yes	4.4	5.3	$p < 0.000$

**Note:** Binomial distribution used

**Table IV.**  
Factors affecting positive behavior changes after exposure to the outreach program

Factors	Odds ratio				
	Condom use with steady partners	Condom use with casual partners	Use of water-based lubricant	HTC uptake	STI screening uptake
<i>Age group</i>					
25 years and below	(ref)				
Above 25 years	0.623	1.036	0.959	2.438***	2.7***
<i>Gender identity</i>					
Gay	(ref)				
Transgender	0.692***	0.794	0.768***	1.311	1.413*
Other	0.559***	0.906	0.338***	0.909	0.692
<i>Sex work</i>					
Yes	(ref)				
No	0.974	0.742	1.262**	1.872	2.439***
<i>Province of outreach</i>					
Bangkok	(ref)				
Other provinces	1.875***	0.953	1.044	0.418***	0.455***

**Notes:** \* $p < 0.10$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

*Qualitative analysis*

*Archetype and background of interviewed participants.* MSM and TGW participants interviewed in Bangkok were mostly from other provinces, but those interviewed in Ubon Ratchathani mostly had their origin in the province. Most people in Bangkok had an undergraduate degree or were doing undergraduate courses.

*Changes in the knowledge of MSM and TGW after exposure to the outreach program.* Most MSM and TGW interviewed indicated that they had changed their knowledge or more knowledge insights after exposure to the outreach program. These changes include their HIV risk assessments, danger of double condom use and the knowledge regarding the HIV testing uptake. Many of them indicated that they had previously possessed such knowledge, but exposure to the peer outreach refreshed or reaffirmed what they already knew:

I knew a lot more. At first, I only know about AIDS but then I learned about HIV. Now, I understand that HIV is a virus and it's not AIDS virus. If I never met (with the outreach team), I would only just know AIDS. (TGW, 28 years)

I became to realize that HIV can be transmitted through oral sex without protection. (TGW, 21 years)

The change in knowledge appears to be effective after longer period of exposure to the outreach program. MSM and TGW who were interviewed already appeared to have some level of HIV knowledge and basic knowledge of STIs or at least had heard about STIs. The longer the MSM and TGW are exposed to the program, the more accurate information they possess:

I was told that nowadays we should see the doctor immediately. There is no need to wait. There is some kind of drug that we can take (to prevention HIV after exposure) but it has to be within how many hour window of opportunity I am not sure. I just know that we can see the doctor immediately we expose to risk. (MSM, 24 years)

I went to the clinic (that I was told by the outreach team) because of condom break and my test result at that time was negative so I took PEP for one month. (TGW, 21 years)

*Changes of attitudes toward HIV and those living with HIV among MSM and TGW.* Most MSM and TGW indicated that they had changed their perception toward PLHIV after exposure to the outreach. They understood that they did not need to be scared of those living with HIV. They could still be friends and hang out. This shows a substantial change among participants, with a decreased level of stigma due to HIV-positive status:

My thought was changed. At first, I was really scared (of those living with HIV). It might be because I had little knowledge about this disease and it not curable. But now I know that it is treatable and there is antiretroviral drug. Now, I understand better. (MSM, 24 years)

I feel less scared to get close to those living with HIV. I didn't want to get near them or even talk to them. But after receiving information (from the outreach team), I'm not scared anymore. I even eat food made by them (those who are HIV positive). I don't feel worried of getting HIV because now I know how it transmits. (MSM, 24 years)

*Behavioral changes of MSM and TGW after exposure to the outreach program.* Most MSM and TGW had already protected themselves from HIV but after having been exposed to the outreach program, they became more efficient in protecting themselves and demonstrated their improved prevention skills due to the knowledge acquired from the outreach program. They became more conscious when having sex with other people and sought further information from the outreach team:

I take care of myself better and I protect myself better. I know more choices for safer sex and how to properly use condoms. I even tell my friends about this. When there is something that I don't understand, I just send a message on Facebook to the outreach team for clarifications. (MSM, 24 years)

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MSM and TGW who knew someone with a HIV-positive status and someone who died of HIV are more likely to be more careful and better practice safer sex with any type of sexual partners:

I love myself more and if my (sexual) partner does not use condoms with me. I will stop the sex immediately. We don't know if that person actually love us or maybe it's just one time only. (MSM, 35 years)

Before meeting with the outreach team, I didn't use condom when having sex with teenagers because I thought they were innocent but now I know that I can trust nobody. (TGW, 29 years)

Despite of behavioral changes after exposure to the outreach program, retention of safer sex practices is also a challenge because prevention messages will last only for a period, but without repeated messages from the outreach program, MSM and TGW may become less protected:

It was a short period of time after listening to the information from the outreach that makes me feel more enthusiastic (to protect myself) and fear (of HIV) but this drops down when time passes. (MSM, 48 years)

The challenge regarding safer sex practices among MSM and TGW, even after exposure to the outreach program, was alcohol use, which may put them in a more vulnerable situation for unprotected sex. However, MSM and TGW do understand that they would be more vulnerable when they are intoxicated, but it appeared that they assume such risk to be inevitable:

When I was younger, I didn't use condoms with my steady partner [...] on top of that I was intoxicated as well. (MSM, 23 years)

I may slip if I'm drunk. I try to drink less but most of the time it was not possible (not to drink). (TGW, 28 years)

*Condom and lubricant use among MSM after exposure to the outreach program.* Based on the interviews, it is observed that TGW participants had less power to negotiate for condom use, especially with their steady partners due to love, trust and strive for intimacy, whereas such reasons did not appear among MSM participants. In addition, most of them did not use condoms for oral intercourse:

These days, I don't use condoms anymore because I'm living with my boyfriend. We did use at first but when a few years passed, there have been many things that convince me (to trust him) and he asked. So, I let him (not use condoms). (TGW, 30 years)

Sometimes I don't use condom with my boyfriends because it was not available at that time but emotion took us there [...] I have been with him for a long time and he is a physician. (MSM, 22 years)

Many MSM and TGW participants reported to use oil-based lubricant such as lotion or Vaseline with condoms before exposure to the outreach program. Many MSM and TGW began to understand that whenever water-based lubricant was not available, then it was better to use saliva of the receptive partner than using oil-based lubricant:

I used lotion with condoms but not anymore. Now, I know that if (water-based) lubricant is not available, we can instead use saliva and it should be the saliva of the receptive partner. (MSM, 32 years)

*HTC and STI service uptake among MSM and TGW after exposure to the outreach program.* The immediate change after the exposure to outreach program was that MSM and TGW participants reported to uptake HCT and STI services and later became regular visitors because they acquired the knowledge from the outreach team. Many MSM and TGW, before

exposure to the outreach program, had no idea where to get tested and had minimal knowledge about STIs:

If I didn't know [the outreach team], I might be less careful and even I exposed to risk, I might not get tested because I wouldn't know where to get tested, where to get free services, where to seek for counseling and I would not know about ARV this much. (MSM, 22 years)

MSM and TGW reported to ever have HIV testing after having exposed to outreach program since the outreach workers have made them realize their own risk behaviors and know where to access friendly service facilities:

(If never met with the outreach team), I wouldn't have got tested because I wouldn't have motivation to get tested. After receiving the knowledge, I began to understand that this is not that scary and meeting with the outreach team makes me aware frequently to be protective and always protect myself. (TGW, 21 years)

### **Discussion**

Findings from both quantitative and qualitative methods indicate that the National HIV Outreach Program for key populations, including MSM and TGW, is effective because it helps increase the number of MSM and TGW using condoms with both their steady and casual partners; increase the use of water-based lubricant; and increase HTC and STI screening uptake, as indicated in the Results section. The program assumption that MSM and TGW clients will change their behaviors if they are reached at least three times by the outreach program is found to be valid. Based on the qualitative findings, it is observed that MSM and TGW like the informal communication approach of outreach workers since they did not act superior to their clients or presented themselves as highly knowledgeable but instead just passed the information like a friend to another with casual styles. Repeated outreach visits seem to increase trust between outreach workers and their MSM and TGW clients, and this could help influence the decisions of MSM and TGW to change their behaviors. Similar results are also indicated in past studies[14–17]. It seems that MSM and TGW who were reached by the program with more repeated times of exposure to the outreach program are more likely to maintain their protective behaviors and get HIV testing done regularly.

Behavior changes regarding condom use with steady partners are different when considered the factors on gender identity and reported sex work experience. MSM and TGW who identified themselves as gay are more likely to change their behaviors regarding condom use with steady partners when controlling other factors. From the in-depth interviews, the investigator has noticed that MSM who identified themselves as gay seem more assertive in negotiating for condom use with all types of sexual partners, whereas TGW seem to care about the feelings of their steady partners; hence, they tend to allow their steady partners not to use condom to signify trust and long-term relationship.

For the water-based lubricant used with condoms, MSM and TGW who were reached by the outreach program are more likely to use water-based lubricant with condoms. However, when controlling other factors, those who identified themselves as gay were more likely to use than the other genders.

For HTC and STI screening, when controlling other factors, those above 25 years are significantly more likely to get HIV testing than younger MSM and TGW. As mentioned in the qualitative findings, young MSM and TGW do not feel like they are at risk of acquiring HIV because they do not yet have much sexual experience and they are selective in choosing their sexual partners as discussed earlier. But this can also be interpreted that younger MSM and TGW feel more scared to walk into health facilities and ask for HIV testing from doctors and nurses.

## Conclusion

This study suggests that peer-led HIV prevention outreach program should be continued on a regular basis because it is effective to influence behavior changes. The outreach program is also one of the effective strategies to disseminate condoms and lubricant to MSM and TGW, especially in other provinces than Bangkok and in smaller cities from district level, as condoms and even lubricant are not easily accessible to MSM and TGW, particularly the young ones. Although there have been new prevention technologies such as chemoprophylaxis, including PrEP and PEP, it is still evident that decisions to use such commodities may still be influenced by peers and not the commodities *per se*. Further studies should compare the effect between behavioral and medical prevention strategies and how they do complement each other to increase the positive medical outcomes.

### *Gender issues included in the HIV prevention strategy*

TGW, based on the findings in this study, are less likely to use condoms with their steady partners and less likely to get HIV testing when compared to other genders. Additional strategies such as empowerment and communication skills should be included in the outreach program for TGW to influence change of behaviors. Further operational research studies on HIV prevention among TGW should be conducted to generate more evidence and suggestions. PrEP and PEP should be made optional for TGW.

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