Introducing O’Lavie Woman’s Condom to China:
Expanding dual protection options
The POW PDP Partners

The Protection Options for Women Product Development Partnership (POW PDP) was created to promote sexual and reproductive health, including the prevention of HIV/AIDS, by expanding access to the Woman’s Condom. The POW PDP was supported by funding from the Netherlands Ministry of Foreign Affairs from 2011 to 2015.

**PATH**, an international nonprofit health organization, led decisions related to manufacturing, market development, and advocacy. Through PATH’s country program offices in China and South Africa, PATH staff worked directly with country partners on market research, market tests of uptake and acceptability, and advocacy to raise awareness for female condoms in general, and for the Woman’s Condom specifically.

**Shanghai Dahua Medical Apparatus Co., Ltd (DAHUA)** in China led Woman’s Condom manufacturing production scale-up activities. They also led market development activities for the private sector in China. PATH licensed the Woman’s Condom to DAHUA for manufacturing and commercialization.

**CONRAD** is a United States–based nonprofit organization that facilitates rapid development of safe, acceptable, affordable products for contraception, HIV, and other sexually transmitted infections. CONRAD is the regulatory sponsor of the Woman’s Condom and developed and implemented the clinical study, A Randomized Cross-Over Study of Vaginal Semen Exposure and Clinical Failure Comparing the PATH Woman’s Condom and the FC2 Female Condom. This study was funded directly from the United States Agency for International Development (USAID) to CONRAD.

**Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)** is a health research agency within the US government. NICHD conducts and supports clinical trials and other types of research that explore health and the process of human development from conception to old age. NICHD developed and implemented the clinical study, A Multicenter, Open-Label, Non-Comparative Study of the Safety and Contraceptive Efficacy of the Woman’s Condom. Data from this study will become part of the Woman’s Condom technical dossier and will assist in regulatory submissions. This study was funded directly by the US government through NICHD.
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Emerging needs in China’s reproductive health landscape

Family planning has long been a priority for the People’s Republic of China. The country’s contraceptive prevalence rate is the highest in the world, with 85 percent of adult women using some form of protection. Contraceptives are available through a wide network of national family planning clinics.

China’s national system was originally designed to prioritize the needs of the country’s millions of married women. But today, economic, health, and cultural shifts are changing the face of China, and meeting the reproductive needs of new populations—including unmarried women and men—is becoming increasingly important. Young people are flocking to cities for jobs, and a new generation of youth is attending universities and delaying marriage to prioritize careers. These consumers are well educated and savvy about everything from their fast food choices to consumer goods. Like youth around the world, they want convenience and choice. However, information about sex and reproductive health options has not been readily available.

Young people also represent an emerging, and significant, set of health needs not fully addressed by China’s current family planning system. Abortion rates in China are increasing (estimated at 16.5 million in 2008) with more than one-third of abortions among women aged 20 to 24, and half representing repeat abortions.* Sexually transmitted infections in China are also on the rise. Reported syphilis cases increased from 93,000 to 193,000 between 2005 and 2011. And the number of people living with HIV/AIDS is increasing, although the incidence is low compared to other countries. Sexual transmission is now the most frequent means of HIV transmission, having increased from 42 percent of cases in 2007 to 90 percent in 2013. Today, HIV infection increasingly affects married and unmarried couples.

To meet these emerging health needs, much greater access to easy-to-use contraceptives that offer dual protection is critical.

Female condoms in China

Although for many years the intrauterine device (IUD) was the most common contraceptive method in China, in recent years male condoms have become more popular. Recent research shows that condom use is quickly increasing—especially among young urban couples in cities like Shanghai and Beijing.

While male condom use is increasing, female condoms remain little known and hard to find, and they are not included in the China national family planning program. Female condoms are sheaths that fit inside a woman’s vagina to provide protection from pregnancy and sexually transmitted diseases, including HIV. They can provide a tool for women to discuss and practice safer sex if their partners cannot or will not use male condoms.

While three female condom products are manufactured in China (Phoenurse™, Pleasure More, and the O’Lavie™†), they have not been widely available in China and most research has focused on acceptability among sex workers. This limited understanding and narrow focus has stymied wider distribution, awareness, and demand.

A product development partnership to support options for women (POW PDP)

In 2011, PATH received funding from the Netherlands Ministry of Foreign Affairs to support the Protection Options for Women Product Development Partnership (POW PDP). From 2011 to 2015, this global partnership focused on applying a total market approach to create sustainable markets for the Woman’s Condom. The project undertook a wide range of activities critical to introducing and building demand, including production scale-up, evidence building, market research and testing, commercialization, advocacy, regulatory approval, and registration. Country-specific work focused on China and South Africa.

* O’Lavie is a trademark of the Shanghai Dahua Medical Apparatus Company

Display of female condoms.
Photo: PATH/Danny Ngan

* Includes USAID † Implemented studies funded by other donors

GOAL OF THE POW PDP

Apply the total market approach to create sustainable markets for the Woman’s Condom at an affordable cost
Goals and objectives in China

The POW PDP’s activities in China focused on building supply, verifying acceptability, and developing markets for the Woman’s Condom. In China, the Woman’s Condom is marketed under the brand name O’Lavie. During that time, PATH collaborated with DAHUA Medical Apparatus Company in Shanghai, which since 2008 has focused on manufacturing O’Lavie. A range of additional partners across the country supported PATH’s work in market research, testing, and advocacy activities to build awareness and strengthen the environment for female condoms.

Over the last five years, the POW PDP in China has made major strides toward making O’Lavie more available. This report details the breadth of innovative work undertaken to build the evidence base for O’Lavie, identify markets for female condoms across China, and improve the awareness and political will required to achieve widespread distribution.

HIGHLIGHTS OF THIS REPORT INCLUDE:

- Selecting key audiences, messages, and branding through market research
- Ensuring product quality and supply with an innovative manufacturing partnership
- Building political will and awareness using advocacy
- Gathering and sharing evidence about acceptability and use through market testing

Photo: PATH/Patrick McKern
**About the partners:**
strength in product innovation and health equity in China

**PATH**

PATH, an international nonprofit organization, is a leader in global health innovation with a mission to save lives and improve health, especially among women and children. PATH accelerates innovation by harnessing scientific and public health expertise, a passion for health equity, and entrepreneurial insight.

PATH has worked in China since 1977, with a major focus on reproductive health. PATH has worked with contraceptive manufacturers to strengthen local production and quality of male condoms, oral contraceptives, IUDs, and vaginal methods such as contraceptive film, tablets, and suppositories. The organization’s work also includes initiatives with local organizations—including the China Women’s Federation—focusing on sexual health education, gender equity, and empowerment of young women. PATH has implemented workplace-based HIV risk reduction interventions at factories, restaurants, hotels, and hair salons to reach at-risk groups with HIV prevention information.

The POW PDP benefited from this long history of work and the strong technical expertise and program support embedded among PATH China staff. The country program director shared strategic guidance during the different phases of the project. A program officer in the Beijing office implemented market-based activities to raise awareness about the O’Lavie Woman’s Condom and build support for integrating O’Lavie into family planning and HIV/AIDS prevention programs. Activities included engaging with stakeholders, developing and overseeing market tests, and implementing advocacy and communications outreach among private- and public-sector audiences. A program officer worked directly with DAHUA at their offices in Shanghai and on Chonming Island. She provided frequent contact with the DAHUA factory as well as technical, regulatory, business development, and clinical support to activities.

**For more information about PATH,**

🌐 visitwww.path.org

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**Shanghai Dahua Medical Apparatus Co., Ltd.**

Dahua Medical Apparatus Company (DAHUA) of Shanghai, China, is a high-quality, large-volume manufacturer with more than 25 years of experience in the medical device business. DAHUA has specific capability in film welding, plastics molding, and assembly. The company is compliant with general medical device good manufacturing practices (GMP) and has ISO 9000 series and ISO 13485 registration.

**For more information about DAHUA,**

🌐 visit www.dahuachina.com.cn

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*Photo: PATH*
Introducing the Woman’s Condom to Chinese markets

Female condoms provide a valuable option for Chinese women and men looking for “dual protection” from pregnancy and sexually transmitted infections, particularly for those who cannot or will not use male condoms. They provide women with the opportunity to initiate protection without having to rely on a partner, and years of user-centered design (see sidebar) have resulted in a method that is easy to use and provides good sensation for both partners.

Despite these benefits, female condoms in China still face major barriers to accessibility and use.

Most Chinese consumers have never heard of female condoms, and information has been limited to a few research studies. The small amount of product distributed in the country has mostly gone to sex workers, creating questions about whether other groups will accept and use the product. Female condoms are not included in national family planning programs, which are largely geared toward older, married women and don’t yet adequately address the sexual needs of young people.

Unique features of the Woman’s Condom

The Woman’s Condom is the PATH-developed female condom product that was produced, tested, marketed, and distributed during the course of the POW PDP’s work in China. Over the last ten years, a team of designers, researchers, and health experts have tested the Woman’s Condom in multiple countries. This has ensured that the product is safe, acceptable, and easy to use and that it performs well during sex. The condom has unique features—designed through user-centered development—that allow for ease of use, acceptability, and good sensation for both partners. In comparative studies, some women and men have reported preferring the Woman’s Condom over other female condom products because it is easy to use.

The Woman’s Condom consists of a thin pouch, ring, and dissolving capsule that encloses four foam shapes. All parts of the Woman's Condom are made of medical-grade material that is safe and has been used in medical products for years. The product is for one-time use only. The Woman’s Condom comes with a small sachet of water-based lubricant to be applied at point of use. This lets women and couples use the amount of lubricant that is right for them.
Preparing for market introduction

When the POW PDP began its work in China in 2011, no sustained marketing or advocacy effort existed to generate a market for female condoms either in the public or private sector. Without a market, female condoms—in particular, the Woman’s Condom—would never reach the men and women who need these products most.

The POW PDP aimed to create a market introduction plan that would detail the process for introduction of this novel product to consumers across the public and private sectors. The first step was to explore the needs of Chinese consumers:

Which audiences might be “early adopters”?

What will consumers respond to?

What branding and name will appeal to audiences?

What packaging will best reflect the brand and inspire consumers to buy?

To answer these questions and others, PATH, DAHUA, and other partners undertook a range of research activities to lay the groundwork for the Woman’s Condom market introduction plan.

Findings from key market research activities

MARKET SEGMENTATION

Which audiences might be “early adopters”?

Female condoms are a novel product in China, so the POW PDP used market research to explore the cultural, political, and economic factors that would influence uptake and acceptability. Then they identified key target groups for early introduction through market segmentation and positioning analysis.

The research identified three groups as potential early adopters of O’Lavie:

1. White collar workers and young unmarried adults (including college students who like “new,” “special,” or “unique” things)
2. Couples who cannot or will not use male condoms (such as HIV serodiscordant couples)
3. Sex workers

These groups are fashion-conscious and motivated by image, in addition to the protective benefits of the product.

Once the groups were identified, further research helped the team explore emotional and behavioral factors that influence use and purchasing behaviors for white collar workers and young unmarried adults. They then segmented and categorized the audiences.

Among young people, for example, two of the subgroups were “Fashionistas” and “Dreamholders.” Fashionistas were defined as young professional women with high-to-middle incomes seeking to be fashionable and modern. Dreamholders were young students seeking fashion who are more price-sensitive than Fashionistas. Both of these groups were willing to try new things and also could afford the current price of the Woman’s Condom.

Photos: (left) iStock/Gong Hangpu, (middle) iStock/Chee Siang Fam, (right) iStock/Wxin
The audience analysis showed that, to appeal to young adults and university students, the Woman’s Condom should be positioned as an aspirational product. That meant the POW PDP needed to promote the product as something that could help young people achieve their goals and dreams. The messages also needed to emphasize pleasure from a woman’s point-of-view, an element that was missing from most marketing of male condoms and lubricants in China.

To learn more about how to frame messages in a way that would inspire target groups to use the product, the POW PDP also undertook research that focused on related products—including lubricants and tampons (see sidebar)—that could provide insights into marketing the lesser-known Woman’s Condom.

**Exploring lubricant and tampon markets to inform positioning of O’Lavie**

Since female condoms are a new product in China, the POW PDP and partners implemented three studies to understand attitudes and behaviors of women and men toward two related vaginal products marketed to young, urban audiences—tampons and sexual lubricants.

Currently, lubricant use during sex is low among young people—only 25 percent of study participants were familiar with the concept, and most believed that lubricants are used mostly by “older” women or couples with health problems. However, the couples who did use lubricants used terms like “passion,” “intimacy,” and “harmony” to describe how lubricants could improve sex. Marketing of several major lubricant brands focuses on couples in their 30s who have high energy for life and yet are more sophisticated than younger people who lack experience.

The tampon market in China is also small, but growing. Tampon marketing targets young, fashionable women ages 25 to 35 who want hassle-free, comfortable lifestyles. Promotion focuses on consumer education (including detailed instructions), marketing the emotional and functional benefits of the product, and free product trials. Learnings from these studies informed recommendations for promoting the Woman’s Condom.
BRAND SELECTION: WHAT’S IN A NAME? “O’LAVIE”

What *branding* and name will appeal to audiences?

In preparation for the Woman’s Condom introduction in China, the POW PDP worked with a China-based marketing company to understand consumer behavior and preferences to inform packaging and branding based on the target market research results. Brand name options were developed to have phonetic and emotional appeal, to fit with a tagline that would capture the brand promise, and to appeal to specific key target groups in China.

After extensive review and testing, the name “O’Lavie” was selected as the option that best reflected the needs and desires of the target audiences. The French name responds to young people’s interest in Western design and fashion. The name is based on the term “la vie,” which translates to “life.” The “O” is added before “Lavie” to create an exclamation effect. Overall, the name suggests a life-loving, independent woman empowered to live her life to the fullest. The O’Lavie tagline translates to “Let your beloved say OK.”

A number of concepts were considered, including:

**O’Lavie**
- **Reason:** Translates to “life”
- **Marketing phrase:** “Let your beloved say OK”

**Tango / Tanga**
- **Reason:** Dance of two partners
- **Marketing phrase:** “It takes two...”

**Carousel**
- **Reason:** Fairground ride is fun
- **Marketing phrase:** Life is like a fairground ride!

**Poppycat**
- **Reason:** It sounds cute
- **Marketing phrase:** Get what you want

**Pash-On**
- **Reason:** “Pash” is a slang noun meaning an infatuation for another person or crush
- **Marketing phrase:** It takes some passion to put on a Pash-On

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PACKAGING DESIGN

What *packaging* will best reflect the brand and inspire consumers to buy?

The team knew that packaging would be critical for O’Lavie’s ability to appeal to consumers. Market research informed the packaging choices, which included elements designed to position O’Lavie as a quality product that offers “protection, pleasure, and peace of mind so that users are free from worry.” Designs were intended to attract both women and men and to present the product as new and fun.

Evolution of packaging designed for different audiences in China.

*Photo: PATH/Patrick McKern*
To build a stable supply of high-quality Woman's Condoms, PATH partnered with the DAHUA Medical Apparatus Company of Shanghai, China, to leverage their capacity in manufacturing, regulatory requirements, quality assurance, and supply.

**Manufacturing**

PATH selected DAHUA as the manufacturing and commercialization partner after completing an extensive international review of potential manufacturers. DAHUA has more than 25 years in the medical device business and is an internationally certified manufacturer with expertise in polymer film welding and plastics injection molding—key steps involved in manufacture of the Woman's Condom.

After evaluating the prototype production and testing equipment that PATH created for laboratory-scale production, DAHUA developed a production line with semi-automated equipment to expand production and reduce cost. Through the POW PDP, DAHUA is building capacity to produce up to 2.5 million units annually and plans to expand to 5 million units by duplicating one of the production machines.
Approaches to scale-up and cost reduction

To achieve lower manufacturing costs for the Woman’s Condom, DAHUA has implemented the following cost-reduction strategies:

- **Process optimization**
  Changes in the manufacturing process designed to increase efficiency in use of materials or labor.

- **In-house production of components**
  Producing component parts rather than purchasing from third-party manufacturers. This also increases DAHUA’s control over the quality and availability of the components.

- **Automation**
  Automation of manufacturing steps previously done manually eliminates labor to cut costs and increases consistency of production quality.

Regulatory requirements and supply

Once DAHUA built a pilot production line and set up quality assurance testing at their factory, the company submitted applications for regulatory approvals to expand access to potential markets for the Woman’s Condom. DAHUA received regulatory approval for Europe (CE Mark) in 2010, China (Shanghai FDA) in 2011, and South Africa (SABS) in 2013. A regulatory submission for Brazil (ANVISA) also is underway. The Expanding Effective Contraceptive Options (EECO) project being implemented by WomanCare Global and the social marketing organization PSI also registered the Woman’s Condom in Malawi and Zambia. The EECO project plans to launch the Woman’s Condom in these countries from 2015 to 2018.

Between 2011 and 2015, DAHUA continued to scale up production by developing and validating semi-automated equipment. **By 2016, DAHUA will have annual production capacity for approximately 2.5 million Woman’s Condoms.**

Watch the video at: [https://www.youtube.com/watch?v=H6FvrEOmQjI](https://www.youtube.com/watch?v=H6FvrEOmQjI)

By 2016, DAHUA will have annual production capacity for approximately 2.5 million Woman’s Condoms.

DAHUA developed a semi-automated production line for the Woman’s Condom to scale up production volume. Pouch welding machine (lower left); worker removing pouches from semi-automated line after foam shapes and ring are heat welded (lower right); condoms tested for quality through water leak testing (right).
Quality assurance

DAHUA has submitted a Woman's Condom dossier to the World Health Organization (WHO) and United Nations Population Fund (UNFPA) for the WHO Prequalification Programme. WHO prequalification is designed to ensure that certain medical devices (such as female condoms, as well as some medicines, vaccines, and immunization-related equipment and devices for high-burden diseases) meet global standards of quality, safety, and efficacy to optimize use of health resources and improve health outcomes. The prequalification process consists of a scientifically sound assessment, which includes dossier review, quality testing, and site visits to manufacturers. WHO prequalification is an important designation for products entering public-sector markets at both the country and global level.

Commercial sales in China

While PATH conducted market tests to build evidence for O’Lavie Woman’s Condom introduction through the public sector, DAHUA explored strategies for private-sector marketing of O’Lavie in China. These included developing a website that includes online sales, exploring marketing through shops and hotels, and seeking marketing and distribution partners for sales in China and regionally.

PATH and DAHUA receive accolades for medical design excellence

The PATH-designed Woman’s Condom was chosen as the Bronze Winner in the 2015 Medical Design Excellence Awards (MDEA) under the Assistive Technology Products category. Chosen by an independent, multidisciplinary panel of medical technology industry jurors from a wide range of fields related to health care and design, the MDEAs recognize significant advances in medical product design and engineering that improve the quality of health care delivery and accessibility. Designed to focus attention upon the complexity of product development and showcase outstanding examples, the MDEA celebrates the achievements of medical product manufacturers, their suppliers, and the many people behind the scenes responsible for groundbreaking products that are saving lives, improving patient health care, and changing the face of medical technology. The Woman’s Condom was one of seven global finalists in its category.

The Dahua Medical Apparatus Company was the only China-based manufacturer recognized in the award process.

Woman’s Condom wins bronze award for design
Conducting advocacy to build interest for female condoms

Over a four-year period, the POW PDP created and educated a network of policy and technical stakeholders about female condom developments in China and around the world. This group included Chinese policymakers and sexual and reproductive health decision-makers, scientists, and media influencers who could increase the visibility and credibility of female condoms. Through a listserv and social media, the PDP packaged programmatic and research information about female condoms, including information about global initiatives for female condom programming, developments around quality guidelines and standardized research protocols, breaking news, and research summaries. They formed a cadre of female condom champions—key researchers and opinion leaders—who reached more than 10,000 participants with female condom updates through over 80 national and regional workshops and conferences in China.

To create a public dialogue on the role of female condoms in sexual and reproductive health, the POW PDP developed partnerships with organizations focused on the sexual needs of young unmarried people and other vulnerable populations—including Marie Stopes International/China (MSIC), China Youth Network, China Family Planning Association, Women’s Network Against AIDS, and China Red Cross Association. In addition to the work of several of these organizations in distributing O’Lavie Woman’s Condoms through the O’Lavie market tests, these organizations played an active role in informing and augmenting the PDP’s research through a series of stakeholder workshops around the country.

Raising awareness among potential consumers, especially young people who could be early adopters, was also an important consumer marketing strategy, so the POW PDP targeted university students at 40 universities and technical colleges with information about female condoms using a range of activities, including “awareness days” (often used by decision-makers to deliver key public health messages) and social media.

Female condom champions reached more than 10,000 participants through over 80 national and regional workshops and conferences.
SPOTLIGHT ON CHINA ADVOCACY ACTIVITIES

O’Lavie mascot at World AIDS Day 2014 celebrations

During World AIDS Day 2014, the POW PDP and partners introduced O’Lavie to policymakers and influencers through an O’Lavie mascot—a counterpart to a more widely known male condom mascot. The O’Lavie mascot attended public ceremonies organized by United Nations agencies, the National Center for AIDS/STD Control and Prevention (NCAIDS), the China Center for Disease Control and Prevention (CDC), and the Youth Core group. More than 200 stakeholders participated in the celebrations, which included government speeches and youth-led singing and poetry readings. As a result, the World Health Organization (WHO) China office purchased O’Lavie samples for additional awareness-raising and education programs.

“O’Lavie mascot raising awareness at World AIDS Day 2014 in Beijing.”

Photo: PATH

“I Jump for Love”: female condom media coverage

Targeting a network of more than 100 health reporters, the POW PDP created a number of high-visibility events designed to draw media coverage of female condoms and O’Lavie.

On Youth Valentine’s Day 2014, United Nations agencies and local community groups hosted “I Jump for Love,” an interactive youth game that played on the massive popularity of chess among young people in China. To “win” the chess game, young people acted as the pawns on a life-sized chess board, throwing dice and then responding to questions about sexual and reproductive health and HIV prevention. At the event, the POW PDP distributed O’Lavie samples and gave product demonstrations.

Media attendance at this event led to “Female Condom Attracted Attention,” an article in the popular news outlet Chinanews.com that was reposted to more than 30 additional Chinese media outlets.

“I Jump For Love”—young people participate in the first outdoor activity combining sexual and reproductive health and HIV knowledge and interactive games. O’Lavie representatives provided products and demonstrations. Photos: PATH
Sohu Health online survey and educational campaign

In 2013, the POW PDP partnered with the Chinese media group Sohu.com—one of the top 50 news and media groups in the world—to promote female condoms to its users. Almost three-quarters (72 percent) of Sohu Health’s users are between 19 and 40 years old, and the site focuses on audiences who care about health, engage with technology to access health information, and have access to disposable income.

Around World AIDS Day, Sohu Health promoted female condoms using the theme, “More Options for Women to Prevent HIV/AIDS.” During that time, 13,000 individuals participated in a Sohu Health online survey on female condoms. The survey found that, while 82 percent had never seen a female condom, 57 percent were willing to try one. Women were primarily interested in female condoms as a dual protection method. During the 10-day health education campaign, more than 1 million viewers accessed information about the O’Lavie Woman’s Condom.

Global Female Condom Day (GFCD) 2013

PATH is a co-founder of Global Female Condom Day (GFCD), a coordinated day of action celebrated on September 16 to increase knowledge, availability, and use of female condoms around the world. In 2013, the POW PDP and the China Youth Network organized 10 days of activities between GFCD and World Contraception Day (September 26). Activities included a social media outreach campaign that reached more than 18,000 people, as well as film screenings featuring videos that had been entered into the “Female Condoms Are_______” film contest. Nearly 500 students viewed the films and discussed the potential role of female condoms in protecting health for women and men. In 2014, the POW PDP supported students at several universities to participate in Dance4Demand, a creative initiative to mobilize advocates to showcase the immense demand for female condoms.
Integration into the public-sector family planning and HIV prevention programs

While DAHUA worked on introducing the O’Lavie Woman’s Condom into the private sector in China, PATH worked on a public-sector strategy with a goal of integrating the Woman’s Condom into the China family planning system and the China Center for Disease Control and Prevention’s programs to prevent HIV and sexually transmitted infections (STIs).

To generate data to improve awareness and support for integrating O’Lavie into public-sector family planning and HIV programs and government procurement, PATH conducted market tests in nine provinces in China. These market tests assessed acceptability and uptake of the Woman’s Condom among various populations, including unmarried young people recruited from nongovernmental sexual and reproductive health clinics, married couples recruited at family planning clinics, HIV serodiscordant couples, and female sex workers. These groups represent key populations that are the focus of the Chinese government’s efforts to reduce unintended pregnancies and transmission of STIs.
Market testing to build the evidence base

While market research and advocacy efforts demonstrated the potential for the Woman's Condom in China, low awareness and lack of consumer experience with the product have raised numerous questions about market potential and acceptability.

To begin to answer these questions, the POW PDP designed five market tests to assess uptake and acceptability of the Woman's Condom among target groups in nine provinces of China. During 2012 to 2014, the POW PDP worked with family planning and HIV/AIDS partners to implement research honing in on several target audiences, including young unmarried women and men, economic migrant factory workers, young married couples, commercial sex workers, and HIV serodiscordant couples. The tests targeted both urban and rural areas using a range of promotion and distribution strategies.

Results from the market tests brought valuable information, encouragement—and a few surprises. In this section, you’ll find an overview of the methodology, findings, and implications of each test, followed by an overall summary of results. You’ll also find a snapshot of reactions and recommendations from family planning and HIV/AIDS stakeholders who reviewed the market test results during a set of stakeholder meetings in China in 2014.

### Target Audiences

**Migrant workers**

**Unmarried women and men**

**Young married couples**

**Commercial sex workers**

**HIV serodiscordant couples**

Photos courtesy of iStock
Reaching unmarried young people through youth-oriented family planning services

KEY RESEARCH QUESTIONS
What percent of young people will use O’Lavie?
What factors influence uptake for youth?
Which distribution and education methods are most effective?

PARTICIPANT PROFILE
325 college students and office, service, and economic migrant workers:
• More than 80 percent female
• More than 75 percent unmarried
• Average age: 25 years
• Average income: 3000 RMB per month (middle income)
• About 50 percent had “heard of” female condoms; none had seen O’Lavie
• 58 to 80 percent reported male condom use for pregnancy prevention

PARTNER
Marie Stopes International China (MSIC) is a nonprofit family planning and sexual and reproductive health care organization. MSIC aims to address the unmet sexual and reproductive health care needs of adolescents, unmarried youth, and economic migrant workers. To achieve this, MSIC has developed a network of You&Me youth-friendly centers in multiple provinces across China.

GEOGRAPHIC AREA

MARKET TEST METHODOLOGY
Over a six-month period, this market test promoted O’Lavie to MSIC clients through the MSIC clinics and also through community sales/promotion sites such as sexual entertainment establishments, adult shops, drugstores, sexually transmitted disease (STD) clinics, gynecological hospitals, government family-planning service outlets, hotels, and online stores. O’Lavie was provided at different price points through the different sites. Surveys were completed by 225 participants before product use (potential users), by 52 users given O’Lavie for free (free users), and by 55 users who paid for O’Lavie (paying users). MSIC developed training materials specifically tailored to the needs of young people to help clinic staff and community distributors introduce O’Lavie and respond to consumer questions.

MSIC poster, translated says “Woman’s Condom - more options to protect women. Woman’s Condom - new generation, leading the wave of contraception!”
FINDINGS

Willingness to use and purchase O’Lavie

- Nearly 90 percent of potential users said they were willing to try the product.
- Among those who purchased O’Lavie, over 50 percent said they felt female condoms were “acceptable” and they would be “willing to buy them again.”
- Users over the age of 21 and those with mid-to-high monthly incomes (> 3,000 RMB) were more likely to use O’Lavie in the future.
- Clients who purchased O’Lavie used it in 80 to 85 percent of sex acts; clients who received free product used O’Lavie in 73 to 78 percent of sex acts.
- Most common reasons for trying O’Lavie included “curiosity” about new products and “professional advice” from a health care provider.
- Those unwilling to try the product cited “inconvenience”; being conservative (i.e., not open to something new); and lack of knowledge about the product.

Methods for distribution and education

- Multiple communication and education channels were appealing and effective, especially videos and face-to-face communication, including a simple hand demonstration about how to use.
- Participants reported learning how to use O’Lavie from sales people, the product insert, and websites.
- Sales people and promoters emphasized that comfort at demonstrating correct use of O’Lavie and willingness to respond to consumer questions were very important.

Lessons learned

O’Lavie was a welcome addition for this market segment. Results suggest that some MSIC clients view the O’Lavie Woman’s Condom as an acceptable option, would use in the future, and would be willing to pay for O’Lavie. Raising awareness, providing information, and provider/distributor comfort in talking about O’Lavie were important factors that influenced uptake among this population.

In terms of distribution, using nonprofit clinics such as MSIC appears to be a promising approach to reach certain market segments—such as unmarried clients—who do not access services at the government-operated family planning clinics, which are more focused on the needs of married couples.

After this study’s conclusion, MSIC ordered additional O’Lavie from DAHUA to continue supplying its clients. Based on the positive response, MSIC developed their own packaging for O’Lavie specifically to meet the needs of their clients.
Targeting married couples through traditional family planning clinics

KEY RESEARCH QUESTIONS

What proportion of married couples will use O’Lavie?

What factors will influence uptake among this market segment?

What is the attitude toward O’Lavie by the family planning clinic staff?

PARTICIPANT PROFILE

374 married couples completed surveys:

• Average age: 34 years (range 25 to 45 years)
• Average marriage duration: 10 years (range < 1 year to > 22 years)
• 50 to 70 percent white collar workers with college degree; residents with stable income
• Prior contraceptive: mostly male condoms
• One-third of women reported a previous abortion
• 90 percent had never seen or used a female condom

PARTNER

China Population Development Research Center (CPDRC) is affiliated to the National Health and Family Planning Commission (NHFPC). CPDRC conducts international and domestic research supported by the government, including population and development data collection, surveys, and evaluation.

MARKET TEST METHODOLOGY

In 2013, the China Contraceptive Supply Administration (CCSA) purchased 40,000 O’Lavie Woman’s Condoms and distributed them to the 31 provinces and municipalities under the central government. This subsequent study evaluated uptake and acceptability of the O’Lavie Woman’s Condom among married couples recruited from family planning clinics in urban Beijing and rural clinics in Guangdong Province. Couples were asked to report on O’Lavie use over a three-month period and to use it at least four times per month. Couples completed a baseline and endline survey, as well as condom-use logs after each use. Individuals (of the married couples) who agreed also participated in an in-depth interview at the conclusion of the study. Individual interviews were conducted at the study end with 30 family planning providers at the clinics to gather their perspectives about O’Lavie and its appropriateness for being included in the national family planning procurement system.

CPDRC developed introductory information (promotional flyer, fact sheet) and trained family planning staff about O’Lavie using video, demonstration, and other interactive methods. The Beijing sites received more training and follow-up during the study than the rural sites in Guangdong due to staffing and geographical constraints.

“\nThe project really widened our view.\n”

– Chinese government family planning staff member
Lessons learned

This market test suggests that O’Lavie is an acceptable method among married couples who may not have used contraceptives previously or may not have used them consistently or correctly. Also, O’Lavie may be a good alternative for women who are not satisfied with other contraceptive methods. Women who had experienced abortion were more likely to use O’Lavie in the future, suggesting that expanding use of O’Lavie could contribute to addressing unmet reproductive health needs for this population.

Men’s knowledge and attitudes toward the new product is important for uptake and acceptability. It will be critical to target men in promotional campaigns for O’Lavie introduction and training. O’Lavie should be positioned as a product for both women and men, and marketing messages should address the needs of both target audiences.

FINDINGS

Willingness to use and acceptability

• 374 couples completed the three-month study.
• O’Lavie was used in **80 percent** of sex acts during the study.
• **10 percent** of women would choose O’Lavie as their method in future.
• **More than 30 percent** of men and women said sexual pleasure increased with O’Lavie.
• Comfort using O’Lavie improved throughout the study (75 to 89 percent). Both women and men reported being comfortable after three or four uses.
• Acceptability was significantly higher in Beijing due to better training for providers and more client contact.

Factors influencing acceptability of O’Lavie

• Women having past experience of abortion.
• Male partner attitude: one-third of females indicated they did not feel they could persuade their male partner to use a female condom if he was not willing; 18 percent said they would have dropped out of the study if their male partner was not willing.
• Family planning staff attitudes: at the beginning of the study, family planning staff had low awareness of female condoms. By the study end, staff reported positive attitudes about the product and expressed a great deal of openness to O’Lavie.

Distribution channels

• Three-quarters (75 percent) of participants preferred to get O’Lavie from family planning service stations/hospitals or maternal and child care clinics where O’Lavie is provided free, but some were willing to pay for O’Lavie at pharmacies (27 percent) and supermarkets (38 percent).
• Family planning managerial staff said O’Lavie should be included in the government procurement catalog, which would allow O’Lavie to be widely available in China through public channels.
Acceptability of O’Lavie by low-income female sex workers

KEY RESEARCH QUESTIONS

What percentage of female sex workers (FSWs) are aware of female condoms?

Will FSWs reached through this intervention use O’Lavie?

What effect does adding O’Lavie to a male condom distribution program have on protected sex acts?

PARTICIPANT PROFILE

Female sex workers from three rural areas in Guangxi Province:

• 25 to 45 years old
• Low income
• Low levels of formal education
  (most completed only primary or middle school)

PARTNER

Founded in 1956, the Chinese Academy of Medical Sciences in Beijing is the only state-level academic center for medical sciences in China and a multidisciplinary medical research institution. Peking Union Medical College (PUMC) was founded by the Rockefeller Foundation in 1917. It was the first medical school in China to offer an eight-year curriculum on clinical medicine and undergraduate courses on nursing. This academic center has attached great importance to scientific research and has conducted research projects at state and provincial levels, including projects funded by the National Natural Science Foundation of China.

GEOGRAPHIC AREA

Guangxi
(2 cities)

MARKET TEST METHODOLOGY

In this market test, conducted over a 12-month period, PUMC evaluated the impact of integrating O’Lavie and another female condom (Phoenurse) into an ongoing male condom promotion campaign designed to reduce risk of HIV/STIs among rural, low-income sex workers.

The PUMC researchers provided free condom supplies and information about both male and female condoms to sex workers in three study sites. The sex workers chose which, if any, products to use. The project distributed more than 3,800 female condoms to more than 1,000 sex workers, who represented about 80 percent of the entertainment establishments in the study areas.

The researchers conducted a baseline and two follow-up surveys using questionnaires and in-depth interviews that explored condom use behaviors. Sex workers reported on use of the male or female condom products with both commercial clients and also with steady, non-paying partners.
Lessons learned

This intervention suggests that with ongoing support, female condom use can make a significant difference in the lives of low-income sex workers. Study results suggest that integrating the female condom into an ongoing male condom program can increase levels of protected sex among sex workers, who reported that access helped them negotiate condom use with their paying clients who did not want to use a male condom.

Perhaps more importantly, data also suggest that adding the O’Lavie Woman’s Condom to the intervention may have increased levels of protected sex with a woman’s steady, non-paying partner.

Ongoing training, education and outreach campaigns, especially among men, are necessary for female condoms to make a difference over the long term. The fluctuations in use seen during the study also require follow-up exploration to understand the influencing factors.

FINDINGS

Willingness to use O’Lavie

• In the three surveys, 29 to 85 percent of women surveyed across the three sites reported using the O’Lavie Woman’s Condom. Some reported that O’Lavie increased sensation and comfort.
• Between 30 and 60 percent of women reported they would continue using O’Lavie in the future, if it is provided free.
• Women reported that O’Lavie was easier and more convenient to use than Phoenurse.
• Sex workers reported that having O’Lavie as an option helped them negotiate condom use with their clients; some said they felt less constrained with O’Lavie than when using a male condom.
• Data suggest that some women used O’Lavie with their steady, non-paying partners more frequently than with paying clients.
• Levels of protected sex rose throughout the study—from 49 percent at baseline to 57 percent at the second survey and 68 percent at the third survey. Women also reported their skill increased with practice and use.

Barriers to use

• Across the three sites, 17 to 30 percent reported they would not continue using O’Lavie in the future. The most common reasons cited were unfamiliarity and complexity compared to male condoms.
• Some sex workers said clients did not want to use a female condom because of inconvenience. Some also said men reported decreased sexual pleasure due to the loose fit of the condom pouch and being disturbed by the outer ring.
• In two of the sites, use of O’Lavie decreased between the second and third surveys, while at the third site, use of O’Lavie continued to increase.
Providing an alternative option for HIV serodiscordant couples

PARTICIPANT PROFILE

89 HIV serodiscordant couples in two provinces:
• 66 percent of couples had an HIV-positive male partner
• Average age: 38 years
• Average amount of time married: 13 years
• 41 percent completed only primary school
• Average monthly income: 2,000–3,000 RMB (low income)
• Length of time since HIV diagnosis: < 2 years

PARTNER

NCAIDS—part of the China Center for Disease Control and Prevention (CDC)—is the leading agency in the prevention and control of AIDS. It provides technical guidance and training programs for HIV/AIDS prevention and conducts research and fieldwork concerning HIV/AIDS epidemiology, surveillance, health education, behavioral intervention, provision of evidence for policy, information sharing, care and support, laboratory testing, and quality control. NCAIDS is also engaged in HIV vaccine development and immunology. It has a leading role in the implementation of large-scale international cooperative HIV programs such as Global Fund AIDS programs and projects supported by UN agencies and bilateral cooperation. The China State Council AIDS Working Committee Office is located in NCAIDS.

MARKET TEST METHODOLOGY

This study was integrated into the existing China CDC program focused on HIV prevention outreach to HIV discordant couples. Eighty-nine couples from two sites in Sichuan Province and one in Hunan Province were asked to use the O’Lavie Woman’s Condom as their primary protection, at least three times a month, for a period of three months. CDC outreach workers trained the couples how to use O’Lavie by sharing the instructions for use, demonstrating O’Lavie insertion using their hands as a model, and answering questions. The CDC staff conducted follow-up visits with the couples after one week, one month, and two months of use. In these follow-up visits, couples experiencing challenges with use were provided additional training and support.

Both members of couples completed survey questionnaires at the beginning and end of the three-month period about their experience, attitudes, and perceptions about O’Lavie. Couples also filled out a condom use survey after each product use. At the end of the study, in-depth interviews were conducted to gain more insight into participants’ opinions.

Female condoms were new to almost all the participants, with fewer than 6 percent ever having heard of female condoms before, and none ever having used one. Couples acknowledged that access to male condoms is not sufficient for protection. While most couples reported using male condoms “all the time,” some acknowledged they did not. The primary reason cited for not using male condoms consistently was that “men did not want to use them.”
Lessons learned

This study indicates that O’Lavie is well accepted among serodiscordant couples, including those who are newly diagnosed as HIV positive. Adding O’Lavie to male condom distribution programs may reduce levels of unprotected sex and also may reduce the incidence of “forced sex.” Thus, O’Lavie should be strongly considered as a tool in HIV prevention efforts in China. In addition, data suggest that O’Lavie may lead to better communication among partners.

As with all new products, training, ongoing support, and practice are essential to promote O’Lavie awareness, acceptability, and continued use.
Testing the “cool factor” among urban married couples

KEY RESEARCH QUESTIONS
How acceptable is O’Lavie to married couples in urban areas?
What factors influence acceptability among these married couples?

PARTICIPANT PROFILE
Urban couples from two diverse regions:
• Average age of female participants: 34 years
• 100 percent of couples married
• Duration of marriage: < 1 to > 10 years
• Most had one child or more; 23 percent had no child
• More than 60 percent had completed some college
• Professions included office staff, civil servants, technical and nontechnical workers, sales persons, health care workers, and private business employees

PARTNER
Shanghai Institute of Planned Parenthood Research (SIPPR) was founded in 1978 and is a national comprehensive research center and an international center of human reproductive health research. It has established cooperative relationships with more than 50 research and tertiary institutions and more than 30 international organizations, such as Ford Foundation, WHO, and PATH, for collaboration on reproductive health research.

GEOGRAPHIC AREA

MARKET TEST METHODOLOGY
The study recruited 30 couples each from district family planning clinics in Beijing (north-central China) and district family planning clinics in Chongqing (south-western China) (60 couples in total). Women were asked to use O’Lavie as their primary method of contraception for three months. Four follow-up visits to provide additional support were conducted with women or couples after the first, fourth, eighth, and twelfth condom use. Couples recorded their experience after each use on a condom log and answered questions about acceptability, comfort, convenience, and pleasure. Women filled out an additional questionnaire during the follow-up visits regarding ease of use, comfort, satisfaction, and challenges using O’Lavie.

Because previous research has indicated that attitudes and biases of family planning staff introducing contraceptives play a significant role in product uptake, clinic staff were trained at the beginning of the study on how to use and demonstrate O’Lavie. At the end of the study, family planning staff participated in two focus groups to provide their opinions and feedback on O’Lavie.
FINDINGS

User experience with O’Lavie over three months
- 77 percent of couples used O’Lavie at least 12 times over three months as recommended.
- 87 percent of women in Beijing and 62 percent in Chongqing liked the sensation of O’Lavie.
- Both women and men reported that comfort and satisfaction improved as experience increased.
- Some women and men in Chongqing (10 percent) reported that sexual pleasure increased when using O’Lavie.
- More than 75 percent of users reported the lubricant was convenient and not difficult to use.
- Main reasons women cited for liking O’Lavie included:
  - Offers dual protection
  - Fashionable
  - Strengthens women’s rights
  - Free of charge
- Main reasons men cited for liking O’Lavie included:
  - Good option for women
  - Provides better sensation for males

Distribution
- Women mentioned they would like to get information about O’Lavie from fashion magazines, newspapers, and public service announcements. Some suggested that female condoms be added to high-school reproductive health and physical hygiene education curricula.
- Clinic staff also expressed that expanding access to female condoms added an important option for both men and women.

Barriers to use
- Among the few participants who reported strongly disliking O’Lavie (3 percent in Beijing and 10 percent in Chongqing), the top two reasons cited were inconvenience of learning to use a new product and loss of sexual pleasure.
- Many participants suggested it would be better if O’Lavie could be prelubricated.

Lessons learned
O’Lavie was acceptable among the young married couples in this study. Consistent with other studies, these couples felt more comfortable and satisfied with O’Lavie as their experience increased. Some couples reported O’Lavie increased their sexual pleasure. Women and men cited slightly different reasons for liking O’Lavie. Men liked that O’Lavie increases pleasure for the male partner. Couples in large cities such as Beijing and Chongqing are willing to try a new product—like O’Lavie—and like that it provides dual protection.

The higher educational background of these participants suggests that successful introduction may start with college students and white collar workers who, in general, may be more open to new, innovative products. Promotional efforts aimed toward men will be an important strategy for raising awareness about this new method.
Market tests summary

The five market tests spanned audiences across nine regions in China. Though the studies examined a wide range of factors across a diverse set of demographics, key findings emerged that help point the way forward for market development and distribution of O’Lavie through the private and public sectors in China.

ACCEPTABILITY AND WILLINGNESS TO PAY

Groups from both urban and rural areas found O’Lavie Woman’s Condom acceptable. Some users, including young people, professionals, and factory workers, indicated they would be willing to purchase O’Lavie at prices ranging from 8 to 12 RMB.

The majority of women found that O’Lavie was easy to handle, insert, and remove and was stable during use. Women and men reported it was comfortable. Even though few if any of these participants had heard of or used a female condom before, 58 to 89 percent of participants expressed willingness to continue use of O’Lavie. Ten percent of participants liked it extremely. In one study among married couples, 30 percent of men and women said sexual pleasure increased with O’Lavie. In a market test where consumers purchased O’Lavie, 50 percent said they would purchase again.

Women and men reported comfort and confidence improved over time as they gained experience using the O’Lavie Woman’s Condom.

Women reported they liked the O’Lavie Woman’s Condom because it provides dual protection, increases sexual pleasure, and improves communication with their partner. Men liked it because it is a good option for women and provides good sensation for men.
INFLUENCING FACTORS

Past experience of abortion, male partner attitudes, experience of sex forced by male partner, and being a HIV-positive female were all factors that influenced acceptance by women. In the study among serodiscordant couples, incidence of unprotected sex decreased and reports of forced sex were reduced when O’Lavie was added to the existing male condom distribution program. In the study among low-income, rural sex workers, rates of unprotected sex went down when the O’Lavie Woman’s Condom was added to the existing condom distribution program. Some sex workers reported using O’Lavie more frequently with their steady, non-paying partner than with paying clients. This finding is important because couples globally report that male condoms are used more frequently among “casual partners” and their use declines among steady intimate partners. This suggests that adding O’Lavie to an existing condom distribution program offers protection for partners who would not otherwise be protected by male condoms.

Results of these market tests strongly suggest there is a role for the O’Lavie Woman’s Condom in China to expand contraceptive options and improve reproductive health outcomes for women and men.

MEN’S ATTITUDES

Men’s attitudes are critical to women deciding whether O’Lavie will be used, and many women would not use the product if their partner is not supportive. Men said they liked O’Lavie because it provides better sensation than male condoms and is a good option for their partner. Finding ways to include men in marketing and promotion of O’Lavie will help expand access to this product.

FAMILY PLANNING STAFF REACTIONS

Across studies, most family planning providers were enthusiastic about introducing the O’Lavie Woman’s Condom. They see O’Lavie as an important new option for some couples in China. They stressed the need for sufficient training to provide this method successfully and that government support for this method is critical to expand access and build confidence.
In 2014, research partners presented the market test results to key stakeholders and decision-makers from the family planning and HIV prevention sectors at two PATH-organized workshops. These gatherings provided valuable feedback and recommendations on the way forward for the Woman’s Condom in China.

Stakeholders were very interested in the market studies, particularly those that reached vulnerable or overlooked populations. An innovative MSI China market study, which reached populations not well covered by government clinics and showed a high acceptability across audiences and with different distribution schemes, was widely discussed. Likewise, stakeholders were extremely interested in the findings from the NCAIDS study, which showed increased levels of protected sex among serodiscordant couples and reduced levels of forced sex after the O’Lavie Woman’s Condom was introduced.

Stakeholders felt that, despite the learnings from the market tests, evidence was insufficient to recommend including the O’Lavie Woman’s Condom in government programs at this time. They believed that the cost of O’Lavie relative to male condoms for national family planning and HIV programs remained prohibitive and that the “added value” of female condoms was not strong enough at this time to warrant a recommendation for inclusion.

“

When I first saw a female condom in 1996, I was shocked at that time. Now the refined O’Lavie is better and has been accepted by certain percentage of people.... O’Lavie may have a good prospect for the future, but it needs time for people to become familiar with the product.”

– Participant from the Family planning workshop
Recommendations for moving forward

The family planning and HIV stakeholders made the following recommendations about O’Lavie in China:

- DAHUA should continue to build relationships with the government family planning and HIV programs, as well as with the nongovernmental organization sector, which could all advocate for inclusion in national programs.

- Additional pilot studies in China should be implemented to build experience and grow support for government procurement.

- DAHUA should continue to build brand awareness and consumer experience within private-sector markets through promotional discounts or free samples.

- Training should be implemented for providers and sales people to ensure consumers receive appropriate information and counseling about O’Lavie.

- Marketing efforts should position O’Lavie as an aspirational product for women and men who are willing to pay for a product that allows good sensation alongside protection.
Read the related reports

Developing sustainable markets for the Woman’s Condom

[Link](http://www.path.org/publications/detail.php?i=2564)

Introducing V Condom to South Africa: Expanding the female condom market

[Link](http://www.path.org/publications/detail.php?i=2566)

Using innovative female condom advocacy to improve awareness and catalyze change

[Link](http://www.path.org/publications/detail.php?i=2563)

Watch the related video

Watch the video of the DAHUA facility at: [Link](https://www.youtube.com/watch?v=H6FvrEOmQjI)