OPEN LETTER

Design, adaptation, and diffusion of an innovative tool to promote shared contraceptive decision-making: Balanced Counseling Strategy Plus [version 1; peer review: awaiting peer review]

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Abstract
Contraceptive decision-making is highly complex, and family planning (FP) clients choose methods according to a host of personal, interpersonal, and context-specific considerations. These include concerns about side effects, confidence in their ability to adhere to daily or monthly use, efficacy of methods, partner support, and HIV vulnerability. FP decision support tools can support FP clients and providers to engage in a joint decision-making process to ensure clients make informed choices about contraception. For more than two decades, the Balanced Counseling Strategy (BCS) and Balanced Counseling Strategy Plus (BCS+) decision support tools have been used in lower- and middle-income countries, informed by implementation science research and iterative updates and refinements to reflect new developments in contraceptive technology and HIV prevention strategies. To inform the development and scale-up of future FP decision support tools, as well as share lessons from translating implementation science results to practice, this article describes the development, evaluation, and proliferation of BCS and BCS+.

Keywords
family planning, counseling, job aids, decision support tool, contraception
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Background
In 2019, 270 million women of reproductive age (15–49 years) worldwide had an unmet need for contraception, with low- and middle-income countries (LMICs) disproportionately burdened; unmet need for family planning (FP) ranges from 14% in Indonesia to 40% in the Democratic Republic of the Congo (DRC). The World Health Organization (WHO) FP handbook includes 20 methods that provide women with many options to meet their FP needs. Contraceptive decision-making is complex, deeply personal, and context-specific. Faced with multiple contraceptive options, women must consider myriad factors, such as their concerns about side effects, confidence in their ability to adhere to daily or monthly use, efficacy of methods, and partner support including considering a couple’s values and preferences. Thus, FP providers face the challenge of providing comprehensive – yet relevant – FP information, while supporting clients to make contraceptive choices that suit their needs and preferences. Furthermore, in the past two decades, adding to the complexity of FP decision-making, there has been increasing recognition of the need to explicitly integrate HIV counseling and services in FP settings. Many women are simultaneously at risk of unintended pregnancy as well as HIV infection, and clients of FP services often have a need to address both. In response, numerous global and regional commitments have called for integration of HIV and sexual and reproductive health (SRH) services.

To provide FP clients with comprehensive, holistic FP counseling, providers must possess the technical expertise, motivation, agency, and interpersonal skills to provide woman-centered care. Screening tools and job aids can help providers deliver patient-centered FP services in a manner that facilitates shared decision-making, with the provider lending clinical input to inform clients’ individual choices. This Open Letter describes the evolution and proliferation of a job aid to improve shared FP decision-making in low-income settings, initially introduced as Balanced Counseling Strategy (BCS) in 1999, and later expanded to Balanced Counseling Strategy Plus (BCS+) in 2007. BCS+ incorporated HIV counseling into a foundational contraceptive counseling algorithm, making it a tool for integrated counseling on FP and HIV.

We share our experience developing, evaluating, and scaling BCS+ to, for the first time, synthesize collective learnings from more than two decades of implementation of a widely used FP counseling tool, as well as inform future implementation science initiatives to improve quality of service delivery.

Background on BCS and BCS+
The BCS toolkit was conceived as an interactive, client-centered, paper-based FP decision support tool that a provider would use to guide a client through a semi-structured consultation supporting informed contraceptive choice. Building on the initial BCS format, BCS+ added HIV/STI prevention counseling, testing, and other related services (Table 1). The intended BCS+ users are health providers or FP counselors who help a client to make an informed decision on FP and other relevant services. As illustrated in Figure 1, the current BCS+ tool consists of three job aids: 1) a counseling algorithm that guides the provider through a set of steps for a FP counseling session. The steps are organized into four stages: pre-choice, method choice, post-choice, and systematic screening for other health needs; 2) a set of cards including information cards about contraceptive methods, and counseling cards on a range of other topics and services including STI/HIV testing and cervical cancer screening; and 3) contraceptive method-specific client brochures. The rest of the toolkit includes facilitators and participants’ training guides. The method and counseling cards are “pocket sized,” have a picture on one side (depicting the contraceptive method) and summary points on the other, all held together on a key ring. The intention is that the cards can be laid out on the table between the provider and client to aid discussion, with method cards successively removed as clients decide which methods they are not interested in or are not appropriate (for example, if a woman wants children in the future, the permanent methods are put to one side). The method brochures are supplementary and provide clients with detailed information on their chosen FP method, including effectiveness, whether it protects against HIV/STIs, and any potential side effects.

Development, testing, and updating of BCS and BCS+
The Population Council led the USAID-supported global Frontiers in Reproductive Health Program (FRONTIERS) (1998–2008), which applied operations research techniques to improve FP and reproductive health services and policies. Under FRONTIERS, the Population Council piloted, adapted, and replicated BCS in several countries. The initial BCS pilot study in 1999 was developed (and scaled) in response to a study of client-provider interactions at Peru Ministry of Health clinics, in which the questions asked by providers were very medical in nature and ignored a female client’s reproductive intentions and whether her partner supported her use of FP. Providers using the BCS toolkit scored significantly higher in quality of counseling. The BCS was then adapted, tested, and expanded nationally in Guatemala. The Guatemala version included a new checklist for providers to “be reasonably sure that the client was not pregnant.” (Table 1)

Following on this success, FRONTIERS tested the feasibility, acceptability, and effectiveness of an adapted BCS for use in counseling for FP services in two high HIV/STI-prevalence settings – Kenya and South Africa – among people actively seeking to prevent pregnancy who were potentially at elevated risk of HIV/STIs. The adapted toolkit – named the Balanced Counseling Strategy Plus (BCS+) – incorporated changes to the algorithm, additional cards for counseling on HIV/STI risks and services available, and contraceptive updates aligned with the WHO Medical Eligibility Criteria (MEC) contraceptive guidelines. The BCS+ was subsequently reviewed and expanded following the publication of new MEC guidelines in 2010 and
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<tr>
<th>Edition</th>
<th>Year</th>
<th>Contents</th>
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<tbody>
<tr>
<td>BCS (Peru)</td>
<td>1999</td>
<td>• Counseling algorithm (22 steps) - as poster size</td>
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<td></td>
<td></td>
<td>• Eight method cards (injectables x two, pills x two, male condom, IUD, tubal ligation, vasectomy)</td>
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<td>• Eight method brochures</td>
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<td>BCS (Guatemala)</td>
<td>2001</td>
<td>• Counseling algorithm (Two – one for social worker, one for physician)</td>
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<td></td>
<td></td>
<td>• Eight method cards (injectables, pills, male condom, IUD, tubal ligation, vasectomy, necklace assisted rhythm/Two-Day Method, and LAM)</td>
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<td></td>
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<td>• Eight method brochures (as above)</td>
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<td></td>
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<td>• Checklist to make reasonably sure client is not pregnant</td>
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<td>BCS+ (Kenya &amp; South Africa)</td>
<td>2007</td>
<td>• Revised counseling algorithm</td>
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<td></td>
<td></td>
<td>• 12 method cards (Nur-Isterate, Depo-Provera, combined oral pill, progestin only pill, emergency contraception, male and female condom, IUD, tubal ligation, vasectomy, natural methods and LAM)</td>
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<td>• 12 method brochures (see above)</td>
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<td>• Five counseling cards on HIV/STI transmission and prevention information, HIV counseling and testing, HIV/STI risk assessment, dual protection, positive health dignity and prevention</td>
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<td>BCS+ (Second edition) Kenya and eSwatini</td>
<td>2012</td>
<td>• Revised counseling algorithm</td>
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<tr>
<td></td>
<td></td>
<td>• 16 method cards (added hormonal implants, LNG IUS, withdrawal, Standard Days Method, and Two-Day Method as two separate cards)</td>
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<td></td>
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<td>• 16 method brochures</td>
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<td></td>
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<td>• Revised counseling cards on HIV/STI screening, counseling, services</td>
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<td>• New counseling cards on healthy timing and spacing of pregnancies, healthy postpartum period, promoting infant health, screening for cervical cancer</td>
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<tr>
<td>BCS+ (Third edition)</td>
<td>2015</td>
<td>• Revised algorithm</td>
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<td></td>
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<td>• 18 method cards (added Caya/SILCS diaphragm and progesterone vaginal ring)</td>
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<td></td>
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<td>• 18 method brochures</td>
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<td></td>
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<td>• Revised counseling cards on HIV/STI screening, counseling, services</td>
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<td></td>
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<td>• New counseling cards on post-abortion care, adolescent counseling, women's support and safety, male services and support for their partners, Zika, breast cancer information and awareness</td>
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**Figure 1.** Balanced Counseling Strategy Plus (BCS+) toolkit (Third edition). Consent for publication of the image was obtained from the individuals in the image.
2015\textsuperscript{11,22}. These updates, which were made under the Integra Initiative (supported by Bill & Melinda Gates Foundation (BMGF)) and the USAID-supported Evidence project (2013–2021), included a revised algorithm, three additional counseling cards, new method cards, and the WHO “MEC wheel.” These second and third editions were completed following consultation with users (including Ministries of Health) in Kenya and eSwatini, and with international FP experts. The updated tool adopted a “systematic screening” approach that not only added HIV in this “plus” aspect of BCS+, but also other services of relevance to women seeking FP such as cervical cancer screening, postpartum and postabortion care and screening for gender-based violence (GBV) (Table 2).

Evaluations of BCS and BCS+
Since its conception in the 1990s as a job aid that was piloted in the context of operations research, BCS and BCS+ have been evaluated to assess their impact on quality of counseling, FP behavioral outcomes, and HIV behavioral outcomes. In Peru and Guatemala, for instance, BCS use improved quality of care in domains such as consultation length and client satisfaction\textsuperscript{7,14}. In Indonesia, the MyChoice project led by the Johns Hopkins Center for Communications Programs (2014–2020) introduced a digital BCS+ app for postpartum FP clients, which reduced the time that providers spent counseling. A year after the MyChoice app was introduced, 86% of women chose a modern FP method, and they had a discontinuation rate of 8% compared to 29% who received traditional counseling (https://ecp.jhu.edu/2021/03/08/digital-counseling-app-family-planning-choices/). BCS+ has also had demonstrated success with increasing integration of HIV counseling in FP services: counseling on HIV testing services significantly improved among BCS+ providers in Kenya\textsuperscript{23}, and it improved counseling on condoms for dual protection\textsuperscript{24}.

BCS and BCS+ use and adaptations
In addition to being evaluated, the BCS and BCS+ have been introduced and adapted in several projects and countries worldwide. For instance, BCS+ was a key intervention component with a peer mentoring approach of the Integra Initiative (2008–2015), a multi-centred non-randomized trial, which explored a range of issues relating to the integration of HIV and SRH health services in Kenya and eSwatini\textsuperscript{25–28}.

Elsewhere, the toolkit has been adapted into diverse formats, such as locally appropriate illustrations, phone chatbots and interactive voice response technology (in Kenya, Pakistan and Tanzania)\textsuperscript{27–29}, and digital applications using the toolkit information structure and content (https://ccp.jhu.edu/2021/03/08/digital-counseling-app-family-planning-choices/). In 2017, Jhpiego introduced a desk “placemat” of the algorithm (instead of a poster) for providers in the Philippines as a job aid to support FP counseling sessions\textsuperscript{30}.

The governments of Indonesia, Kenya, and South Africa, among others, have adopted the BCS+ toolkit as part of their respective National Strategies on Family Planning, in which the BCS+ is a recommended tool. Interestingly both Indonesia and Kenya have lower unmet need than many countries\textsuperscript{31}. UNFPA supported use of the full toolkit in Lebanon for counseling postpartum women within public and private health facilities and refugee camps, with local illustrations and translations\textsuperscript{32}.

The BCS+ is available in English, French, and Spanish, with some components of the toolkit also available in Arabic, Dari, Farsi, Kiswahili, and siSwati. The toolkit has been used by a variety of government, non-governmental, religious, and civil society organizations. Since the original study using the BCS, the country and programmatic use of the toolkit has grown to cover a wide range of services and countries. The Population Council conducted research, and supported BCS+ adaptation and scale-up activities in Egypt, eSwatini, Ghana, Guatemala, Honduras, India, Kenya, Nigeria, Peru, South Africa, and Zambia. In addition, Jhpiego has introduced or strengthened the use of the BCS+ as part of nine projects in seven countries: Afghanistan, Burkina Faso (five regions), Kenya (several counties), Indonesia, Madagascar (15 regions through Maternal and Child Survival Program), Myanmar, and the Philippines. Following the introduction in Burkina Faso, the national midwifery school taught trainees on use of the counseling cards. CARE International incorporated the BCS+

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<th>Table 2. Components of the Balanced Counseling Strategy Plus (BCS+) toolkit (Third edition).</th>
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<td><strong>ALGORITHM:</strong> Summarizes the 19 steps suggested for a FP counseling session. The steps are organized into four stages: pre-choice, method choice, post-choice, and systematic screening for other health needs. A provider asks the client a series of questions and follows prompts to guide the conversation to tailor it to the individual needs and preferences of the client.</td>
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<td><strong>METHOD-SPECIFIC CARDS:</strong> (18 cards) Describe use, efficacy, and risks of each method. Provider lays out all method cards and removes/excludes methods as counseling proceeds.</td>
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<td><strong>OTHER COUNSELING CARDS:</strong> (15 cards) Used by the provider during FP counseling sessions. The first contains six questions that determine whether a client is pregnant or not. Others provide systematic screening for other services including advice on HIV/STI risk assessment, testing, and treatment; postpartum and postabortion care; adolescent SRH, screening for cervical cancer; women’s safety; and male contraception.</td>
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<tr>
<td><strong>TRAINERS GUIDE:</strong> Used to train health facility managers, supervisors, and service providers to use the BCS+ for counseling FP clients. It includes a sample agenda, training exercises, role play scripts, and background information.</td>
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<tr>
<td><strong>USER’S GUIDE:</strong> Focuses on implementation of the BCS+. It can be distributed during training or used on its own with the BCS+ job aids.</td>
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FP: family planning; SRH: sexual and reproductive health
in Supporting Access to FP and Post Abortion Care (SAFPAC) in Chad, DRC, Djibouti, Mali, and Pakistan (2011–2013). Additional examples of BCS+ use by projects include the USAID-supported PROGRESS project (2009–2014), implemented by FHI 360, Pathfinder International, and D-tree International, which piloted the BCS+ in one district in Tanzania; Ibis Reproductive Health used components in South Africa; Marie Stopes International (MSI) introduced a balanced counseling tool in Nepal and Nigeria; IntraHealth in Malawi; International Medical Corps in South Sudan; and in one county in Kenya, FHI 360 targeted increased dual protection rates among female sex workers using a balanced counseling approach. In 2015, Cameroon Baptist Convention Health Services (CBCHS) introduced the BCS+ concept into FP Counseling and Integration of Other Reproductive Health Services in health facilities where they operate with the help of the Population Council Kenya office and the Ministry of Health, Kenya.

Discussion and conclusion
Over the course of more than 20 years, BCS+ has become one of the most widely used integrated FP decision support tools, bolstered and refined by iterative learnings from implementation science findings. During that time, the toolkit grew from a small operations research study in Peru in the late 1990s, to its widespread use and adaptation in more than 20 countries two decades later. Successive investments from private and public donors ensured that the tool “kept up with the times,” incorporating new contraceptive technologies, emerging diseases such as HIV and Zika, as well as emergent priorities such as GBV and cervical cancer screening. In addition, successive versions of the toolkit maintained a steadfast focus on clients, designed expressly to ensure contraceptive decision-making was an informed, systematic process, rather than dictated solely by the whim of the provider.

However, there are several contextual factors, limitations, and challenges to consider. While the original study, replication, and adaptation took place under the USAID flagship FRONTIERS program, the Council was able to accommodate the necessary updates until the project ended in 2008. Even though the Council’s support continued to an extent under the Integra Initiative (BMGF 2008–2015) and Evidence Project (USAID 2014–2021) for the second and third editions, other institutions – recognising the value of the toolkit to improve FP counseling, contraception uptake and other services – incorporated or adapted components of the toolkit elsewhere from 2008 onwards. Over the years, in the various adaptations across multiple countries, the full BCS+ focus on comprehensive women-centred integrated counseling for FP and other services may have been diluted. Even though BCS contact information at the Population Council was listed in the facilitator and user guides, these were less likely to be used – with most people just using the algorithm, and the method and counseling cards – at facility level.

In 2008, the BCS approach (in theory) was easy to adapt to local contexts, and the toolkit included instructions for adaptation as well as a CD-ROM with electronic copies of the materials. The toolkit was initially developed in the paper era, when paper job aids and large printing budgets were the norm to supply job aids to providers in health facilities. After funded projects end, Ministries of Health are challenged to ensure all facilities have sufficient printed materials, even where the BCS+ was nationalised as is the case in Kenya, Indonesia and South Africa. While job aids have been proven to improve counseling of integrated FP, HIV, and other SRH services, unwieldy multiple tools or components of tools may not be used consistently by providers. In practice, updating the toolkit was challenging, as each component was a mix of text and graphics locked into a .pdf file, which is then difficult to amend. Although Microsoft Word versions of the second and third editions were available from the Population Council on request, this information did not seem to be clear to implementing partners and MOHs interested in adaptation. Moreover, when staff move, and funding cycles complete, institutional memory is lost across the board – at the Council, other implementing partners, and Ministries of Health. However, despite this, the BCS+ continues to receive high “online hits,” demonstrating its popularity and usefulness.

With the advent of low-cost access to the Internet, digital health has now introduced a new world of potential opportunities to both providers and clients. Leveraging the network of stakeholders who are within the global public health space may potentially help improve the distribution of an electronic toolkit. As seen above, numerous implementing partner organizations, such as Jhpiego, CARE, and MSI, support national and regional governments to introduce and distribute materials like the BCS+ toolkit. Rather than organizations and countries reinventing the wheel, convening a network of stakeholders to update the next version – an adaptable electronic version – of the toolkit is worth considering.

The costs of production of and training on job aids can seem prohibitive to programs, but the existence of proven global or national tools should make their digital adaptation, implementation and/or dissemination easier.

Additionally, client-facing self-care digital solutions offer decision support, contraceptive screening, and automated counseling that often complement facility-based provider counseling. A self-informed client helps them prepare for a good discussion with a provider. The BCS+ has inspired some of these digital solutions over the years, and updated BCS+ content could be meaningfully distributed via these consumer digital health platforms direct to consumers, extending the reach of the BCS+.

The BCS+ requires an additional update: new contraceptives (some of which are self-administered: Caya diaphragm, female condom, progesterone vaginal ring, and Sayana Press) are now available, and there have been numerous changes in the nature of the HIV pandemic since the last BCS+ update in 2015, including new prevention, detection, and treatment strategies. The development of multipurpose prevention technologies (MPTs) are designed to address the need for both contraception
and protection from HIV/STIs simultaneously\(^2\). Despite concerted advocacy and programmatic efforts to integrate HIV and FP services, integrated service provision and counseling remains a challenge in many settings, notwithstanding the dramatic changes in the landscape for prevention and treatment of HIV: condoms are no longer the sole method for preventing sexual HIV transmission. For instance, there is now scientific consensus that people living with HIV cannot sexually transmit the virus when on treatment and virally suppressed\(^3\), and HIV acquisition by seronegative people can be dramatically reduced through oral pre-exposure prophylaxis (PrEP)\(^3\).

While some may argue that job aids to support counseling do not always result in good FP outcomes\(^4\), research suggests that a broader range of available methods and better-informed clients improve contraceptive uptake and method continuation\(^5\). Therefore, now is the time for the international public health community to come together to simplify the current BCS+ toolkit by adapting a digital-first content distribution strategy to reach more providers and, through them, more clients. Supporting providers to be able to supply quality integrated FP counseling services is paramount to improving equitable person-centred care – in line with the FP2030 guiding principles and the Sustainable Development Goals (SDGs)\(^6\).

**Data availability**

No data are associated with this article.

**Author contributions**

CW led several programmatic and research activities to update and evaluate BCS+, and she led the conceptualization and original draft preparation of this manuscript. TM, KK, CN, and EAY contributed to the review and editing of the final manuscript.

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**References**