

How to Measure Provider Behavior Change Impact



Introduction

What is provider behavior?

Provider behavior defines a range of actions that include but are not limited to facility management, adherence to clinical protocols, supervision, and client-provider interaction. Provider behavior is the outcome of a complex set of factors that are both internal (e.g., attitudes, values, and beliefs) and external (e.g., supervisor support, access to professional development, and supportive workplace environment) to the provider.¹

Why focus on provider behavior?

Understanding what drives providers' behaviors and how they impact client-level outcomes is key to improving health services. Providers' behaviors can significantly influence patients' experiences of the service and their

Developed by Breakthrough RESEARCH, this guide is intended to help program planners and designers better understand provider behavior change (PBC) initiatives and their impact on service delivery and quality. The guide is also meant to advance measurement of PBC by providing frameworks and illustrative examples of how PBC measurement can inform program planning and design. Finally, the guide offers ways to continue building the evidence base for PBC approaches and impact.

This how-to guide accompanies a new interactive online learning course that focuses on understanding and measuring provider behavior change. The course is available in **English** and in **French**, is self-guided and includes instructional video content, PowerPoints, a post-test, and opportunities to further the discussion with other SBC professionals.

likelihood to adhere to treatment or recommendations, and to re-engage with health services for improved health outcomes.²

Increasingly, experts are recognizing that adequate health worker training and structural support (e.g., availability of commodities, consultation room privacy) are insufficient on their own for providing quality health services. Social and behavior change (SBC) programs have introduced strategies to improve health worker performance. However, current understanding of how to measure provider behavior and provider behavior change (PBC) is limited.

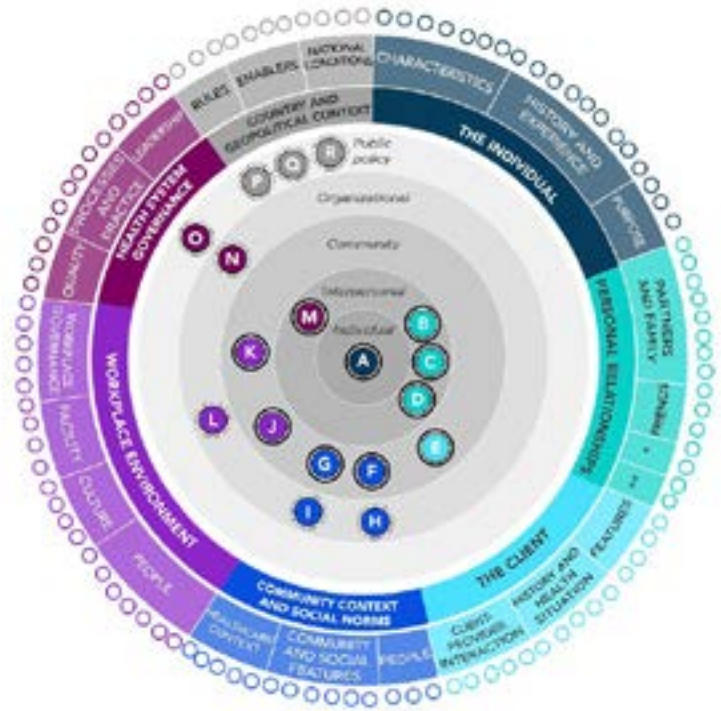
What is the Provider Behavior Ecosystem?

Several frameworks can help public health professionals understand provider behavior within a larger context.

Health and development programs are introducing strategies and tools, such as **Breakthrough ACTION's Provider Behavior Ecosystem Map**,³ that reflect on the entire ecosystem of influencers that can impact provider behavior and ensures that they are considered in intervention strategies (Figure 1). Understanding the content and organization of the map can help program planners and researchers consider diverse factors that influence provider behavior and how they interact with one another as they design or modify PBC initiatives.

The World Health Organization (WHO) offers another conceptual framework depicting the main influences on provider attitudes and practices, and how they can affect client utilization of sexual and reproductive health services (Figure 2).⁴ Although not explicitly stated in this framework, clients' perceptions of services will also impact continued use of these services.

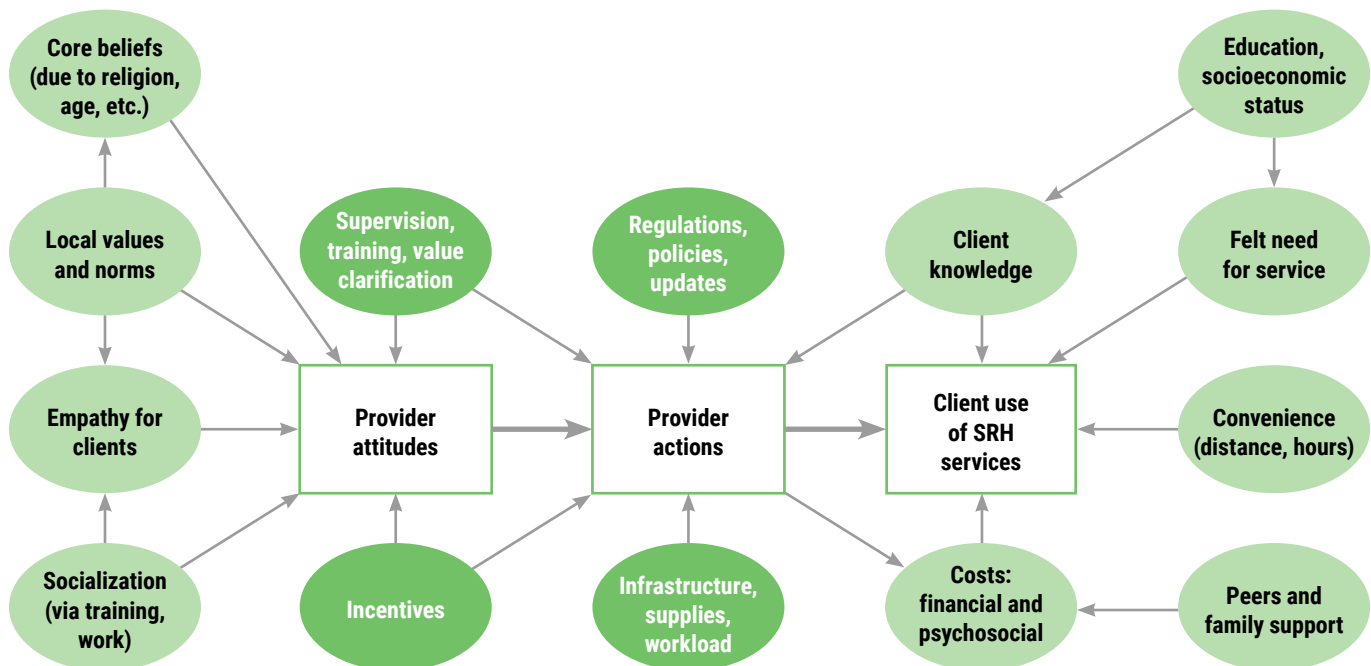
FIGURE 1 PROVIDER BEHAVIOR ECOSYSTEM



Illustrative examples of PBC approaches

Approaches to PBC range from those implemented at the health systems' policy, infrastructural, facility, and individual levels. Table 1 provides examples of types of PBC approaches. Although some of these approaches

FIGURE 2 CONCEPTUAL FRAMEWORK OF PROVIDERS' INFLUENCE ON CLIENT UTILIZATION OF SEXUAL AND REPRODUCTIVE HEALTH SERVICES



Abbreviation: SRH = sexual and reproductive health

TABLE 1 PBC APPROACH GROUPINGS

<p>Supervision, training, and values clarification</p> <ul style="list-style-type: none">• Training and education reinforce or supplement providers’ existing knowledge and address biases.• Managerial approaches include supportive supervision, provider detailing, mentorship, peer support, audits, monitoring, and feedback.• Individual process improvements are tools such as job aids and reminders.• Supplementary patient-facing materials assist providers in counseling patients.• Values-clarification exercises help a provider become aware of any values they have that may be influencing the care they provide to clients.
<p>Regulations, policies, and updates</p> <ul style="list-style-type: none">• Organizational changes for systems-wide change.• Institutional process improvements, such as checklists and case sheets.
<p>Incentives</p> <ul style="list-style-type: none">• Financial and non-financial incentives reward providers for desired behavior.
<p>Infrastructure, supplies, and workload</p> <ul style="list-style-type: none">• Infrastructure improvements to facilities.
<p>Social accountability approaches</p> <ul style="list-style-type: none">• Social accountability approaches involve community members or clients in dialogue with facility representatives with the goal of holding providers accountable.

(particularly approaches within the category of infrastructure, supplies, and workload) are typically within the purview of service delivery partners, they can also be considered PBC approaches when they are implemented in conjunction with other approaches with the goal of influencing or changing provider behavior. Many of these approaches can be implemented in combination for a potentially greater effect.

Why is It Hard to Measure PBC?

There are few validated measures of provider behaviors and factors influencing them. Assessing the impact of PBC interventions also requires linking provider behaviors to client- and population-level outcomes, which is costly and methodologically difficult. Methodological approaches are limited, and challenges arise in:

- Establishing a sufficiently large provider sample, requiring inclusion of many facilities.
- Linking client-provider observations to facility-level influences.
- Recognizing the need to capture the behavioral influence domains through different methodologies such

as observations, client-exit interviews, facility assessments, and provider interviews, which are not always feasible.

Methodological approaches to measure provider behavior vary but are best used as part of a multi-method strategy.

What are Some Strategies to Overcome These Challenges?

Table 2 outlines some pros and cons of various strategies that can be used to overcome PBC measurement challenges.

How Do We Measure the Factors that Influence Provider Behavior?

Provider behavior has traditionally been viewed through the lens of health systems strengthening and quality-of-care frameworks. However, these frameworks do not reflect factors that influence provider behavioral such as attitudes, self-efficacy, and perceived norms. As there is no

TABLE 2 DATA COLLECTION APPROACHES

Strategies	Pros	Cons
Mystery clients	<ul style="list-style-type: none"> • Reduces observation bias • Captures provider behavior 	<ul style="list-style-type: none"> • Requires high level of training and strict protocols • Higher cost • Can be disruptive of services
Client-provider observations	<ul style="list-style-type: none"> • Avoids self-report • Eliminates recall bias • Captures provider behavior 	<ul style="list-style-type: none"> • Prone to observation bias • Requires high volume of clients to be cost-effective
Client exit interviews	<ul style="list-style-type: none"> • Can be combined with observations for data triangulation • Allows for analysis linking PBC approaches with client outcomes 	<ul style="list-style-type: none"> • Prone to social desirability bias • Requires high volume of clients to be cost-effective
Provider interviews	<ul style="list-style-type: none"> • Lower cost • Able to identify individual behavioral influences that cannot be observed 	<ul style="list-style-type: none"> • Prone to recall and social desirability bias • Can be disruptive of services
Facility assessments	<ul style="list-style-type: none"> • Captures support, access to professional development, and workplace environment 	<ul style="list-style-type: none"> • Primarily assess drivers of provider behavior but not the actual behavior

singular framework for assessing PBC, leveraging frameworks from multiple disciplines to capture both the system- and individual-level influences is necessary to achieve a comprehensive understanding of provider behavior.

The PRECEDE-PROCEED model is useful to help in developing measures for PBC.⁵ This model highlights individual-level influences and their interactions with system-level ones. The model illustrates factors beyond health worker *ability* (i.e., competency and skills) that influence provider behavior (e.g., service provision or specifically, *client-provider interactions*).

The model groups factors into three categories that can be used to facilitate measurement approaches:

- **Predisposing factors:** an individual’s attitudes, beliefs, and perceptions.
- **Reinforcing factors:** factors that follow a behavior and determine whether, for example, a health worker receives positive (or negative) feedback from their supervisors.
- **Enabling factors:** resources and skills required to make desired behavioral and environmental changes (e.g., availability of medical supplies).

Identifying these three categories of factors, when combined with measures of ability (the competency and skills

of the provider) can help explain what influences provider behavior such as client-provider interaction (client reception or person-centered care) and where best to target interventions. Multiple study methods including provider interviews, client-provider observations, and health facility assessments may be required to provide a comprehensive understanding of provider behavior and factors that influence it. Importantly, as the factors described above are latent constructs (i.e., a construct that cannot be measured directly but can be estimated by related variables), measures may require multiple items to develop indices and scores to capture the concept being measured.

Examples of identifying and measuring factors

For example, providers may apply restrictions to contraceptive provision based on personal attitudes toward clients or beliefs rather than medical eligibility that limits use.^{6,7} It may be necessary to conduct formative research to identify personal attitudes, beliefs, or social and organizational norms influencing provider behaviors to identify appropriate factors to measure.

The following are examples of ways to measure predisposing factors related to attitudes toward clients seeking intrauterine devices (IUDs) through provider interviews.

- What should be the minimum age of people you offer this method to (e.g., IUD)?

- What should be the maximum age?
- Do you believe there should be a minimum number of children?
- Do you require partner consent?
- Would you offer this method to an unmarried person?
- Do you feel comfortable placing an IUD in a woman with prior pelvic inflammatory disease?
- Do you think the IUD is a safe method?
- Do you think the IUD is an effective method?

Reinforcing factors, such as job satisfaction, may also be identified through provider interviews. Examples of questions include *“How satisfied are you with the following aspects of your work?”* (with response options ranging from very satisfied to very dissatisfied):

- Relationship with your supervisor
- Relationship with colleagues
- Management of the health facility
- Number of staff working in the facility
- Availability of medicines in the health facility

- Availability of equipment in the health facility
- Your workload
- Your training opportunities

Enabling factors, for example amenities, equipment, or infection control measures, can be measured through health facility assessments. Figure 3 gives a sample of enabling factors.

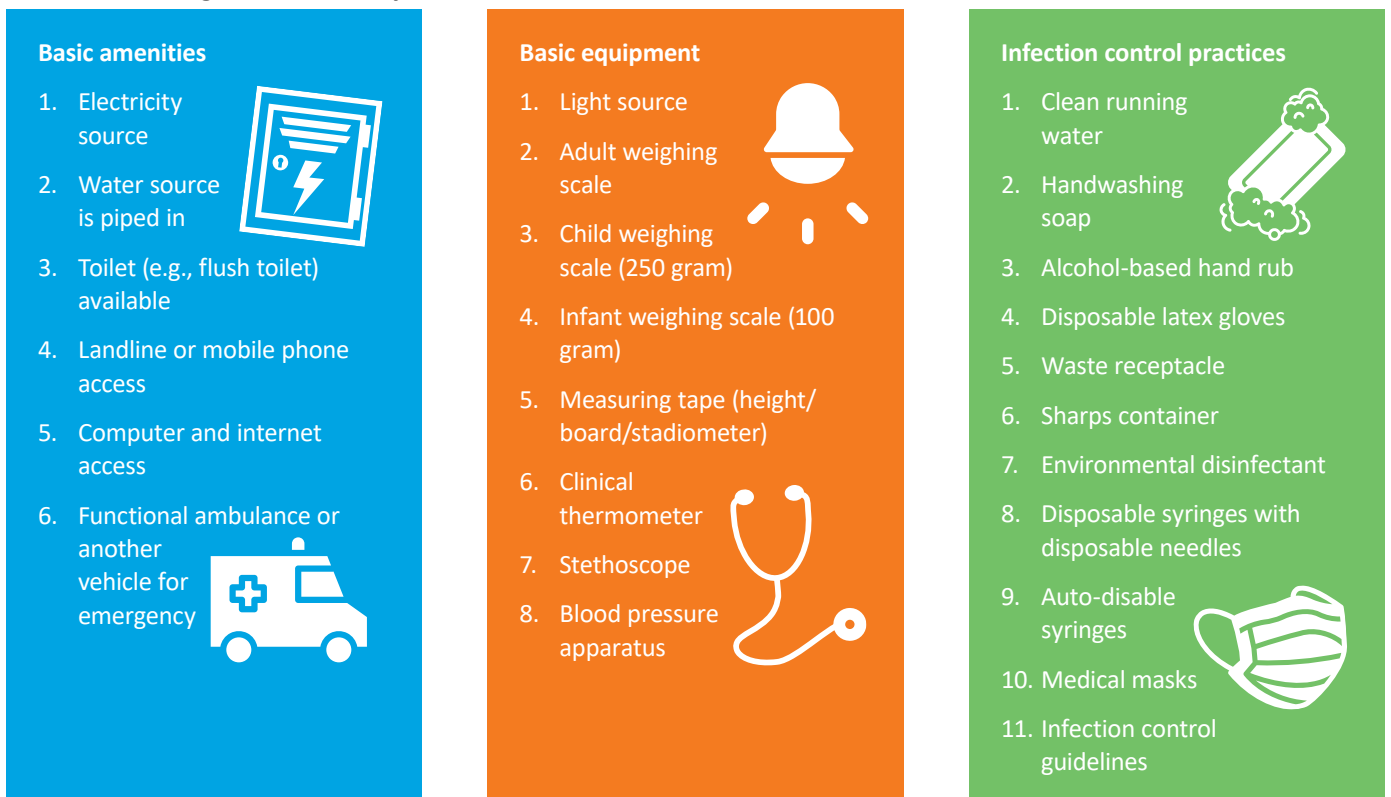
Provider ability might be measured through provider interviews or provider-client observation. Examples include assessments of health worker ability to provide counseling and administer a range of contraceptive methods⁸ or provider knowledge and ability to counsel and administer specific methods (e.g., emergency contraception pills, IUDs, vasectomy).⁹

Finally, measures of provider-client interaction¹⁰ can be collected through observations or mystery client interviews and can include:

- Provider welcomed client
- Client given adequate answers to all questions

FIGURE 3 EXAMPLES OF ENABLING FACTOR MEASURES

Measured through Health Facility Assessments



Source: World Health Organization. Service Availability and Readiness Assessment (SARA) An annual monitoring system for service delivery. Geneva, Switzerland; 2013.

- Provider explained what was going to be done to obtain client's consent
- Provider treated the client in a friendly manner
- Client shown respect for privacy
- Client received care in a clean environment
- Provider asked whether client understood
- Provider listened to client's concerns
- Provider gave client opportunity to co-develop solutions together

How Can We Continue to Improve and Measure the Evidence for Effective PBC?

The PBC evidence base is growing, but to have the best evidence available to guide implementation, we must improve measurement of provider behavior and behavioral drivers.

- To better understand what makes PBC interventions work and to what extent they achieve the desired outcome, program planners need to develop and monitor program theories of change that incorporate behavioral theory to facilitate systematic measurement of the pathways within **theories of change**.
- To assess barriers to provision of high-quality family planning services, PBC programs should continue to conduct and document formative work to better understand the social and gender attitudes and norms (e.g., women should be married before they use contraception) that influence provider behavior in addition to provider knowledge, competency, and structural and contextual barriers.
- Provider-level behavioral measures and client-level health outcomes should be captured in addition to more intermediate factors, such as changes in provider knowledge, attitudes, beliefs, and context. This will allow understanding of the strength of the relationship between PBC interventions, intermediate outcomes, and family planning utilization.
- A persistent need exists for more rigorous evidence on and measurement of what works for PBC. To increase the confidence in conclusions, approaches using multiple data collection approaches (such as those in table 1), randomized designs, comparison groups, and/or triangulation with routine or program monitoring data should be considered when feasible.

References

1. Sherard, D., S. May, E. Monteforte, and H. Hancock. 2013. *Provider Behavior Change Implementation Kit*. Baltimore, MD: Johns Hopkins University.
2. Ambady, N., J. Koo, R. Rosenthal, and C. H. Winograd. 2002. "Physical therapists' nonverbal communication predicts geriatric patients' health outcomes," *Psychology and Aging* 17(3): 443–452. doi:10.1037/0882-7974.17.3.443; Tumlinson, K. 2016. *Measuring Quality of Care: A Review of Previously Used Methodologies and Indicators*. New York: Population Council. doi:10.31899/rh8.1048; WHO. 2010. *Social Determinants of Sexual and Reproductive Health: Informing Future Research and Programme Implementation*. Geneva: WHO. Accessed July 1, 2022. https://apps.who.int/iris/bitstream/handle/10665/44344/9789241599528_eng.pdf.
3. Breakthrough ACTION. *Provider Ecosystem Map*. <https://www.baproviderbehaviorecosystem.org/>
4. WHO. 2010. *Social Determinants of Sexual and Reproductive Health: Informing Future Research and Programme Implementation*. Geneva: WHO. https://apps.who.int/iris/bitstream/handle/10665/44344/9789241599528_eng.pdf
5. Green, L., and M. W. Kreuter. 2005. *Health Program Planning: An Educational and Ecological Approach*. New York: McGraw Hill.
6. Hohmann, H. L., M. L. Cremer, E. Gonzalez, and M. Maza. 2011. "Knowledge and attitudes about intrauterine devices among women's health care providers in El Salvador," *Rev Panam Salud Publica*. 29(3): 198–202.
7. Pleasants, E. et al. 2019. "Are women in Lomé getting their desired methods of contraception? Understanding provider bias from restrictions to choice," *OAJC*. 10: 79–88. doi: 10.2147/OAJC.S226481
8. Nalwadda, G. et al. 2011. "Constraints and prospects for contraceptive service provision to young people in Uganda: providers' perspectives," *BMC Health Serv Res*. 11(1): 220. doi:10.1186/1472-6963-11-220.
9. Sattari, M., Z. Mokhtari, H. Jabari, and S. O. Mashayekhi. 2013. "Knowledge, attitude and practice of pharmacists and health-care workers regarding oral contraceptives correct usage, side-effects and contraindications," *East Mediterr Health J*. 19(6): 547–554. doi:10.26719/2013.19.6.547.

10. Nalwadda, G. et al. 2011. "Constraints and prospects for contraceptive service provision to young people in Uganda: providers' perspectives," *BMC Health Serv Res.* 11(1): 220. doi:10.1186/1472-6963-11-220.

Acknowledgments

The authors would like to thank Leanne Dougherty, Amanda Kalamar, and Laura Reichenbach at Population Council and Lindsay Swisher and Joan Schubert at the United States Agency for International Development for their technical reviews.

Suggested citation:

Breakthrough RESEARCH. 2023. "How to measure provider behavior change impact," *Breakthrough RESEARCH How-to Guide*. Washington, DC: Population Council.

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Breakthrough RESEARCH is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of cooperative agreement no. AID-OAA-A-17-00018. The contents of this document are the sole responsibility of Breakthrough RESEARCH and Population Council and do not necessarily reflect the views of USAID or the United States Government.



Breakthrough RESEARCH catalyzes social and behavior change (SBC) by conducting state-of-the-art research and evaluation and promoting evidence-based solutions to improve health and development programs around the world. Breakthrough RESEARCH is a consortium led by the Population Council in partnership with Avenir Health, ideas42, Institute for Reproductive Health at Georgetown University, Population Reference Bureau, and Tulane University.