



Medical Information Delivering Improved Customer Experience: A Guide

Pete Guillot¹ · John Shea² · Scarlett Shoemaker³ · Michael Rocco⁴ · Michael DeLuca⁵ · Rena Rai⁶ · Evelyn R. Hermes-DeSantis⁷

Accepted: 6 March 2023 / Published online: 5 April 2023
© The Author(s) 2023

Abstract

Customer experience (CX) is essential in any business. In the pharmaceutical industry, the Medical Information Contact Center is a customer-facing unit that provides evidence-based, scientifically balanced information to healthcare professionals and patients in response to unsolicited inquiries. The purpose of this paper is to provide analysis and guidance for designing and measuring interactions in the Medical Information Contact Center to facilitate the delivery of a superior and continuously improving CX. Surveys were conducted to establish current trends in CX among a diverse group of CX professionals and members of phactMI, a non-profit collaboration of Medical Information leaders from the pharmaceutical industry. The top three observations from the CX professionals survey centered on establishing a clear CX strategy, use of technology, and frequency of sharing results. Three potential areas for improvement focus on CX strategy, measurements of CX, and sharing of results. An analysis of quality monitoring results of customer interactions in the pharmaceutical industry from Centerfirst, a contact center quality monitoring service provider, was also reviewed. This analysis found a positive correlation between CX and three agent skills: taking the lead, empathy, and strong compliance skills. Based on these results, a CX guide was developed and specifically tailored for the pharmaceutical industry. This tool may be used to help identify, assess, and possibly improve CX.

✉ Evelyn R. Hermes-DeSantis
evelyn@phactMI.org

- ¹ Centerfirst, Carmel, IN, USA
- ² EMD Serono, Medical Information and Review, Rockland, MA, USA
- ³ Eli Lilly and Company, Medical Information, Indianapolis, IN, USA
- ⁴ Pfizer Inc., Global Medical Information, New York, NY, USA
- ⁵ Eversana, Medical Affairs, Scituate, MA, USA
- ⁶ Janssen Scientific Affairs, LLC; Content Strategy and Innovation, Titusville, NJ, USA
- ⁷ phactMI, Project Management Office, 142 Glen Mills Rd, Glen Mills, PA 19342, USA

Key Points

The pharmaceutical industry, along with nearly every other industry, recognizes the importance of measuring and continuously improving the customer experience.

There is a desire and opportunities to advance an overall customer experience strategy, use of technology, and sharing of customer experience results within the pharmaceutical industry.

Quality monitoring is one way to measure and improve the customer's experience. There is a positive correlation among empathy, taking the lead, strong compliance, and customer experience score.

A guide and customer experience framework that can be used for measuring and improving customer experience in medical information is provided.

1 Introduction

Successful businesses recognize the correlation between satisfied customers and customer loyalty. History clearly shows the value of investing in customer experience (CX) during a downturn. In the last economic recession, companies that prioritized CX realized three times the shareholder returns compared with the companies that did not [1].

There are many different ideas of what “customer experience” may mean to different industries. In theory, CX covers every aspect of a company’s offering and public interactions, including the quality of customer care, advertising, packaging, product characteristics, ease of use, reliability, word of mouth, and other company-related qualities [2]. There are also customer-related parameters that may play a role in CX. In the mid-1980s, the literature described customers as “rational thinkers” in their decision making and experience ranking; however, currently it is better appreciated that customers are “feelers” as well as thinkers, and the customer’s emotions, prior experiences, and cultural and spiritual backgrounds also play a role [3]. Indeed, customer’s emotions may be a key driver in their decision making, and therefore should be factored in any understanding of CX [4, 5].

While all these factors help shape a customer’s experience, measuring all these variables can prove not only difficult, but counterproductive. As Maklan and colleagues have proposed: “The challenge of implementing experience successfully is that it is defined so broadly, so ‘holistically’ as to exclude almost nothing; it has become the theory of everything” [6]. Such a holistic view, while useful for understanding CX, is less helpful in developing tools to accurately measure a positive CX or to define actionable goals to improve experiences.

A satisfied customer is at the crux of a successful CX. While there are many CX models and roadmaps, and many companies such as Amazon and Starbucks have successful CX models [7], there is a common theme that focuses on the customer’s perception of the experience. The Customer Experience Professional Association has developed the *CX Framework* [8]. This framework is used across industries to direct and facilitate all six disciplines of CX: Strategy; Customer Understanding; Experience Design, Improvement and Innovation; Metrics, Measurement, and Return on Investment; Operational Adoption and Accountability; and Culture. The customer-focused framework defines CX as a customer’s perception of an organization that is influenced by interactions with the organization over time. Interactions with an organization include those with the people, technology, and all aspects of the organization. (<https://www.cxpaprofessional.org/home>) Like other businesses,

pharmaceutical companies strive to continuously improve customer satisfaction and heighten a customer’s desire to utilize their services and products again. The provision of accurate and timely information about their medications, along with understanding the customer’s preference of receiving it (i.e., written text, infographic, video, verbal communication), should be the foundation of the pharmaceutical companies’ Medical Information CX.

Although there are published data and guidance on CX in general for healthcare industries and pharmaceutical companies in particular, there is a paucity of literature on customer experiences focusing specifically on Medical Information interactions. When included in the literature, Medical Information is consistently regulated as one variable among many that pharmaceutical companies must consider when evaluating CX, and not as a stand-alone channel to be independently evaluated. However, as Maklan and colleagues have eluded, there may be value in “atomizing” the different variables that influence CX; a more limited scope may help better define concrete goals, more meaningful measurements, and clearer steps to improvement [6].

1.1 Tools to Understand the CX

Medical Information is an important customer facing function of pharmaceutical companies that interacts with many customer types including healthcare professionals, patients/caregivers/consumers, and healthcare decision makers/payers. To provide a better CX, Medical Information can borrow tools developed in other industries. There are numerous tools that can be used to understand the CX (see the Glossary of Customer Experience Terms in the Electronic Supplementary Material [ESM] [9]).

The Customer Satisfaction Score directly measures a customer’s satisfaction level, wherein “customer satisfaction” is specifically defined as closing the gap between what the customer expected and what the customer subsequently experienced. The Customer Satisfaction Score is often measured on a scale from “very dissatisfied” to “very satisfied,” although it may include some open-ended questions as well [10].

The Net Promoter Score (NPS) uses a single question to measure the likelihood of a customer referring a business, product, or service to others. It goes beyond customer satisfaction and measures CX and brand loyalty. The NPS is often simple to use and respond to, and it easily identifies satisfied versus unsatisfied customers. However, the application and implications of an NPS need to have a valid comparator available. Because it does measure a more holistic

overall feel for a company, it does not accurately measure the latest interaction between a customer and a company [11].

However, the Customer Effort Score (CES) does specifically focus on the interaction, and it assesses the ease of a customer's experience interacting with an organization (e.g., "How easy was it to find an answer on our website today?"). This is usually presented as a single 5-point scale question from "low" to "high" effort. Like the NPS, the Customer Effort Score can help predict brand loyalty, in that a high-effort score is highly correlated with brand disloyalty. Low effort does not necessarily guarantee brand loyalty, but it does remove an obstacle to it. The Customer Effort Score only measures the level of difficulty the customer experiences in using a particular service. It does not determine what exactly was difficult or why that process was difficult [10].

Although Medical Information can borrow the measurements and practices of other industries in assessing and enhancing customer experiences, we should be mindful of the value of not approaching CX holistically, but rather as individual components. Perhaps equal value is recognizing which individual components are truly impactful to the customer, which may be different in Medical Information versus other industries. In one of the few published CX studies focusing on Medical Information, a Contact Center had identified 17 key performance indicators (KPIs) deemed important in measuring CX [12]. Customers were asked after their interactions with the Contact Center which of those metrics were important to them. While some KPIs were important to both the Contact Center and the customers (e.g., "truthful information" and "presentation of solutions and alternatives"), other KPIs were much less so (e.g., "additional sales services" and "frequent customization of the phone call"). Identifying and focusing on the KPIs that are truly important to customers may yield the best return on investment in maximizing CX.

While there are many options for customers to obtain Medical Information from the pharmaceutical company, via a Contact Center, Medical Information website, e-mail, and interacting with Medical Science Liaisons, the Medical Information Contact Center accounts for nearly two-thirds of inquiries (data on file with phactMI, 2022). Enhancing the CX when interacting with Medical Information is not merely an academic exercise; it can have a significant impact on how the resulting information is used or shared. In a 2018 survey of more than 2600 US and European physicians, previous interactions with pharmaceutical companies' Medical Affairs departments were evaluated. Examples of interactions included contact with Medical Science Liaisons and company Contact Centers, as well as accessing the Medical Information website [10]. Physicians who reported positive CX while obtaining medical information reported they were more likely to save that information or to share it with a

colleague. Conversely, more than half of physicians who had negative CX reported doing nothing with the acquired information [13].

The purpose of this paper is to provide a guidance for designing and measuring interactions in the Medical Information Contact Center to facilitate the delivery of a superior and continuously improving CX. Two critical disciplines within the CX Framework (1) Experience Design, Improvement and Innovation and (2) Metrics, Measurement, and Return on Investment are highlighted. A strict financial Return on Investment may not be a relevant or appropriate measure for Medical Information Departments; however, a method for assessing the benefit of resources expended would be applicable. It is also important for Medical Information Departments to continuously demonstrate value to ensure companies invest in resources, tactics, and strategic initiatives for the delivery of a positive CX.

This guidance is based on the collected experience of this working group informed by collaborative data gathering and analysis by the CX Working Group of phactMI and Centerfirst. phactMI is a non-profit collaboration of Medical Information leaders from the pharmaceutical industry dedicated to shaping the future of medical information and enhancing delivery of information across a broad customer base. Centerfirst is a contact center quality monitoring service provider for the pharmaceutical industry. For the purpose of this paper, pharmaceutical customers include healthcare professionals (i.e., physicians, pharmacists, nurses), patients, and caregivers.

2 CX Professional Survey

The CX Working Group developed a survey to evaluate current best practices in the application of a CX strategy that was distributed to a small sample of CX professionals from various industries through the Customer Experience Professional Association contributors' network in December 2021. The survey (see ESM) assessed the CX professionals opinion on their organization's CX strategy, hurdles and accelerators to the strategy, measures used, technology, and communication.

The survey results include responses from CX professionals from nine industries other than the pharmaceutical industry. Industries included emergency medical services, fuel and energy, household goods manufacturing, retail, insurance, and software and technology.

The top three observations from the CX professionals survey centered on establishing a clear CX strategy, use of technology, and frequency of sharing results (full survey results are provided in the ESM). Respondents provided a broad ranking of their organization's progress in establishing a clear CX strategy, with the majority stating the progress as

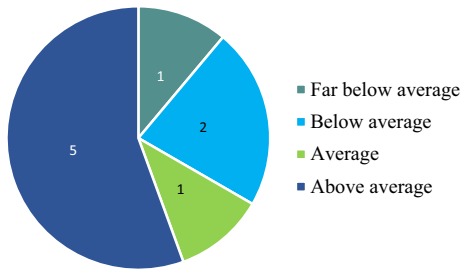


Fig. 1 Ranking of organizational progress in establishing a clear customer experience strategy

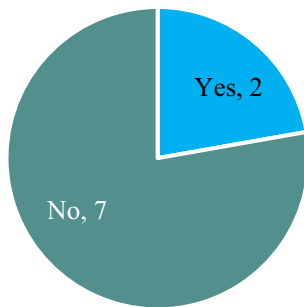


Fig. 2 Use of artificial intelligence tools

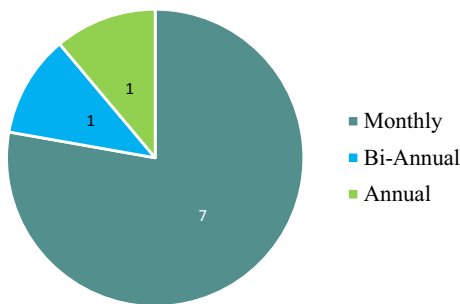


Fig. 3 Frequency of sharing customer experience measurements

average to above average (Fig. 1). Of the nine respondents, two indicated that artificial intelligence tools were used to gather and analyze CX data. Additional comments on this question included they did not have the technology and they were considering chatbot (Fig. 2). Overall, all the respondents share the results of their CX measurements across the organization. However, the frequency of the sharing varied with monthly being the most common (Fig. 3).

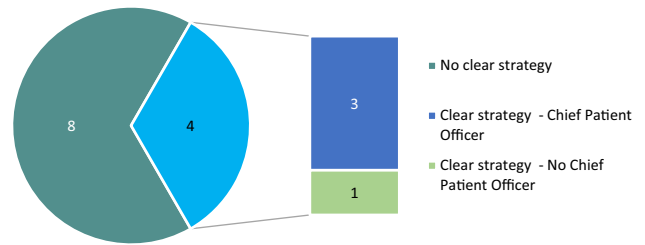


Fig. 4 Clear customer experience strategy and the presence of a Chief Patient Officer

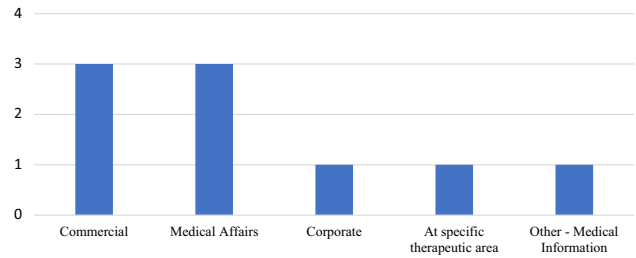


Fig. 5 Ownership of a customer experience strategy

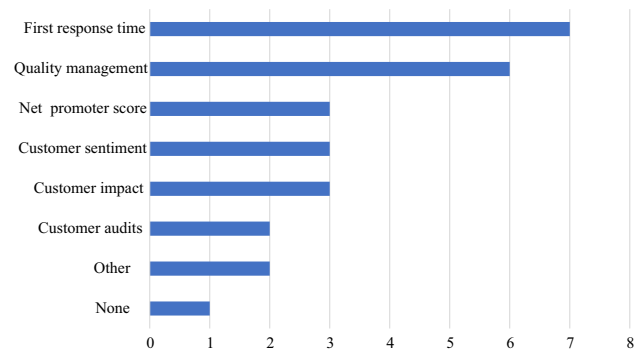


Fig. 6 Measures being used to assess customer experience

3 phactMI Member Companies Survey

A second similar survey was distributed to the 32 member companies of phactMI in February 2022. The survey (see ESM) assessed opinions on their organization’s CX strategy, hurdles and accelerators to the strategy, measures used, technology, and communication. The survey was completed by 12 of the 32 (38%) phactMI member companies (full survey results provided in the ESM). Three potential areas for improvement focus on CX strategy, measurements of CX, and sharing of results.

Overall, 66% (8/12) of respondents said that their organization either did not have a clear CX strategy or that they were not aware of it. Three of the four companies *with a*

clear strategy indicated that their organization has a role dedicated to CX (Fig. 4). There were differing opinions on the “owner” of the CX strategy within the organization (Fig. 5).

The two most common measures of CX were “First Contact Resolution” and “Quality Management (Quality Monitoring or Quality Assurance)” (Fig. 6). According to this survey, no one was collecting a CES or using mystery callers. In addition, no artificial intelligence tools were used in gathering or analyzing CX data. For example, some companies may be using natural language processing for insight generation or sentiment analysis to further classify CX. The final insight was that only 1 of 12 respondents indicated that CX results were aggregated and shared across the organization.

4 Centerfirst Data

The third set of data informing the guidance is an analysis of quality monitoring results of customer interactions in the pharmaceutical industry based on Centerfirst’s database. Centerfirst is a pharmaceutical industry quality monitoring service provider. This analysis was conducted using data from the quality monitoring results from Centerfirst of more than 4484 Medical Information Contact Center telephone interactions over a 6.5-year period (1 January, 2015 to 31 August, 2021). The data assessed external customers including healthcare professionals (i.e., physicians, pharmacists, nurses, veterinarians, veterinarian technicians) patients, and caregivers who contacted a Medical Information Contact Center contracted with Centerfirst. Centerfirst authorized the use of the de-identified data (Fig. 7).

In addition to client-specific protocols, Centerfirst assesses and scores the overall CX and individual agent skills demonstrated on each interaction (Table 1 for list of skills assessed). The CX score given as part of the quality monitoring process is a combination of subjective measures (i.e., building customer rapport, observed customer effort) and objective measures (i.e., call greeting, call close, hold procedures). Analysis of interactions found that two agent

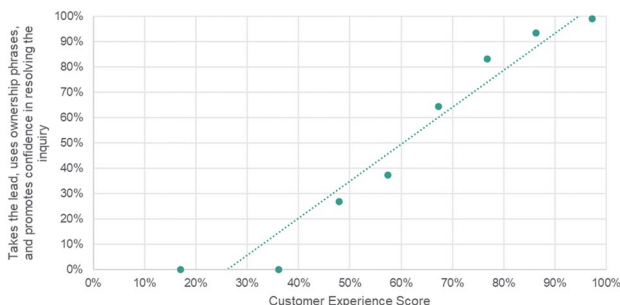


Fig. 7 Correlation between “Takes the lead” skill and customer experience score

skills were set apart from others in their positive correlation to CX. Additionally, the analysis found that strong compliance skills were positively correlated to a positive CX. The agent skill of “Takes the lead” is positively correlated with the customer having a positive experience. There was a 0.45 correlation coefficient between the agent’s skill performance of taking the lead and the overall CX score. Examples of this skill include the agent using ownership phrases such as “I’d be glad to help you” and being confident in their delivery of information. Demonstration of this skill was correlated to a CX score of 90% compared with 72% when not demonstrated (Fig. 8).

The agent skill “Demonstrates empathy” is also positively correlated with CX. Examples of this skill include the agent using effective empathy phrases such as “I’m sorry to hear that happened,” acknowledging the customer’s feelings, and apologizing for an unsatisfactory experience. “Demonstrates empathy” has a 0.42 correlation coefficient between the agent’s skill performance and the overall CX score. Demonstration of empathy was correlated to a CX score of 88% compared with 76% when not demonstrated (Fig. 9).

Strong compliance skills are positively correlated with the CX score. Strong compliance skills include multiple skills that cover appropriate identification and handling of adverse events and product quality complaints, providing all required disclaimers, appropriate handling of off-label use discussions, and accuracy of response to the caller’s inquiry. There is a 0.14 correlation coefficient between the overall compliance score and the overall CX score. Use of strong compliance skills were correlated to a CX score of 90%, compared with 84% when not used.

5 Dynamic Approach to Improving CX in the Pharmaceutical Industry Guide

As described by Sean McDade, PhD in *Listen or Die* in 2018, feedback can be a combination of structured or unstructured, and solicited or unsolicited data. For example, a post-call interactive voice response would be considered solicited-structured feedback while an open-ended post-call interactive voice response would be solicited-unstructured feedback. Social reviews with a Google rating system would be unsolicited-structured feedback while quality monitoring would be unsolicited-unstructured feedback. Companies may choose to collect several forms of feedback [14].

The pharmaceutical industry, like other industries, has companies that are at various stages of creating and communicating a clear CX strategy. Part of this advancement in CX includes developing the leadership positions and deploying the advanced technology to support implementation. However, the first steps are to define the customer and what the

Table 1 Agent's skills assessed

Skill	Definition
<i>Customer experience</i>	
Appropriately greeted the customer and identified self and organization	The agent introduced themselves by name and title and provided the program name. The agent proactively offered assistance such as "How may I help you?"
Asked relevant clarifying questions to accurately identify the true nature of the customer's inquiry	The agent asked probing questions to ensure an adequate understanding of the customer's needs. The agent asked check-back questions to ensure customer understanding
Took the lead, used ownership phrases, and promoted confidence in resolving the inquiry	The agent used ownership phrases such as "I'd be glad to help you." The agent was confident in their delivery of information. The agent did not sound confused or unsure in how to proceed when responding to the caller's inquiry
Handled the customer's needs in a clear and organized manner	The agent navigated smoothly through the call. The call was well organized, and the agent effectively transitioned to address the customer's needs
Listened actively and limited the need to ask the customer to repeat information	The agent was attentive and responded to information shared by the customer. The agent refrained from asking the customer to repeat information that was already clearly stated
Demonstrated product or program knowledge	The agent used appropriate resources for answering the customer's question. The agent avoided providing information outside of the approved materials, including opinions or information related to other products
Used appropriate volume, pace, and voice tone. Words are clearly enunciated and properly pronounced	The agent's rate of speech allowed the customer to easily record or absorb information. The agent clearly enunciated and properly pronounced words. The agent's tone was upbeat and warm and did not sound robotic or scripted
Demonstrated empathy and diffused angry callers, when appropriate	The agent used effective empathy phrases such as "I'm sorry to hear that happened." The agent acknowledged the customer's feelings and apologized for an unsatisfactory experience. The agent attempted to build rapport with the customer by engaging in a collaborative two-way dialogue to demonstrate a genuine interest in assisting the customer. The agent referred to the customer by name throughout the conversation, as appropriate
Avoided use of slang/jargon, repeated use of vocal fillers and dead air	The agent limited the use of excessive vocal fillers such as "um" and "uh," and casual language such as "no prob" or "you guys" during the interaction
Maintained business professional relationship and avoided interrupting customer	The agent avoided curse words and rude behavior. The agent allowed the customer to speak freely and avoided intentional interruptions and speaking over the customer
Used proper hold and transfer techniques	The agent explained the reason for a hold/transfer, asked permission to place the customer on hold or transfer the call, checked back in with the customer during a prolonged hold time, and thanked the customer for holding upon return to the call
Accurately explained next steps and set expectations	The agent offered to research the customer's question and respond with a call back, when applicable. The agent offered to fax, e-mail, or mail hard copies of requested documentation. The agent explained next steps and provided a time frame for follow-up
Used appropriate call summary and closing	The agent asked if the customer had additional questions prior to concluding the call or transferring the customer. The agent thanked the customer for their time
<i>Compliance skills</i>	
Appropriately identified and handled a PAE	All adverse events stated on the call were identified and reported to the appropriate channel. The agent stated that a PAE was identified, stated the requirement to report the PAE, collected information for a PAE report, asked permission to follow up with the customer/reporter and HCP, and transferred the customer, when appropriate

Table 1 (continued)

Skill	Definition
Appropriately identified and handled a potential PQC	All product quality complaints stated on the call were identified and reported to the appropriate channel. The agent stated that a PQC was identified, stated the requirement to report the PQC, collected information for a PQC report, asked permission to follow up with the customer/reporter and HCP, and transferred the customer, when appropriate
Provided disclaimers in accordance with program requirements	The agent provided all appropriate disclaimers, such as a call recording disclaimer and medical advice disclaimer
Responded accurately, narrowly tailored and limited to the scope of the customer's inquiry	The agent responded to the customer's specific inquiry without expanding beyond their inquiry with an exception for relevant safety information

HCP healthcare professional, PAE potential adverse event, PQC product quality complaint

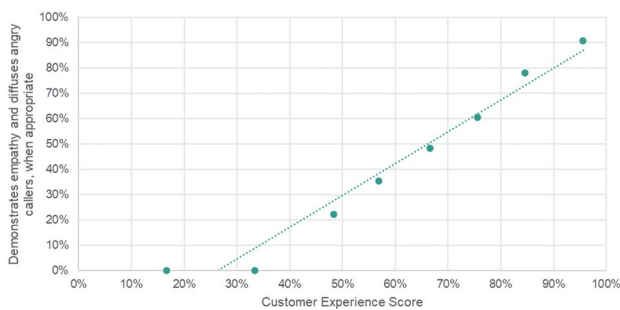


Fig. 8 Correlation between “empathy” skill and customer experience score



Fig. 9 Correlation between “compliance” skill and customer experience score

customer wants. Upon review of the Centerfirst data, five pharmaceutical customer wants were identified.

- Customers want to *Feel Heard*. They want their need to be acknowledged and validated by the person they are

speaking with as a representative of the pharmaceutical company.

- Customers want their *Needs Addressed*, efficiently and completely. They want to know they have come to the right place and the agent will take ownership in supporting and anticipating their needs.
- Customers want to *Feel Included*. Genuine empathy and compassion can create a trusting, safe, and secure environment that allows the customer to feel they are supported and accepted no matter their situation or need.
- Customers want to *Be Informed*. The healthcare, regulatory, and access systems are complicated and confusing, and the customer is reaching out for help.
- Customers want to *Feel Confident* through positive, consistent, and meaningful experiences. They want to be appreciated and have confidence in the pharmaceutical company to provide the support they need.

Based on the input from the pharmaceutical companies and Centerfirst as part of this CX working group and the data provided by the surveys and Centerfirst, the *Dynamic Approach to Improving Customer Experience (CX) in the Pharmaceutical Industry* (Table 2) is a proposed guidance for a CX program. It is a tool intended to provide the basic framework on how to design and implement a CX program. The details of the CX program will be company specific. Regardless of what vehicle is used to design and implement a CX strategy, the destination is a good experience for the customer.

Table 2 Dynamic approach to improving CX in the pharmaceutical industry

1	If not established, create a team that is representative of the areas of interactions and measurement, such as the MICC, Medical Information, and Public Relations
2	If available, use your company-wide defined CX strategy as the starting point for the MICC CX Link to corporate initiatives, measurements, and reporting
3	Identify the customers (i.e., patient, physician, pharmacist, nurse) and build interaction objectives from each customer's point of view
4	Use a CX framework specifically created for pharmaceutical industry customers such as the following 5 "wants" of the pharma customer Customers want to <i>Feel Heard</i> Customers want their <i>Needs Addressed</i> , efficiently and completely Customers want to <i>Feel Included</i> Customers want to <i>Be Informed</i> Customers want to <i>Feel Confident</i> through positive, consistent, and meaningful experiences
5	Ensure the CX is harmonized at all potential touchpoints, both live and digital
6	Select touchpoints to measure and methods of measurement
7	Use a systematic approach (combination of human and AI) for data gathering and analysis Utilize AI that is trained for pharmaceutical terminology and specifically trained for your company's medical and therapeutic nomenclature
8	Develop and prioritize insights from the data analysis based on the organization's CX improvement strategy. Insights become the source of actions
9	Develop an improvement "roadmap" of action items based on prioritized insights Select a limited number of areas for improvement Assign accountability for areas of improvement and add to the roadmap
10	Report to all stakeholders with the level of detail necessary to inform or act Report on progress using both trended and point-in-time results. Change the metrics infrequently as trended information is highly valuable Host in-person or virtual interactions and recognize progress on prioritized actions

AI artificial intelligence, CX customer experience, MICC Medical Information Contact Center

6 Discussion

The guide was developed by the experiences of the authors within their own organizations. It may be implemented in part or in whole based on the needs/interests of the organization. There are no results of implementing any specific guide, but the authors have aligned on these steps as the most appropriate for the Medical Information Contact Center within a pharmaceutical company. Additionally, the guide is not meant to be a linear progression but may be instituted at any point based on the individual organization and may require some steps to be repeated as necessary.

The survey data that have been presented are limited in scope and number of responses. The CX professional survey, while only having nine responses, did represent a multi-industry viewpoint. The information provided in the survey is presented simply as observations. The observations informed the authors and are intended to inform the readers of some of the similarities and differences in the CX work performed in other industries as well as within the pharmaceutical industry. In addition, while the focus of this work was on the Medical Information Contact Center, the guide can also be adapted to apply to other channels for Medical Information.

7 Conclusions

Defining methods for measurement, consistently collecting the data for metrics, and sharing CX information across the organization in a timely and easily understood format are essential. New methods for capturing and analyzing CX data from interactions in the contact center using different forms of artificial intelligence (i.e., predictive analytics, natural language processing, big data, machine learning) have not been thoroughly implemented and may present a significant opportunity to promote positive CX in the near term. Applying this tailored CX guidance for the pharmaceutical industry, the Medical Information Contact Center may help improve the effectiveness and efficiencies of CX initiatives.

Acknowledgements Allie H. Strauss, BS, and Andrea W. McCroskey, BSN, RN assisted with the Customer experience analysis and design.

Declarations

Funding No funding was provided for the preparation of this article.

Conflict of interest PG is employed by Centerfirst, JS is employed by EMD Serono, SS is employed by Eli Lilly and Company, MR is employed by Pfizer Inc., MD is employed by Eversana, Medical Affairs, RR is employed by Janssen Scientific Affairs, LLC, and ERHD is employed by phactMI. JS, SS, MR, MD, and RR are members of phactMI. The authors have no other potential conflicts of interest to declare.

Ethics approval Not applicable.

Consent to participate All surveys were voluntarily completed by participants. All data were anonymized.

Consent for publication No participant information is published.

Availability of data and material The data are not publicly available.

Code availability No coding was used in the article.

Authors' contributions All authors substantially contributed to all aspects of authorship, including conception and design; interpretation; and drafting and revising the final work. PG was responsible for data acquisition, and analysis of Centerfirst data. All authors read and approved the final manuscript draft for submission and agreed to be accountable for all aspects of the work.

Open Access This article is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License, which permits any non-commercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc/4.0/>.

References

1. Bough V, Breuer R, Maechler N, Ungerman K. The three building blocks of successful customer-experience transformations. *McKinsey Q Mag.* 2020;27.
2. Meyer C, Schwager A. Understanding customer experience. *Harvard Bus Rev.* 2007;85(2):116.
3. Gentile C, Spiller N, Noci G. How to sustain the customer experience: an overview of experience components that co-create value with the customer. *Eur Manag J.* 2007;25(5):395–410.
4. Lerner JS. Emotion and decision making. *Annu Rev Psychol.* 2015;66:799–823.
5. Zaltman G. *How customers think: essential insights into the mind of the market.* Boston: Harvard Business School Press; 2003.
6. Maklan S, Antonetti P, Whitty S. A better way to manage customer experience: lessons from the Royal Bank of Scotland. *Calif Manag Rev.* 2017;59(2):92–115.
7. Schoultz M. What customer experiences do Starbucks vs Amazon have in common? <https://mikeschoultz.medium.com/what-customer-experiences-do-starbucks-vs-amazon-have-in-common-5e4e42847f5f>. Accessed 26 Sept 2022.
8. Consumer Experience Professional Association. CX core competencies. 2021. <https://www.cxp.org/earn-your-ccxp/exam-blueprint>. Accessed 26 Sept 2022.
9. Medallia. Customer experience glossary: the most important terms you need to know. 2021. <https://www.medallia.com/blog/customer-experience-glossary/>. Accessed 23 Feb 2023.
10. Bleuel W. CSAT or CES: does it matter? *Graziadio Bus Rev.* 2019;22(1). <https://gbr.peperdine.edu/2019/03/csat-orces-does-it-matter/>. Accessed 26 Sept 2022.
11. Koladycz R, Fernandez G, Gray K, Marriott H. The Net Promoter Score (NPS) for insight into client experiences in sexual and reproductive health clinics. *Glob Health Sci Pract.* 2018;6(3):413–24. <https://doi.org/10.1007/s11747-021-00790-2>.
12. Collin M. Call center service level: a customer experience model from bench-marking and multivariate analysis. *Esic Market Econ Business J.* 2020;51(3):467–96.
13. van Tongeren T, Capella, C. The state of customer experience in the pharmaceutical industry, 2018: HCP interactions. DT Consulting. 2019. https://dt-consulting.com/wp-content/uploads/2019/11/DT-Associates_24_The-State-Of-Customer-Experience-In-The-Pharmaceutical-Industry-2018-HCP-Interactions_April-2019.pdf. Accessed 30 Mar 2023.
14. McDade S. *Listen or die: 40 lessons that turn customer feedback into gold.* Lioncrest Publishing; Austin, Tx 2018. p. 43.