RE: Salesforce Comments on the Draft ONC 2020-2025 Federal Health IT Strategic Plan

Dear Dr. Rucker,

Salesforce.com, inc. ("Salesforce," “we,” “us, "or "our") welcomes the opportunity to contribute and provide comments to Draft 2020-2025 Federal Health IT Strategic Plan (hereinafter the "Plan") from the Office of the National Coordinator for Health Information Technology (ONC), Department of Health and Human Services. We applaud ONC for its balance of vision and focus tied into a cohesive plan. While we are generally supportive of the Plan, we offer comments that center around three themes: patient experience, interoperability and working with the private sector.

Patient experience. We believe that a great care experience leads to increased trust, and that trust is the foundation for better engagement and strengthened relationships between providers and patients. After all, research indicates that an engaged patient achieves better health outcomes. As the #1 provider of Customer Relationship Management (CRM) solutions serving healthcare as well as other regulated industries like financial services, manufacturing, consumer goods, etc., Salesforce’s mission is to help our customers build great experiences for their own customers. As such, while we are pleased to see the Plan’s heightened focus on the patient and better ensuring that data is directly put in their hands, we continue to see less attention given to using technology to create an overall better experience of care - for patients, caregivers and providers. We advocate every day for the building of an engagement layer in healthcare. Designed well, an engagement layer can extend the value of Electronic Health Record (EHR) systems, as well as practice management and revenue-cycle management systems, with capabilities that ease complicated workflows and power relationships. Our comments below are aimed at helping to unlock that great healthcare experience.

Interoperability. We are excited with the movement toward a more interoperable healthcare ecosystem. The Plan, however, could better distinguish between the following data sharing approaches - intra-organizational (data sharing within organization boundaries); inter-organizational (data sharing beyond/outside of organizational boundaries); and consumer-directed data sharing (patient/consumer-brokered data sharing). By blending these approaches and not describing each separately, industry solutions run the risk of being applied too generally rather than being directed to each more specific data sharing approach. Ultimately, addressing all approaches is important to achieving full interoperability in the healthcare ecosystem.

For example, under the “Achieving Interoperability” section (p. 11), the Plan reads: “The use of FHIR® encourages increased data sharing between patients, healthcare providers, payers, researchers, and other healthcare entities.” This largely relates to inter-organizational data exchange. Later, under the "New Technologies and Available Data" section (pp. 11-12), the Plan speaks to the value of “[n]ew algorithms, analytic capabilities, and machine learning (ML) capabilities [that] are quickly moving from limited, conceptual use to everyday use by healthcare providers, individuals, and researchers.” This refers to intra-organizational data sharing such as, for example, integrating an EHR with another internal (albeit, likely cloud-hosted) organization system.
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Much emphasis, and rightly so, is placed on sharing information across organizational boundaries. Given the growing availability of health IT beyond traditional EHRs (e.g., mobile, cloud, machine learning, analytics, and CRM solutions focused on healthcare), we believe a stronger distinction should be made in the Plan to differentiate between health IT systems' internal and external interoperability requirements. Taking this approach has the additional benefit of supporting the Plan Objectives 4c and d, “Establish transparent expectations for data sharing” and “Enhance technology and communications infrastructure,” respectfully.

Working with private sector. Salesforce is pleased to partner with ONC and other stakeholders in fostering development and adoption of the Plan. As an organization, our goal is to become a key partner to ONC and other aligned stakeholders in the health ecosystem, but we recognize that healthcare is highly complex by nature. Dr. Atul Gawande famously stated, “In healthcare, for your 13 organ systems, we have 60,000 different diagnoses, 60,000 different ways your body can fail. And we have generated 6,000 drugs, 4,000 medical and surgical techniques and procedures, plus an uncounted number of ways to prevent those conditions, and we’re trying to deploy that capability town by town to every person alive regardless of their ability to pay.”

To scale healthcare, we need to look at healthcare differently. Traditionally, healthcare has viewed the world from the inside out. In most other industries, consumers drive change. This is why most non-healthcare organizations take the opposite perspective and view the world from the outside in. ONC’s commitment to arming patients with their data is laudable, but more needs to be done if we are to capitalize on the opportunity that the shift to value-based care presents. Essentially, we need to use that lever to transform the healthcare industry itself. Healthcare values the patient, but healthcare also speaks to putting the patient at the center. To scale healthcare, we need to look at healthcare differently. Traditionally, healthcare has viewed the world from the inside out. In most other industries, consumers drive change. This is why most non-healthcare organizations take the opposite perspective and view the world from the outside in. ONC’s commitment to arming patients with their data is laudable, but more needs to be done if we are to capitalize on the opportunity that the shift to value-based care presents. Essentially, we need to use that lever to transform the healthcare industry itself. Healthcare values the patient, but healthcare also speaks to putting the patient at the center.

Our recommendations and comments to the Plan are set forth in the table below:

<table>
<thead>
<tr>
<th>Line Item</th>
<th>Comment</th>
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<tbody>
<tr>
<td>1</td>
<td>Federal Health Principles. “Put individuals first.” Yes, we also “embrace person-centered” care that values the whole individual, including their goals, values, culture and privacy. We also believe there is an opportunity to leverage technology in a way that better instantiates the patient in health IT in a way that truly puts the patient at the center.</td>
<td>General</td>
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<td></td>
<td>Recommendation: add “…and respect for their preferences”</td>
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<td>2</td>
<td>Federal Health Principles. “Be a responsible steward.” We agree with the goal of working with the private sector as cited in your statement of ‘rely on the private sector’, but would recommend slightly different language that emphasizes the need for active collaboration with the private sector in pursuit of Plan objectives. This is also consistent with the Plan’s Goals 2 and 3, “enhancing delivery of care” and “building a secure, data-driven ecosystem,” respectively.</td>
<td>General</td>
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<td></td>
<td>Recommendation: Change to: “…collaborate with and, when appropriate, rely on the private sector.”</td>
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<td>3</td>
<td>Recommendation: Change “communication technologies” to “engagement technologies”. Engagement is a more broad category of capabilities that enables more ways of digital connections. Further, append to the first sentence, “... and creating more positive experiences of care for individuals,” which is consistent with reports that indicate patients’ care experiences as “more positive” when engaged in an on-going maner.</td>
<td>General</td>
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<td>4</td>
<td>Health IT in parentheses (portals, apps) should also include communication technologies such as email, SMS and push messages, whenever feasible (recognizing the potential compliance implications). You do not need a health IT app or portal to engage with the health system – there are mobile platform engagement capabilities that can live outside of any health IT app or patient portal.</td>
<td>General</td>
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<td>Recommendation: Append to examples in parenthetical, “…and communication technologies such as video, email, SMS and push messages whenever feasible.”</td>
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<td>5</td>
<td>Referring back to previously stated patient experience “theme” comments.</td>
<td>General</td>
</tr>
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<td>Page</td>
<td>Recommendation</td>
<td>General</td>
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| 6    | While providers and payers are the most direct players in the healthcare space, patients, providers and payers also have relationships with, and work closely with, medical device and pharma companies. As such, we recommend extending use cases to cover relevant life sciences use cases.  
**Recommendation:** Add a new sentence stating: “Pharmaceutical, medical device, and other life sciences organizations also have uses of health IT to engage subjects and consumers and coordinate the safe use of their therapies and devices.” | General | p. 7, para 6 |
| 7    | Patient empowerment is critical. However, we still see a gap that should be addressed through the Plan.  
- There is an opportunity for greater attention, generally, on consumer experience as a pathway to a more engaged patient who can be empowered with easier access to their data.  
- While empowerment is enabling patients to do things on their own, engagement is a trusted collaboration between a provider and their patient. The greater the trust, the better the opportunity for engagement. An engaged patient can be armed with their data and thereby empowered to contribute to their health outcomes.  
- As reported in our “Connected Patient Report,” 83% of consumers say their experience with a company is as important as its products. Further, 82% of consumers would switch providers as a result of a bad experience. In fact, patient satisfaction impacts MIPS scores and reimbursement.  
- A great consumer experience contributes to trusted relationships and trust is the foundation for engagement. An engaged patient is invaluable to achieving desired outcomes.  
**Recommendation:** Add the following statement after the first sentence under “Patient Empowerment” section: “This is an intended outcome of improving the experience of care. Given this, there is an opportunity for greater attention, generally, on consumer experience as a pathway to a more engaged patient who can be then be empowered with easier access to their data.” | General | p. 10 |
| 8    | “Achieving Interoperability”  
Much emphasis, and rightly so, is placed on sharing information across organizational boundaries. Given the growing availability of health IT beyond EHRs (e.g., mobile, cloud, machine learning, analytics, CRM), we believe a stronger distinction should be made between internal and external interoperability with an emphasis to ease extending the value of EHRs with other health IT through integration, in an interoperable manner.  
**Recommendation:** Add the following phrase to the 1st para, 1st sentence under ‘Achieving Interoperability’—“...other health IT systems - within and across organizational boundaries - without special effort...” | General | p.11, para 2 |
| 9    | “Achieving Interoperability”  
“The private sector recognizes the value of interoperable health information.” Yes, but use cases requiring the exchange of information must go beyond sharing with just patients and care-givers, we must also ease exchange among Business Associates, i.e., ease integrating with EHRs, so as to enhance the overall experience of care for patients and providers.  
To that end and as introduced in our opening around the theme of interoperability, we believe that there needs to be a better distinction between interoperability in support of inter- and intra-organizational data sharing, sharing data across organizational boundaries and within an organization, respectively, and consumer-directed data sharing.  
The plan implies intra-organizational data sharing, but it is subsumed under the inter-organizational data sharing category. There is great opportunity to ease burden and decrease waste by extending the value of EHRs with other non-traditional systems, like mobile applications, analytic engines, CRMs, etc.  
**Recommendation:**  
- Make the distinction clear between intra-organizational, inter-organizational and consumer-driven data sharing. Further, we recommend rethinking what we mean by the HIPAA-defined patient record as there is now a growing availability of non-EHR health IT solutions that can extend the value of EHRs.  
- Modify para 4, sentence 2 as follows: “...using APIs to develop tools that provide patients and caregivers with their data and internal and external providers with their patients’ data in an effort to promote information sharing.” | General | p. 11, para 4 |
| 10   | “New Technologies and Available Data”  
Under the afore-mentioned themes, three integration patterns have been described - inter-organizational, intra-organizational and patient-directed exchange. The majority of the interoperability conversation addresses inter-organizational and patient-directed exchange of information, but is less vocal on challenges with intra-organizational data exchange, i.e., using APIs to share data from/to an EHR with another health IT system (certified or not) within an organization.  
Given the growing availability of niche technology solutions and cloud-based systems, we should include a comment that recognizes the need to more easily integrate these new technologies into existing EHRs and automated workflows.  
**Recommendation:**  
1) Add CRM to example technologies, “New algorithms, analytic capabilities, ML capabilities and CRM capabilities are quickly moving...”  
2) Also, after sentence 2, add the following sentence, “To that end, it is critical to ease the burden for these new technologies to integrate with traditional health IT, so they may extend the value...” | General | p. 11, para 5 |
"Reducing Regulatory Burden"
See also comments from "Achieving Interoperability" and "New Technologies and Available Data" from above.

We agree that the burden on providers to extend processes (e.g., clinical documentation, prior authorizations) across system boundaries is too difficult. Current interoperability and standards-development efforts can be employed to address this, but we see a larger opportunity that involves conceptualizing the health IT ecosystem in a way that weaves capabilities together to ease overall provider and administrative burden. It starts with the recognition that the EHR is not intended to meet every healthcare need. Rather, new solutions should be allowed to easily extend the EHR using APIs allowing processes to now span systems, and, over time, alleviate provider burden by introducing modern capabilities (e.g., mobile, cloud, speech-to-text and related capabilities) that are in use widely in other industries.

Extending the value of EHRs will require making data interoperable to other health IT systems. Even under a HIPAA-regulated business associate contract arrangement, this will challenge governance models. It is important that ONC advocate that the way we have traditionally defined the "designated record set" maintained by a HIPAA-regulated entity be evolved as the industry aims to take advantage of all capabilities that the "industry" has to offer.

Recommendation: ONC, in collaboration with HHS' Office of Civil Rights, should update and expand its "Guidance on Cloud Computing" to provide a clear framework of how (1) a healthcare organization's designated record set may be impacted by usage of cloud-based health IT solutions that host, perform operations on, or otherwise access in a compliant manner health information that comprises that designated record set; and (2) what health information items that are used with cloud-based health IT solutions are subject to the "legal health record" that healthcare organizations define when responding to data subject access requests or legally compelled disclosures of health information.

"Security of Health Information"
While addressing the unique circumstances and security concerns of the "cloud," not all data "used" by the cloud is "stored" in the cloud. Increasingly data is "virtualized," meaning it is made available to the cloud application, but not persisted in the cloud after use. This eases governance and privacy concerns. While current healthcare standards do not specify virtualization capabilities (rather perpetuate replication of data), industry agnostic standards (e.g., OData) exist that cloud providers leverage to address data residency concerns. Further, as our use of APIs grows, API security management capabilities and lessons learned will become increasingly important. Aiming toward full-lifecycle management of APIs is a natural outgrowth of having APIs and, arguably, having a plan to manage and secure APIs across the enterprise, at scale, should be a consideration before deploying any APIs.

Recommendation:
- On page 12, para 5, change "cloud-based storage" to "use of cloud-based technologies" to indicate that patient data may be available in a stored or virtualized manner, but not actually persisted in the cloud-based technology.
- While updating a standard (e.g., HL7 FHIR RA) is not the purview of the ONC, we would like to see ONC support enabling a virtualization capability in healthcare.
- On page 12, para 5, 2nd to last sentence, append, "... and what vulnerabilities APIs, if not properly managed and secured, introduce." Also, to the last sentence in the same paragraph, append: "... and APIs become more ubiquitous."

"Promote healthy behaviors"
While we support the use of apps by patients to promote healthy behaviors and self-management, extending this patient autonomy with coaching and collaboration from their care team on an ongoing basis via the app can super-charge app effectiveness.

Recommendation: Under the "Healthy behavior and self-management" strategy, add a sentence, "Further, these patient-facing apps can enable collaboration with care team members and allow patients to take action on their care plan, digitally and asynchronously, but in collaboration with their providers."

Objective 2a, Strategies:
There is plenty of interest in getting data in the hands of individuals, but we would like to see more incentive to build capability that grows the digital experience of patients and caregivers as they work with health systems. Much focus of health IT is on the delivery and coordination of care among providers, but there is no mention of bridging the digital divide between patients and their providers to achieve, as you mentioned earlier, to "embrace-person centered care that values the whole individual, including their goals, values culture and privacy."

Recommendation: Add a strategy named "Use digital engagement technologies - beyond portals - to more easily connect patients with their providers, e.g., use Chatbots to enable real-time collaboration, employ self-scheduling.

Either way, the key is to hasten our path beyond patient portals and adopt mobile, real-time technologies that support an enhance consumer experience.

Objective 2a: We appreciate ONC's acknowledgement that numerous factors weigh on where patients get care and what care they get. While technology is not a cure-all, designed well, it can support person-centered, evidence-based care that improves decision making and promotes consumer choice. We have seen improvements in the quality of care through the use of such technologies. As an example, enabling omni-channel capabilities (i.e., the ability for a care manager to connect with a patient via their channel of choice - phone, email, text, video) enable outreach in a manner preferred by the patient. This has the added effect of building the relationship - if implemented seamlessly to the care manager - allowing for easier and ongoing outreachs, as an example. This translates into an ongoing care relationship rather than the traditional unless of episodic interactions occuring by chance casually. Further, 3rd party...
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| 15 | traditional cadence of episodic interactions occurring a few times annually, further, as data more freely moves among health IT systems, we agree that governing data and maintaining provenance is essential. However, we would take it a step further by saying it is critical to building and ensuring organizational trust.  

**Recommendations:**  
- Under "Optimize care delivery...", recommend adding the following phrase, "...and omni-channel engagement capabilities that enable outreach in a manner preferred by the patient."  
- Under "Implement mechanisms of data governance...", recommend adding the following statement, "...and allows data to seamlessly and securely move between systems in support of advanced workflows that take advantage of capabilities not traditionally available in EHRs (e.g., collaborative care plans (with patients), online assessments, and self-scheduling)."  

| Goal 2 | p. 15 |

| 16 | Objective 2d: “Streamline Processes”  

**Comment:** As commented previously under the “Achieving Interoperability” and “New Technologies and Available Data” topic areas, as the ecosystem of health IT grows so does the availability of capabilities that reside outside of the EHR. We need to ensure standards and regulations target not only interoperability with external systems (outside organizational boundaries), but also systems within a healthcare organization’s boundaries. Maturing healthcare’s capability to build process-oriented integrations (where a process starts in the EHR, as an example, but then continues in another system, like a CRM) will be critical to delivering scalable solutions that remove friction in the workplace and unburden providers - care managers, call center agents, physicians and allied healthcare professionals alike - while doing so at a cost-effective price point to maintain.  

| Goal 2 | p. 17 |

| 17 | Objective 3a, General (para 1)  

**Comment:** Current HL7 standards (e.g., v2, FHIR) specify approaches that replicate or transfer data from one system to another. As data governance and data residency concerns continue to arise, we see increasing interest to leave data where it is, but reference that data in other systems for reporting and workflows, as examples. For use cases where “virtualizing” of data is appropriate, we recommend promoting such approaches.  

**Strategy #5 - As APIs become more prevalent, so will their vulnerabilities.**  

**Recommendation:** Append this sentence, “Where APIs are involved, promote the use of API lifecycle management capabilities and techniques to design, build, test, secure, scale, manage and retire APIs.”  

| Goal 3 | p. 17 |

| 18 | Objective 3b  

**Strategy - “Increase use of new technologies and analytic approaches”**  

**Comment:** Back to comment in the opening theme on interoperability, greater use and adoption of new technologies and analytic capabilities will be made easier with a more straightforward ability to integrate systems, which allows technologists to connect systems with less hassle and layer in these advanced analytic capabilities that reside in separate systems.  

| Goal 3 | p. 18 |

| 19 | Objective 4d, Strategy #1  

**Recommendation:** Refer back to comment #17, describing the “use of API lifecycle management capabilities and techniques.”  

| Goal 4 | p. 20 |

Salesforce thanks ONC for the opportunity to comment on the Plan. Additionally, we look forward to partnering and collaborating with you on the most effective use of health IT to improve the overall healthcare system for all stakeholders.

**Sean Kennedy**  

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