



Using the Electronic Health Record (EHR) to Support the Delivery of Tobacco Dependence Treatment Services in Oncology Healthcare Settings

Produced by the Cancer Center Cessation Initiative (C3I) Coordinating Center at the University of Wisconsin Comprehensive Cancer center, with funding support from the National Cancer Institute

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Overview

The National Cancer Institute (NCI) Cancer Center Cessation Initiative (C3I) provides funding and technical support for treating tobacco dependence at NCI-Designated Cancer Centers. C3I is a Cancer Moonshot supported initiative.

The NCI has previously identified several priorities for cancer centers to improve tobacco use assessment and treatment,¹ and the American Association for Cancer Research (AACR) has also published a report with recommendations for assessing and treating tobacco use in Cancer Centers.² Both NCI and AACR recommend that Cancer Centers use a uniform measure of tobacco use as a "vital sign", consistently documented for all patients, ideally in an electronic health record (EHR), to identify and refer smokers to tobacco treatment services. Further, an automatic *connection* triggered by a patient's tobacco use status (e.g. current smoker, some day/every day smoker) to an evidence based tobacco treatment program is the optimal method for reaching cancer patients who smoke with cessation resources.^{3,4}

Although these methods are evidence-based⁵ and have been recommended as best practices, many cancer centers face common challenges as they integrate tobacco treatment services into clinical care. Challenges exist at each step of integration: using the EHR to identify and document patient tobacco use; integrating cessation treatments into the busy clinical workflows of oncology care; connecting patients to evidence based smoking cessation services; and tracking patient tobacco use outcomes.

This guide describes the process of planning and implementing tobacco treatment services integration using the EHR, identifies common challenges, and provides suggestions for successfully overcoming challenges at each step. It provides common, industry-standard, EHR and information technology (IT) strategies, components, and example clinician scripts.

Integrating Tobacco Cessation Treatment Services into Clinical Care Using the EHR: Common Challenges and Strategies for Success

Making changes to an EHR in oncology clinical settings often require changes to the entire health care system EHR. The reason for this is that most EHR-based functionalities, components, and workflows are typically determined by and for the entire health care system. This recognition should influence decisions regarding requesting EHR changes – specifically, to identify what changes (if any) can be limited to the oncology clinical environment and to limit system-wide change requests.

Organizational priorities, costs, clinician and staff roles, decision support, quality improvement initiatives, incentive programs, and reporting requirements all influence what can be implemented. EHR changes increase cost and time and usually require a system-level decision. Any change that results in clinic workflow interruption is challenging to approve and implement.

Specific functions already embedded in most EHRs that will facilitate the integration of tobacco cessation treatment services into oncology clinical care include the capacity to complete the following core functions/activities:

☐ generate a list of patients who sm	oke/use tobacco ("tobacco registry"),
☐ conveniently see a patient's toba	eco use status in their record,
□ place orders for cessation consult	ation or other resource (e.g., internal Tobacco Treatmen
Program, Care Manager, Quitline	· ·
o Ideally, ensure that clinic	ians ordering the referral receive the results of the
referral order ("closing th	e loop"). Closed-loop functionality is easier for internal
than external referral orde	- · · · · · · · · · · · · · · · · · · ·
☐ place orders for tobacco cessation	n medications,
<u>=</u>	erformance program reporting, and
☐ create dashboards (i.e., a tool to t	rack patients and ongoing treatment delivery).
In general, efforts to use EHR to facilitat	e the delivery of tobacco dependence treatment will be
facilitated by prioritizing EHR changes t	hat
\square are essential to the core activities	you want to implement,
\square use pre-existing functionalities (y	your system's IT team can help identify these), and
± ±	plex and lengthy. (Again, your IT team can help you
define and prioritize your request	s, delineating their level of complexity, effort, and
establishing a timeline for comple	etion.)
<u> </u>	n be completed while work continues on the more
complex EHR/IT items include	
•	dentification, and cessation intervention documentation
functionality and fields that curre	ently exist in your EHR;

developing a list of specific, defined, and singular modifications that you want to ask
your system to approve; and work with your system's IT staff to build, test, and
implement to deliver tobacco cessation oncology clinical care;
establishing connections with and support from potential treatment extending referral
resources that will supplement, not supplant, the tobacco cessation clinical care that you
provide (e.g., your in-house tobacco treatment resources, the tobacco quitline in your
state, and applicable community resources); and
defining specific roles and expectations for tobacco use screening and cessation
interventions for clinicians and staff. (This emphasizes that everyone has a role to play
and that tobacco use identification and treatment interventions are not exclusively one
clinician or staff person's responsibility)

The following steps walk through the process of making changes to the EHR in order to integrate comprehensive tobacco treatment services into clinical care at your Cancer Center.

1. Secure health system/cancer center leadership buy-in and support. The crucial first step is to secure buy-in and support from health care system leadership (administration, information technology (IT), clinical, and communications). Leadership has to agree and endorse that: EHR integration is a system, clinical and IT priority; that the build and testing is a priority in the IT staff work queue; and, that system resources will be designated for this work. This is also a good time to identify and enlist clinician or staff champions.

STRATEGY: Identify key decision-makers and stakeholders in each of the following areas: Health system administration; Information Technology; Clinical/Medical staff endusers; and Communications. Meet with leaders as soon as funding is awarded to confirm/secure their support. Table 1 gives examples of key leadership in each area, and the type of integration support needed from each leader.

Table 1. Key leadership and support needed for EHR integration of tobacco treatment services

Area	Key Leadership	Support Needed for Integration
System- Administration	Chief Medical Officer, Chief Executive Officer, Chief Information/Technology Officer	 Commit to making EHR/IT/workflow changes a system priority. Dedicated staff time, clinic/office space, and resources.
Information Technology	Directors, Managers, Chief Information/Technology Officers	 Identify IT staff who will commit time to support the changes. Commitment for the EHR/IT functionality build, test, and implementation (go-live), including timeline and staff.

Table 1 (continued).			
Clinical	Physicians, Nurses, Advanced Practice Clinicians, Clinic Managers	 Attend trainings and implement modified/new workflows. Endorse the roles for various clinic staff members. Serve as clinical and staff champions. 	
Communications	Chief Communications Officer	 Disseminate information about the program and EHR changes to relevant Cancer Center staff. Create a plan for marketing the tobacco treatment programs/services offered to patients. 	

2. Engage health information technology staff. Some health systems have IT staff who specialize, while other systems' IT staff are more generalized.

STRATEGY: Once you identify who will work with you and have IT and system leadership committed staff time to your needs, it is important that you speak the same "language" as the IT staff. The basic EHR components/functionalities that you will be building and using may include

- smoking/tobacco use status documentation;
- clinician alerts for patients who are current smokers/tobacco users;
- clinical decision support language and prompts;
- medication orders;
- auto filling as much of the encounter as possible to streamline and expedite the intervention;
- ensuring that clinical activity is documented, correctly coded, and tied to billing;
- interfaces for secure patient data transmission if sending outside health care system (e.g., tobacco quitline, SmokefreeTXT);
- eReferral orders for in-house tobacco cessation intervention and/or the state tobacco quitline;
- an eReferral order result to "close the loop" and provide the clinician with the outcome of the referral; or
- tracking and reporting tobacco use status and cessation outcomes.
- **3. Identify and inventory existing EHR components and functionality for tobacco use screening and treatment.** The EHR system your facility uses may already have components, functionalities, and workflows to identify, document, treat, track, and report on patients who use tobacco.

STRATEGY: If you are starting from scratch, there are many examples of tobacco use screening and treatment intervention functionality and scripting, many of which are

included in your basic EHR software package. In conjunction with your system's IT staff and clinical/medical staff end-users (e.g., MDs, Nurses, PAs, MAs), inventory the existing EHR functionality relevant to tobacco treatment services. If you use an Epic Systems EHR, several key components and functionalities already exist but may not be readily apparent if your system is not currently using them. Your IT department can help figure out if components have been deployed.

The following are examples of EHR components and tools to look for:

- alerts/advisories,
- clinical decision support (e.g., tobacco cessation SmartSets, SmartText, SmartPhrases),
- medication and referral orders,
- population management,
- referral order results,
- reports and dashboards,
- tobacco registry,
- tobacco use documentation, and

Identify who will do each of the following tasks:

The following workflow steps will need to be defined:

- workflows.
- 4. After reviewing the current clinical workflow, and with clinician input, define the new clinical workflow, including staff roles, that integrates the tobacco cessation treatment program. Workflow must be defined first as it will fundamentally influence the IT build. It is important to define the workflow and roles by engaging the clinicians and staff who use or will use the tobacco use screening, referral, and treatment components. Clinics/departments can create their own workflow based on needs. For example, you may want to have the Medical Assistant/Roomer screen for tobacco use, and have the clinician (nurse, PA, MD) provide the brief counseling intervention and place an order for medication.

STRATEGY: Understand the current workflow and staff roles and determine how any new workflow elements will fit into the existing clinical workflow. Determine the "who and how" of your programmatic components so that they can be integrated into the workflow of the typical patient encounter.

□ tobacco use screening and documentation,
 □ tobacco cessation brief counseling intervention and medication order, and
 □ referral to in-house tobacco cessation intervention and/or to external treatment services such as the telephone tobacco quitline or Smokefree.gov TXT.

☐ For whom will the current smoker EHR alert fire (the Medical Assistant/Roomer who documents smoking status or the Clinician/Provider who will deliver the

intervention and sign the referral order)?
Who can and will prescribe the tobacco cessation medication for those interested
in making a quit attempt? Note that most state quitlines only provide a starter
course of nicotine replacement therapy. The patient may need a prescription for a
full course of NRT or you may determine that the patient will use varenicline or
bupropion.
Who can and will sign and place the tobacco quitline eReferral order?

5. Enlist Information Technology (IT) staff to build the following components:

- a. An EHR **alert** for current smokers/tobacco users that is triggered for patients who are identified as current smokers/tobacco use at that visit.
- b. A **referral order** and **referral order result** (e.g., to and from an internal tobacco cessation specialist and/or the tobacco quitline).
- c. **Interfaces** for secure transmission of patient data to the tobacco quitline (and/or tobacco cessation specialist) and treatment service data from the tobacco quitline (and/or tobacco cessation specialist) back to the patient's EHR. (Your system IT staff are familiar with interfaces and frequently build them.)
- 6. Train (in-person or electronically) all clinicians and staff about the intervention, workflow, and tobacco cessation services available via eReferral, with an emphasis on who does what (workflow). Also, provide online or other access to training materials for new staff and those who did not attend the initial training.
- 7. Establish an eReferral "go-live" date the date that the eReferral functionality is available for clinicians. After go-live, monitor implementation and have a protocol for troubleshooting and quality assurance (IT staff person may be needed for this).

Summary

This document provides practical strategies for using the EHR to deliver tobacco cessation treatments in the clinical setting. Health care technology and delivery in the United States continues to be dynamic, iterative, and ever changing.

This document also provides examples of electronic health record (EHR) screen shots, workflows, and scripts to facilitate integration of tobacco use identification and cessation treatment into medical settings. These examples are provided in Appendices A and B.

Appendix A: Examples of EHR Components

The following section provides examples of EHR components (i.e., specific EHR screenshots) that can be used for the identification of tobacco users, delivery of tobacco treatment, and referral to tobacco treatment services.

The following examples are provided:

Number	EHR Component	EHR System
1	Smoking status and quit date documentation	Epic
2	Smoking status drop-down menu from the tobacco use documentation field	Epic
3	Smoking start date and quit date drop-down menu from the tobacco use documentation field	Epic
4	Alert/best practice advisory for patient who smokes	Epic
5	Medication order template	Can be programmed into an EHR system
6	Smoking cessation office visit SmartSet – Epic	Epic
7	Tobacco registry and dashboard	Epic
8	Smoking cessation registry	Cerner
9	Population health registry	NextGen

1. Smoking status and quit date documentation – Epic



 $\underline{Source: \underline{http://www.oregon.gov/oha/analytics/MetricsTAG/Tobacco\%Tobacco\%20Prevalenece\%20using\%20EHRs\%20Summary.pdf}$

2. Smoking status drop-down menu from the tobacco use documentation field – Epic



Source: http://www.oregon.gov/oha/analytics/MetricsTAG/Tobacco%Tobacco%20Prevalenece%20using%20EHRs%20Summary.pdf

Date Entry 2/16/2016 January February 2007 2008 March February 4 2016 ▶ April 2009 Sun Mon Tue Wed Thu Fri 2010 May 6 June 2011 10 12 13 11 18 20 19 15 2012 July 26 27 2013 August 3 10 11 12 September 2014 Today 2015 October 2016 November December

3. Smoking start date/quit date menu from the tobacco use documentation field – Epic

Source: http://www.integration.samhsa.gov/pbhci-learning-community/07.11.13 Tobacco Webinar Series Park 4 - EHRs Final.pdf

Cancel

Accept

4. Alert/best practice advisory for patient who smokes—Epic

This patient is a smoker. Tell them this:

The most important thing you can do to improve your health is to quit smoking, and I can help you with medication and support. Are you willing to try?

Collapse × >

Source: Northwestern Health Sciences University; https://youtu.be/zc2mHE6B_CI

5. Medication order

RECOMMENDED FDA-APPROVED TOBACCO CESSATION MEDICATIONS

☐ **Varenicline** (non-nicotine)

Days 1-3: 0.5 mg every morning

Days 4-7: 0.5mg twice daily

Day 8 – end: 1 mg twice daily (quit smoking on day 8)

Use: Start 1 week prior to quit date and use 3 months (can be extended to 6 months)

NICOTINE COMBINATION THERAPY

Nicotine patch + nicotine lozenge OR nicotine patch + nicotine gum

See individual medication instructions below for choosing which combination nicotine replacement therapy (NRT) based on number of cigarettes/day plus time to first cigarette of day.

A. For patients who smoke ≥ 10 cigarettes/day and their first cigarette is ≤ 30 minutes after waking

□ Nicotine patch + nicotine lozenge

21 mg x 4 weeks, 14 mg x 4 weeks, 7 mg x 4 weeks patch+ 4 mg lozenge

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□ Nicotine patch + nicotine gum
           21 mg x 4 weeks, 14 mg x 4 weeks, 7 mg x 4 weeks patch + 4 mg gum
B. For patients who smoke \geq 10 cigarettes/day and their first cigarette is \geq 30 minutes after
   waking
   \Box Nicotine patch + nicotine lozenge
           14 mg x 4 weeks, 7 mg x 4 weeks patch + 2 mg lozenge
   \square Nicotine patch + nicotine gum
           14 \text{ mg x } 4 \text{ weeks}, 7 \text{ mg x } 4 \text{ weeks patch} + 2 \text{ mg gum}
C. For patients who smoke 5-9 cigarettes/day and their first cigarette is \leq 30 minutes after
   waking
   ☐ Nicotine patch + nicotine lozenge
           14 mg x 4 weeks, 7 mg x 4 weeks patch + 4 mg lozenge
   \square Nicotine patch + nicotine gum
           14 mg x 4 weeks, 7 mg x 4 weeks patch + 4 mg gum
D. For patients who smoke 5-9 cigarettes/day and their first cigarette is > 30 minutes after
   waking
   ☐ Nicotine patch + nicotine lozenge
           14 \text{ mg x } 4 \text{ weeks}, 7 \text{ mg x } 4 \text{ weeks patch} + 2 \text{ mg lozenge}
   \square Nicotine patch + nicotine gum
           14 \text{ mg x } 4 \text{ weeks}, 7 \text{ mg x } 4 \text{ weeks patch} + 2 \text{ mg gum}
OTHER EFFECTIVE FDA-APPROVED TOBACCO CESSATION MEDICATIONS
   ☐ Nicotine Patch (7mg, 14mg or 21 mg)
           If > 10 cigs/day: 21 mg x 4 weeks, 14 mg x 4 weeks, 7 mg x 4 weeks
           If 5-9 cigs/day: 14 mg x 8 weeks, 7 mg x 4 weeks
           One patch per day, use for 24 hours, start on quit date
           Use: 12 weeks
   □ Nicotine Lozenge (2 mg or 4 mg)
           If smoke > 30 minutes after waking: 2 mg
           If smoke < 30 minutes after waking: 4 mg
           1 piece every 1-2 hours; 6-15 pieces/day; start on quit date, taper over 3 months
           Use: 3 months (can be extended to 6 months)
   □ Nicotine Gum (2 mg or 4 mg)
           If smoke > 30 minutes after waking: 2 mg
           If smoke < 30 minutes after waking: 4 mg
           1 piece every 1-2 hours; 6-15 pieces per day; start on quit date, taper over 3
           months
           Use: 12 weeks
   ☐ Bupropion SR 150 (non-nicotine)
           Days 1-3:150 mg each morning
           Days 4-end: 150 mg twice daily (quit smoking on Day 8)
           Use: Start 1 week before quit date; use 2 months (can be extended to 6 months)
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Note: Nicotine Inhaler and Nicotine Nasal Spray are the two other less commonly used FDA-approved tobacco cessation medications.

OPTIONAL PRE-QUIT MEDICATIONS

☐ PRE-QUIT Nicotine Patch (7mg, 14mg or 21 mg)

Pre-quit use: 3 months prior to quit date with smoking reduction (can be extended to 6 months pre-quit)

Smoke > 10 cigs/day: 21 mg x 4 weeks, 14 mg x 4 weeks, 7 mg x 4 weeks

Smoke 5-9 cigs/day: 14 mg x 8 weeks, 7 mg x 4 weeks

One patch per day, use for 24 hours

☐ PRE-QUIT Nicotine Lozenge (2 mg or 4 mg)

Pre-quit use: 3 months prior to quit date with smoking reduction (can be extended to 6 months pre-quit)

Smoke > 30 minutes after waking: 2 mg

Smoke < 30 minutes after waking: 4 mg

1 piece every 1-2 hours; 6-15 pieces/day

☐ PRE-QUIT Nicotine Gum (2 mg or 4 mg)

Pre-quit use: 3 months prior to quit date with smoking reduction (can be extended to 6 months pre-quit)

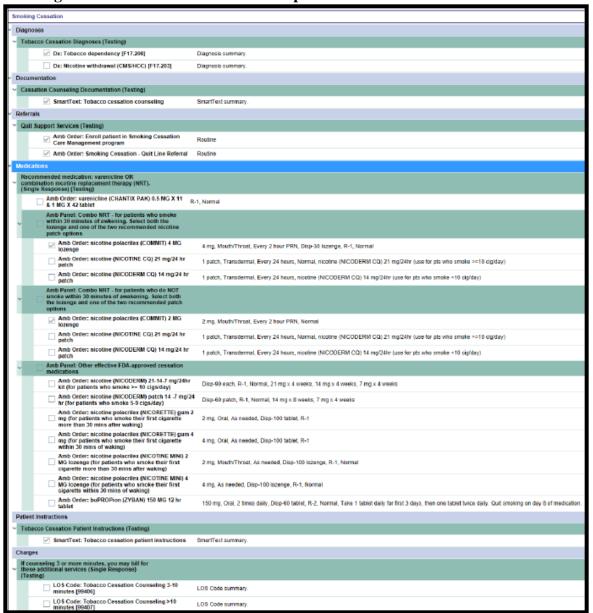
Smoke > 30 minutes after waking: 2 mg

Smoke < 30 minutes after waking: 4 mg

1 piece every 1-2 hours; 6-15 pieces per day

Source: https://ctri.wiscweb.wisc.edu/wp-content/uploads/sites/240/2018/06/2.CME-pharmacotherapy-table.pdf

6. Smoking cessation office visit SmartSet – Epic



Source: https://www.healthit.gov/success-stories

7. Tobacco registry and dashboard example - Epic

Registries are tools to define and track a group of patients. Registries are infinitely customizable and clinicians/units/departments select criteria based on their needs.

A registry is defined by two key concepts:

- a population of patients (registry members), and
- a set of data elements (rules) relevant to the population registry metrics.

Example patient criteria for a Tobacco Registry include one or more of the following:

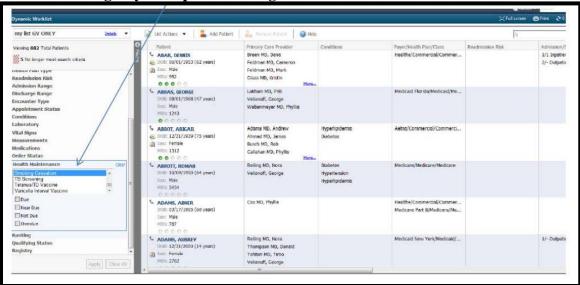
- a tobacco use diagnosis code on:
 - the problem list,
 - an encounter diagnosis, or
 - a billing invoice;
- a tobacco-related health maintenance modifier;
- a smoking status of Current Smoker, Heavy Smoker, Light Smoker, or Former Smoker; or
- a tobacco quit date within the last 2 years.

Tobacco registry dashboard example – Epic Population: 33,613 Patients



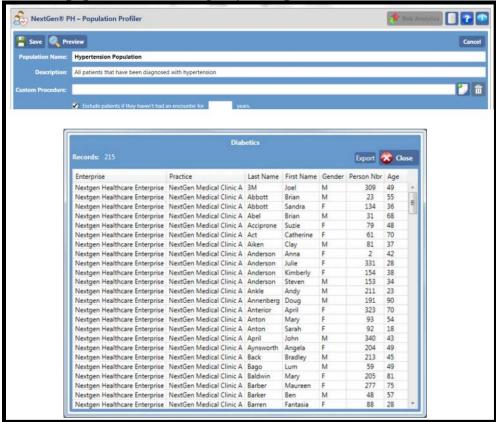
Source: https://www.youtube.com/watch?v=DJbTgaPri5c

August 2018 14 8. Cerner EHR registry example – smoking cessation



Source: https://www.healthit.gov/sites/default/files/cerner_ehr_guide.pdf

9. NextGen population health registry example



Source: https://www.healthit.gov/sites/default/files/nextgen_ehr_guide.pdf

Appendix B: Clinician Scripts to Guide Clinical Interventions

The following section provides sample clinician scripts and language that can be used for delivering tobacco treatment. Scripts can be built into the EHR to provide clinicians with specific language to guide treatment delivery and documentation at the point of care.

1. Tobacco cessation advice to quit and brief counseling script based on the 5A brief intervention model (2008 U.S. Public Health Service Clinical Practice Guideline *Treating Tobacco Use and Dependence*)

ASK

"Do you currently use tobacco?"

"Do you currently smoke?"

"Your record shows that you are currently smoking. Is that still accurate?"

ADVISE and ASSESS

"The most important thing you can do to improve your health is to quit smoking, and I can help you. Are you willing to quit within the next 30 days?"

Yes: "Excellent. Let's create a quit plan for you."

No: "I respect that you are not ready to quit now. I will connect you to our staff who track and assist our patients who use tobacco (registry/care management). Are you willing to have us follow-up with you in 6 months?"

ASSIST

"It is important that you select a specific date to totally quit tobacco so you can prepare and enlist support. What day within the next two to four weeks would be a good day for you quit?"

"Next, let's discuss medication and counseling. First, have you tried any quit-smoking medications in the past? Did any work better for you than others?"

"Key actions to prepare for quitting (STAR):

- *Stick with your quit date.
- *<u>T</u>ell family, friends, and coworkers about quitting and request their understanding support.
- *Anticipate and prepare for challenges. Some examples include nicotine withdrawal symptoms, being around other smokers, and drinking alcohol.
- *Remove all tobacco products and paraphernalia from your environment. Make your home and vehicle smoke-free."

"I strongly recommend that you take advantage of the free coaching support that the tobacco quitline can provide. All services are free, I can place a referral for you, and the quitline will call you. Your information is confidential and will only be shared with the quitline. Are you willing to accept a call from the tobacco quitline?"

If NO, add the tobacco quitline number, 800-QUIT-NOW (800-784-8669) to the patient's after visit summary.

2. Smoking reduction script example

Smoking Reduction

Cutting down on your smoking can reduce the health effects of smoking, save you time and money, and increase your chances of quitting successfully if you choose to stop smoking.

Smoking Reduction Strategies

In addition to nicotine lozenges or gum, use these ideas to help you smoke LESS:

- · Limit the places you smoke; try to smoke in as few places as possible.
- Exercise: Instead of smoking a cigarette, do something fun and distracting (such as calling a friend or going for a walk).
- Specify certain times on the clock to smoke (for example, only smoke on odd or even hours).
- · Stall: Wait longer and longer before you smoke each cigarette. This means you will use less tobacco over time.

See Smokefree.gov, a free resource, for more information and tips about reducing your smoking.

We are glad you have set a goal to reduce the amount of tobacco you smoke. Feel free to call me at 555-5555 if you would like more support. I will follow-up with you in 6 weeks to see how things are going.

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