



Helping Those Who Help Others

Design for the Caring Professions

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Abstract

Professionals who care for others—nurses, allied health professionals, and social workers, for example—have unique user needs from the applications they use to manage information. It is essential to understand their mental models, environment, and working relationships in order to design products that allow them to do their jobs effectively.

This paper will explore the distinct needs of users who work in the caring professions, based on nearly 200 individual interviews. These needs are shaped by how these professionals think about their work, the environments in which they perform it, and their interactions with other people. In addition, the paper will provide concrete guidelines to help those who are designing for this specialized user group to maximize the effectiveness of their solutions.

Introduction

Excerpt from a recent interview with a nurse performing complex case management for elderly patients:

Nurse: It's just so disheartening some times. You talk with them on the phone and you write some goals and then...[sigh]... I don't know, it just seems so hopeless, you know?

Interviewer: What part seems hopeless? Can you tell me more about what makes you feel that way?

Nurse: I don't know... it's hard to explain it.... But you saw it today, right?

Interviewer: Do you feel that your patients won't be able to achieve the goals you write together?

Nurse: No, no, no! That's the easy part! It's this ridiculous system where we have to enter the goals. It takes so much time to enter them! I mean there are so many different boxes to check and then you have to select a condition to relate it to, and rate it in terms of priority and difficulty, and on and on. I feel like I will never catch up on my work, but that's how we have to do it. I know managers are counting up how many goals we open and how many we close.

Variations on the scene above have replayed in countless interviews of nurses, medical technicians, and social workers. These people dedicate their time and talents to taking care of others, and too often technology is making their jobs harder instead of easier. Too often the systems meant to help them work effectively are instead just getting in their way.

Applying a user-centered design process to this problem illuminated several unique traits of these “caring professionals.” The user needs of the millions of people who spend their days trying to help people find answers, get healthy, or stay together are the subject of this paper. Once a solid understanding is formed of the world in which they work, their mindset, and who else relies on them, systems can finally be designed that help instead of hinder their effectiveness and satisfaction.

Caring Professionals

“The caring professions” is a general term for occupations that involve providing care for people or animals. Employed under this umbrella are millions of workers such as nurses, social workers, medical technicians, and various assistants and aides. People in these roles tend to have training in interpersonal communication and ethics in addition to specialized skills such as taking statements, performing assessments, or drawing blood.

Careers in these areas are growing fast. The U.S. Bureau of Labor Statistics expects above-average growth in these occupations over the next ten years: 12% for social workers, 16% for registered nurses, and 24% for medical technicians.¹ Systems that help these professionals work efficiently and accurately can result in millions of dollars saved by the organizations that depend on them. In particular, organizations that rely on statistics to demonstrate the impact of their services (such as Accountable Care Organizations or those receiving renewable grants) will realize increased revenue if they can serve larger populations more effectively.

The insights in this paper are based on an analysis of nearly 200 workplace observations and interviews with caring professionals over the past two years. These sessions were conducted in clinical and social service settings by UX consultants currently working at Evantage Consulting. Most took place in the United States, though similarities observed in Germany, Italy, and the UK lead us to believe many of the conclusions could apply to Canada and European Union countries which have similar care industries.

Different organizations and professions have distinct goals and needs, and the objectives of our interviews varied from study to study. However, certain themes and user characteristics surface repeatedly across settings and roles, and this common ground is our focus. In the next section we will discuss the **factors** that shape the experience of the caring professional and the occupation-specific needs that result. The final section of this paper translates these needs into concrete **design guidelines** for people creating solutions for this audience.

Factors

We identified three major types of factors that shape the needs of caring professionals:

- The **mindset** of those who have chosen to work caring for people,
- Constraints imposed by the **environment** in which they work, and
- **Expectations** placed on them by others.

In this section we will explore these factors in detail.



MINDSET

MAKE A DIFFERENCE



ENVIRONMENT

CARDS STACKED AGAINST YOU



EXPECTATIONS

ACCOUNTABLE TO MANY NEEDS

¹ Average estimate is 7%. US Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook



The Mindset: Make a Difference

Most caring professionals knew at a young age that they wanted to make a difference in the lives of others. Supporting people in their health and social welfare journeys can be rewarding in ways that those with traditional office jobs can barely imagine. Through education and practice, these professionals hone a mindset focused on making the biggest impact for the neediest individuals.

Triage

The French developed triage in the eighteenth century as a system for prioritizing and treating the victims of modern warfare at makeshift medical stations.² The term's meaning has since broadened beyond the battlefield, and it's an apt metaphor for how caring professionals prioritize their work.

Caring professionals are deeply committed to finding high-priority cases on which to focus. They spend considerable time and energy making sure that they are focused on the right activities. The beginning of their day is often dedicated to identifying the most critical tasks and prioritizing the work ahead.

Accompanying this commitment is a hypervigilance to ensure that nothing important falls through the cracks. All new information received during the day must be considered alongside original plans, at times causing rapid reprioritization.

Deadlines

Regardless of the unexpected tasks that arise each day, caring professionals still often face strict deadlines for more routine activities. Missed deadlines can cost money, such as when billing depends on a completed assessment or case review. Failure to produce necessary documentation or to complete assessments on time can lead to an official reprimand or even termination.

When they are managing large populations, caring professionals often struggle to balance these concurrent needs. When faced with a decision between completing an urgent task that will help someone and an institutional deadline, they will usually choose to take care of the urgent need first. They sometimes create additional urgent work for themselves by not getting to mundane tasks ahead of

Linda Certified Cardiac Device Tech



"I keep cardiac patients healthy and safe by monitoring their heart rhythms."

Key Tasks

- Detect warning signs of heart issues
- See patients in clinic two days a week
- Finish billing reports on time
- Prepare custom reports for doctors

² <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2564046/>

deadlines. This tension between completing planned work and being nimble enough to address unexpected crises leaves many nurses and social workers feeling that they're merely "treading water."

Time Spent vs Impact

This criticality of a task can also color a caring professional's feeling about how long it should take. While many industries focus on efficiency as a simple measure of the amount of time spent completing key tasks, caring professionals focus on efficacy and define priorities for themselves. In this way their perception of the *impact* of the elapsed time effects their perception of efficiency. Spending half a day on one problem may be considered a good use of time if the case is complex and the outcome is good. Conversely, spare seconds spent on tasks that have little impact on a case are a constant frustration.

Efficiency studies in a warehouse or on an assembly line focus on the fastest way to complete repetitive tasks. Designing efficient systems for the caring of people requires focusing on the parts of the system that have a potential for making an impact on client³ outcomes and eliminating everything else as much as possible.

Chronology of Care

Most caring professionals approach their work as a series of encounters with the people they serve. Through these encounters they come to understand a person's situation, discover ways that might improve that person's life, and help to implement these changes.

In its simplest form, caring for others is one long conversation that takes place in fits and starts over a period lasting from one day to multiple decades. Caring professionals accumulate knowledge of clients and their case over time. Some of that knowledge is always relevant (Mr. Sulay requires an interpreter at all appointments) and some of it is only useful for a defined period (Ms. Jones is taking a class for teenage parents on Mondays).

Caring professionals sometimes remember the exact conversation in which they learned a piece of information, and other times remember only that it is true. They may be after certain information in a given encounter, but no conversation runs entirely to script. Both the expected and the serendipitous information must be recorded somewhere for future reference. Documenting encounters has little immediate benefit to the client, and it's common to hear frustration at the time it takes.

In addition, a tension exists between the caring professionals' innately chronological view of an ongoing client conversation and the various ways in which others in the organization may need to access bits and pieces of the record. This is explored further under "Expectations" at the end of this section.

³ Fields use different words for people they serve. Acknowledging that "patients" is the standard in medicine, we'll use "clients" as a general term for this union of several populations unless the context is specifically medical.



The Environment: Cards Stacked Against You

Understanding a day in the life of a caring professional is essential to designing effective solutions. Placing oneself in the users' shoes during a typical, chaotic day is a worthwhile way to build design-strengthening empathy.

Frequent Interruptions

As mentioned above, the work that was planned on a given day is rarely the work that actually gets done. The chaos of the client's life tends to spill into the day of the person caring for them. The phone rings and the whole day changes.

Dealing with constant interruptions leads to frequent context switching. It can be hard not to lose work or forget tasks due to an untimely interruption. Post-it notes litter offices, often with hastily scratched names, phone numbers, or record numbers.

Moving from the case they were working on to the case now in front of them, without losing progress, is a key user need. Then, once the interruption has been addressed, a reminder of the previous task is helpful. Care professionals are often observed working in Microsoft Word documents rather than their information management systems. Word offers frequent background saving, you can have multiple documents open at once, and you can start a new document with one click. These three simple features are sadly lacking in most enterprise case management applications.

Puzzle Pieces

Most care professionals nowadays are part of a care team. Each person on the team has distinct responsibilities to the client, and frequently the care professional does not have the full picture. A client's medical history and drug allergies may be stored in an electronic medical record with their primary care physician. Their social history and communication needs might be recorded in a physical paper file by an intake worker in social services. Any mental health records are likely to exist only in the office of their private therapist. While it is appropriate that sensitive information be shared only with those who need it, missing pieces of the puzzle do pose challenges for someone trying to provide care.

Steve Social Worker in Child Protection



"I aim to help people make positive changes in their life. I try to promote family cohesion and healing."

Key Tasks

- Coordinate with courts and providers
- Document everything in proper form
- Address crises in housing, drug abuse, and mental health

Outdated Technology

Most care professionals work on outdated and underpowered computers. It is not at all uncommon to see very old versions of Windows and Internet Explorer still in use. Most care professionals are aware that the technology they use all day for work is worse than their personal devices.

In addition, the majority have no control over the computer that they use. They most likely have no ability to upgrade Java, install Flash, or use a different web browser. They are subjected to surprise re-boots for patch installments out of the blue. Many do not even have a workstation that they consider “theirs,” but work on machines shared by the department or clinic.

Ineffective Training

Technology training sessions are most often lengthy, impractical, and a nuisance. Most training is at too high a level of detail to be useful, and it is frequently not targeted at the correct set of users.

Professional trainers from the software vendor present for hours on all the things the system can do, rather than focusing on the few common tasks the audience is actually expected to perform.

On-the-job technology training is more effective, but often only lasts for the first few days. Many care professionals describe receiving a few hours of training on their first day from the person they were replacing. After that, they are expected to be self-sufficient. Many offices have “cheat sheets” on the desk or pinned to a bulletin board in a common area. These cheat sheets often combine “How Do I?” information on the software itself with “How Should I?” information reflective of organizational policy.



The Expectations: Accountable to Many Needs

The information requirements of others are woven into the work that care professionals do. No note or data point is ever just for their own reference. Moreover, the organization’s needs for information tend to supersede the usability needs of the person closest to it. Understanding the complexities of work expectations around information management helps ensure we create systems that meet all the goals of the organization, not just those of the end user.

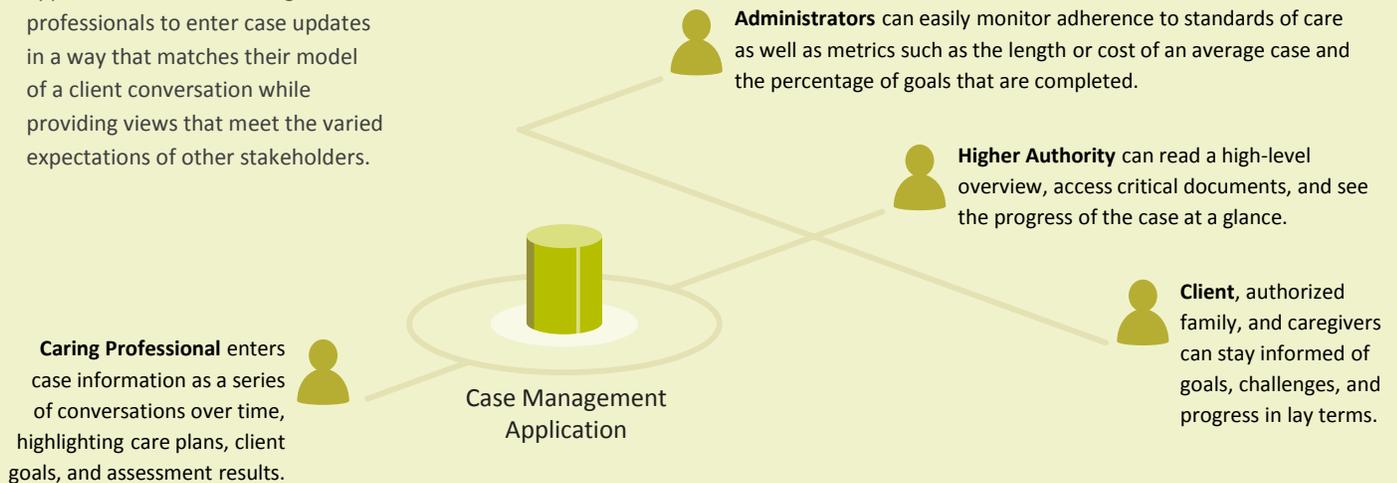
Clients

While medical and social histories were once the exclusive property of the clinician, therapist, or social worker who documented them, clients are now asking for greater transparency. As a result, caring professionals need to document things differently than many are used to doing.

Case notes and assessments often contain jargon, shorthand, clinical terms and judgments that would be confusing or damaging for a client to read. Creating a completely separate set of notes for the client is time-consuming and not considered a high priority by care professionals, but is often the only way to meet everyone’s expectations.

Many Masters

The ideal case management application will allow caring professionals to enter case updates in a way that matches their model of a client conversation while providing views that meet the varied expectations of other stakeholders.



Higher Authorities

The information documented by most care professionals is often intended to inform the opinion of other professionals in positions of authority. For example, social workers provide assessments and documentation to judges during trials involving children, and nurses notify physicians about patients' needs. This relationship with the higher authority is a key driver for the work the caring professional does. They work to build trust and respect by providing truthful and well-organized information.

While a caring professional may have a long-standing relationship with a client, an authority has to quickly assess the facts and determine a course of action. Caring professionals are observed working to “tell the story” of the case. The caring professional must include relevant background context, describe the events that has led to the authority’s involvement, and lay out options and the expected outcome of each.

Administration

Ultimately, the information that caring professionals collect and record must help their employers meet their goals. Software vendors understand this; application design and implementation often appear to focus solely on the needs of administrators and executives. This can lead to inefficient and frustrating experiences for the caring professionals who are the primary end users.

Many organizations have established standards of care and rely on their information systems to tell them how closely they have met these standards. For example, many complex case management plans require that all clients be assessed for barriers to care within 30 days of enrollment. In order for administrators to monitor performance against this standard, care coordinators are required to open a

case on the exact date they receive a client enrollment and enter the assessment on the exact date it is completed. This inflexibility for the timing of documentation adds stress to the care coordinator's day.

In addition to exerting pressure to record everything as it happens, the way applications capture and store information can make it hard for care professionals to work with. For example, social workers may be required to meet with clients face-to-face a specific number of times each calendar month. To enable reporting, they must enter these meetings as a specific type of case note.

Separating face-to-face meetings, phone calls, and written communication into their own areas breaks the chronology of the case file. All three content types need to be accessed and cross referenced in order to reconstruct the conversation.

Caring professionals believe in the mission of their organization. They have joined it to make a difference in the lives of others. However, it is often quite transparent to them that the systems they are required to use serve the needs of administration first. When systems make it harder to care for people well, frustration and resentment build over time.

Nila Complex Care Coordinator



"I need to help my patients get healthier and avoid the ER. If they do end up in the hospital, I have 48 hours to reach them."

Key Tasks

- Perform assessments via phone
- Track patient goals and progress
- Keep family and doctors informed

Design Guidelines

Once we understand the mindset and environment of caring professionals, and the expectations placed on them, we can create guidelines to ensure that systems meet their unique needs.

We identified seven guidelines based on the attributes explored in the previous sections.

Guidelines for Designing for Caring Professionals	
1. Make it easy to set priorities	When looking at the day ahead, users should be able to see at a glance what are the most critical and urgent tasks.
2. Help the routine work go quickly	Mundane tasks that don't impact clients should be as efficient as possible so users can get back to more meaningful work.
3. Allow for flexibility in the face of change	As unexpected client needs cause plans and priorities to shift, users should be able to quickly redesign their day.
4. Simplify case noting and assessments	Documenting the myriad conversations that happen should be the easiest thing the user can do.
5. Provide multiple ways to access information	Different users with different needs and mindsets should all be able to find information in ways that make sense.
6. Facilitate information sharing and case collaboration	Users who are teaming up on a case should be able to use the application together and inform anyone else involved.
7. Create a sense of accomplishment	At the end of the day, week, or month users should feel like they did a lot more than just "tread water."

Designing for Caring Professionals

Make it easy to set priorities

- Create one “worklist” of tasks, cases, or people. Don’t require users to keep separate lists of their tasks and the people they are for.
- Pre-filter the worklist to items that are relevant to the particular user and display information that will help the user **quickly determine his or her priorities for the day.**
- Provide efficient ways for the user to sort and filter the worklist. Make it flexible and **easy to change on the fly** when things change.

1

2

Help the routine work go quickly

- Offer ways to **complete routine work in bulk.** If inactive cases need to be closed each month, allow a user to easily get a list of them and close them all at one.
- Automate routine work. If a report needs to be run on the first of every month, allow a user to set preferences once and run it automatically thereafter.
- Provide routine content in the right format. Users should not spend time copying notes from the system into documents, mail merging spreadsheets into case summaries, or combining multiple PDFS into one file.

3

The screenshot shows a web interface titled "My Clinic Today". At the top right, there are icons for a chat bubble with a "3" notification, a "Note" icon, and links for "Help" and "Sign Out". Below the title, there are two buttons: "Get PDFs" and "Reply All". A filter section contains several checkboxes: "Show: Red Status", "Yellow Status", "Green status", "Barriers to Care", "Complex Disease Mgmt", "Vulnerable Adult", and "High-Risk Pregnancy". A "3" in a blue circle highlights the "Get PDFs" button. Below the filters is a table with columns: "All", "Patient Name", "Program", "Status", and "Latest Activity". A "1" in a blue circle highlights the "Status" column header. The table lists four patients: Johnson, Rebecca; Adams, Jessica; Painter, Leon; and Hamilton, Whitney. A "2" in a blue circle highlights the filter section. A "3" in a blue circle highlights the "All" column header.

All	Patient Name	Program	Status	Latest Activity
<input checked="" type="checkbox"/>	Johnson, Rebecca Next apt: 1-Apr-2016	Complex Disease Mgmt	● Intake Assessment due in 4 days	April 2, 2016 -- Intake Assessment Created March 25, 2016 -- Referral Report Received
<input type="checkbox"/>	Adams, Jessica Next apt: ---	Barriers to Care	● No Home Visit scheduled for this month.	March 28, 2016 -- Case Note Created Pt called office phone. Stated she had fever and chills. Primary breathing survey revealed some difficulty and possible effects of low oxygen. Pt stated she could call her son to drive her...
<input type="checkbox"/>	Painter, Leon Next apt: 1-May-2016	Vulnerable Adult	● New lab results available	From: LabCorp Subject: Results of A1C Screen Hello, The test you've requested has been completed and is available on our online portal. You can login using your email...
<input type="checkbox"/>	Hamilton, Whitney Next apt: 14-May-2016	Complex Disease Mgmt	● New patient message	From: Whitney Hamilton Subject: Testing Strips Hi, I am out of testing strips for my glucose meter. Pharmacist said to contact insurance because I shouldn't need more yet...

Allow for flexibility in the face of change

- Plan for rapid context switching by **saving in the background** frequently. 1
- Allow users to quickly jump to a different case and then easily navigate back to what they were initially doing.
- Make all dates and priorities easily editable.
- Provide key information about a person at a glance. When someone is on the phone right now there is no time to go digging into their record

Simplify case noting and assessments

- Provide a simple, uncluttered area that is the appropriate size for case noting. Embed **standard text editing and formatting tools** and spell check. 2
- Design for one-click access to **start a new note** from anywhere in the application. 3
- Do not require users to navigate to a certain area or make fixed decisions on content types before they can start taking notes.
- Where permissible, separate the date of the system record with the date of an activity being documented, to allow documentation on the care professional's schedule.
- Auto-save draft notes without requiring completion of mandatory fields.
- Store a draft locally if the user is in the field and not connected to the central application.
- Build in productivity tools like shortcut text and **name/phone number lookup**. 4

County Social Services Database

Get PDFs Reply All

All Client Name

- [Johnson, Rebecca](#)
Next apt: 1-Apr-2016
- [Adams, Jessica](#)
Next apt: ---
- [Painter, Leon](#)
Next apt: 1-May-2016
- [Hamilton, Whitney](#)
Next apt: 14-May-2016

Write Note Note Regarding:

B I U 1

Call recieved @ 4:34 pm RE: court date for emergency custody hearin. Co. Attny needs home visit records for 01/14-01/15 inclusive. Case mgr was Casey Nelson in Columbus County. | 4

draft autosaved 20 sec ago... 2

File As: Case Note Assessment Intake Form CC: 3

Provide multiple ways to access information

- Default to a **chronological view of information** while still providing access to just assessments or just a particular type of note.
- Allow content types to overlap and for documentation to belong to more than one category.

1

Facilitate information sharing and case collaboration

- Design for teams to work a case together. Do not require anyone to check-out or lock a record in order to add content.
- Create crossways to other popular information and case management systems.
- Provide exports of data in common formats like XML, Excel and PDF.

Create a sense of accomplishment

- Give users **visibility into the work they have completed** that day.
- Display productivity metrics and allow for gamification or at least comparison to an average day.
- Provide a virtual place to share wins and celebrate as a care team.

2

The screenshot displays a patient dashboard for Rebecca Johnson (DOB: 06/20/1949). At the top, there are navigation links for 'Help' and 'Sign Out', and a search bar. The dashboard is divided into several sections:

- My Clinic Today:** A summary bar with a '3' notification bubble, a 'Note' icon, and a search bar.
- Patient Status:** A bar chart showing 45 patients in green, 10 in yellow, and 2 in red.
- Reports:** A circular progress indicator at 95% with a '2' notification bubble and a '(Start Download)' link.
- Messages Sent:** An envelope icon with an '8' notification bubble and a '(View List)' link.
- Patient Information:** Name: Rebecca Johnson (06/20/1949), Phone: 515-555-0620, Status: 18 MO Assessment due in 4 days, Rx: Target Lakeside, Program: Complex Disease Mgmt.
- Activity:** A list of upcoming and recent activities. The 'Apr 17, 2016 -- Reminder call: Automatic reminder about upcoming visit' item has a '1' notification bubble. An 'Expand All' link is present.
- Sticky Note:** A yellow note stating: 'Currently living with MIL until blood sugar stabilizes. Do NOT leave voicemail at home number. Texting OK.' with an 'Edit' link.
- Document Bank:** A list of document categories: Medical Records, Prescriptions, Assessments, and Authorizations, each with a dropdown arrow.

Conclusion

Gaining a deep understanding of how care professionals approach their work, spend their days, and adapt to their organization's expectations enables the creation of systems and procedures that work for this unique user group.

During summative tests it is easy to see how in-depth user research has paid off in comments like, "It's like you have read my mind with these changes" or "I can't wait for this to come out, this is going to make our lives so much easier!"

The same techniques used for this research and analysis could be applied to most other user groups with similar success. With meaningful and directed curiosity, a user experience partner can uncover the authentic needs of your users and create designs that exceed their expectations.