Integrating Protocol Schedules with Patients’ Personal Calendars
Andrea Civan\textsuperscript{a}, John H. Gennari, PhD\textsuperscript{a}, Wanda Pratt, PhD\textsuperscript{a,b}

\textsuperscript{a} Biomedical and Health Informatics, School of Medicine, University of Washington
\textsuperscript{b} Information School, University of Washington

We propose a new approach for integrating protocol care schedules into patients’ personal calendars. This approach could provide patients with greater control over their current and future scheduling demands as they seek and receive protocol-based care.

Motivation
Patients have little control over their highly complex cancer-care schedules, best exemplified by the many cycles of chemotherapies common in cancer-care regimens. Patients currently lack easy ways to access this complex scheduling information in ways tailored to their personal scheduling needs.

To support this need, we propose a new approach that improves accessibly by helping patients integrate clinical-trial protocols or guidelines with personal scheduling information. We embrace the vision of knowledge representation projects that have created global libraries of computable guidelines and protocols.\textsuperscript{[1]} Although those well-established projects have developed tools to support clinical professionals, these tools also hold value for supporting patients’ needs.

Approach
Our approach transforms the generic content from full-text, clinical-trial protocols into patient-specific care schedules that patients can directly import into their electronic calendaring systems. We are developing a new scheduling tool that leverages existing tools and encourages direct patient interaction to enhance patient control in their scheduling activities.

Our approach, as shown in the Figure, involves three steps. First, we encode content from full-text protocols into Asbru, a representation language for specifying the time-oriented knowledge in guidelines and protocols and using that knowledge in computable, skeletal plans.\textsuperscript{[2]} For encoding, we use DELT/A, a tool that translates text-based guidelines and protocols into the XML-based Absru representations.\textsuperscript{[3]}

Second, by interacting with the patient, our scheduling tool transforms the generic Asbru representation into a patient-specific care schedule. The patient first specifies the protocol arm and start date. Next, our tool instantiates a patient-specific care schedule by selecting relevant XML elements from the Asbru representation based on the specified arm. Then our tool populates the care schedule with protocol event dates based on the specified start date. Finally, our tool formats the care schedule in iCalendar, a standard format for calendar data exchange.\textsuperscript{[4]}

Third, the patient directly imports her customized care schedule into any iCalendar-compatible personal calendaring system. With a comprehensive view of her protocol care and personal scheduling information in her personal calendar, the patient could be better equipped to make protocol enrollment decisions and manage her personal health schedule.

In conclusion, our novel approach provides patients with an easy way to integrate their protocol care and personal scheduling information. This integration could provide patients with more control over their care by helping them see and manipulate their protocol schedule information within the context of their personal calendars. We anticipate that our approach will provide the custom tailored support that will help patients make important protocol decisions and effectively manage their personal and health schedules as they seek and receive protocol-based care.

References

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