### Health Care Gap

Tumor Lysis Syndrome (TLS) is the most common oncology emergency in hematologic malignancies. Historically TLS was most often encountered in acute leukemia or non-Hodgkin’s lymphoma; however, with the advent of improved anticancer therapies, including monoclonal antibodies, tyrosine kinase inhibitors, and small molecule inhibitors, TLS has been increasingly reported in malignancies not usually considered at high risk.¹

TLS is defined by a number of metabolic abnormalities that may arise from rapid and massive lysis of malignant cells and concomitant release of intracellular contents into the bloodstream. Metabolic abnormalities characteristic of TLS include abnormally high serum uric acid levels (hyperuricemia) resulting from the breakdown of purine-containing nucleic acids and major electrolyte imbalances such as hyperkalemia, hyperphosphatemia, and hypocalcemia. Clinical manifestations of TLS typically occur 12–72 h after treatment initiation and may include renal failure, seizures, and cardiac arrhythmias.²

Because of the rapidity with which TLS progresses and the seriousness of common clinical consequences such as acute kidney injury (AKI), TLS is associated with significant morbidity and potential mortality. Therefore, TLS is as an oncologic emergency and prevention remains the cornerstone of a successful therapeutic algorithm for TLS. Prevention is the mainstay of TLS management and includes monitoring of electrolytes, vigorous hydration, and prophylactic antihyperuricemia therapy with allopurinol or rasburicase.¹² In contrast, treatment of patients who have developed or are developing TLS must be aggressive to prevent the potentially serious clinical consequences of TLS. Specific therapies and strategies may be necessary to rapidly reduce high plasma uric acid levels, reverse or at least mitigate TLS-associated metabolic imbalances and their clinical consequences, and preserve renal function.¹

Prevention of TLS relies on the identification of at-risk patients who would benefit from close monitoring and/or early implementation of prophylactic measures.¹² Risk factors include a large tumor size, tumors with rapid cell division and growth, hematologic cancers such as acute leukemia or high-grade (aggressive) lymphoma, and tumors with a high sensitivity to

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### Table

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Submission Portal: [www.sagrants.com](http://www.sagrants.com)
chemotherapy. TLS typically occurs after the initiation of anticancer therapies, including cytotoxic drugs, biological agents, corticosteroids, hormones, and radiation therapy, in patients with hematologic malignancies or solid tumors that are highly treatment sensitive.\textsuperscript{1,2} TLS is also now increasing as an adverse effect of several newer therapies for various malignancies which were historically considered to have a low incidence of TLS. For example, bortezomib and carfilzomib in multiple myeloma have been reported to cause TLS.\textsuperscript{3,4} Also, a number of agents recently approved or in development for chronic lymphocytic leukemia, such as bendamustine and venetoclax, have reported TLS as an adverse effect.\textsuperscript{5,6}

As appropriate patient risk-stratification is essential to direct preventive measures for TLS, oncologists and health care practitioners must be informed of relevant risk factors related to tumor type and treatment. Many practitioners in the clinical setting have yet to fully realize the prevalence of TLS, often associated with more effective cancer treatments and newer regimens; thus the likelihood of cancer patients at risk for TLS is probably underestimated, resulting in unnecessary patient morbidity and mortality.\textsuperscript{7} Education is required to assist HCPs in identifying underlying risk factors associated with TLS as well as recognizing new and emerging therapies that may place their patients at risk for TLS.

SANOFI US is seeking proposals to close this independently defined healthcare gap to improve clinician knowledge of new and emerging therapies that cause tumor lysis syndrome, as well as timely and appropriate preventative and treatment strategies for hyperuricemia and tumor lysis syndrome through independent medical education designed according to well-referenced learner preferences.

Single supported and multi-supported proposals will be considered \textit{with a maximum request not to exceed $150,000}.

\textit{Please note that proposals are expected to include an analysis of the barriers and root causes for this gap and how the educational intervention would address this gap}.

\textbf{Proposal should include the following information:}

\begin{itemize}
  \item \textbf{Needs Assessment/Gaps/Barriers:} Include a comprehensive needs assessment that is well referenced and demonstrates an understanding of the specific gaps and barriers of the target audiences (http://www.accme.org/requirements/accreditation-requirements-cme-providers/accreditation-criteria. Accreditation Criteria. Accessed 8 April 2016).\textsuperscript{8} The needs assessment must be independently developed and validated by the accredited provider
  \item \textbf{Target Audience and Audience Generation:} Proposal should describe the target audience(s) and provide a rationale for how and why this target audience is important to closing the identified healthcare gap. In addition, please describe methods for reaching the target audience(s) including description of and rationale for recruitment and placement strategies to maximize participation according to need. Any unique recruitment efforts specific to the target audience should be highlighted.
  \item \textbf{Learning Objectives and Content Accuracy:} Provide clearly defined and measurable learning objectives framed as expected practice improvements in relation to the identified gaps and barriers. Include an overview of program content and explanation
of criteria that will guide content selection, considering level of evidence and other variables. SANOFI is committed to the highest standards in ensuring patient safety; the applicant should describe methods to ensure complete, accurate, evidence-based review of key safety data for any therapeutic entities discussed in the activity. Explain how content will be updated if necessary throughout the program period, and how accuracy will be ensured.

- **Educational Methods:** The ACCME calls for educational methods that are clearly designed to address the knowledge, competence and/or performance gaps that may underlie an identified healthcare gap. Your proposal should demonstrate an understanding of instructional design issues as they relate to the gaps in the knowledge, competence, or performance of the targeted audience. Education methods and design should be based on current literature in continuing education best practice and consistent with ACCME accreditation elements (http://www.accme.org/requirements/accreditation-requirements-cme-providers/accreditation-criteria. Accreditation Criteria. Accessed 8 April 2016). For example, systematic reviews have suggested that the most effective continuing education is clearly linked to clinical practice, uses methods including interaction, reflection, strategies that ensure reinforcement through use of multiple educational interventions, and more. Preference will be given to applications that utilize methods that have been shown to result in practice improvements, and/or with data on the effectiveness of other programs of the same type. ACCME criteria recognize that barriers may be related to systems, lack of resources, or tools etc. and these may be included if relevant in your discussion of the gap and the educational methods you propose. In addition, the educational preferences of the target audience(s) may be considered to maximize attendance/participation and lead to practice improvements.

- **Faculty Recruitment and Development:** Provide Information on the expected qualifications of contributors and description of methods to ensure recruitment of course directors and faculty who meet the qualifications. Explain any methods that will be used to ensure that faculty are fully trained in the program expectations and any skills that may be needed to ensure effective delivery of intended education.

- **Program Evaluation and Outcomes:** Provide a description of the approach to evaluate the reach and quality of program delivery; methods for monitoring individual activities and for ensuring ongoing quality improvements (http://www.accme.org/requirements/accreditation-requirements-cme-providers/accreditation-criteria. Accreditation Criteria. Accessed 8 April 2016). Describe methods that will be used to determine the extent to which the activity has served to close the identified healthcare gap. (http://www.accme.org/requirements/accreditation-requirements-cme-providers/accreditation-criteria. Accreditation Criteria. Accessed 8 April 2016), and the qualifications of those involved in the design and analysis of the outcomes. Preference will be given to programs with Objectives and Outcomes Plans of Moore level 4-6.

- **Budget:** Include a detailed budget with rationale including breakdown of costs, clear explanation of the units, and calculations of:
  - Content cost per activity
Out-of-pocket cost per activity
Management cost per activity

**Accreditation:** Programs must be accredited by the appropriate accrediting bodies and fully compliant with all ACCME criteria and Standards for Commercial Support™. **If you are a non-accredited provider, the accredited provider must be involved from the concept origin, fully knowledgeable of the grant submission and documentation should be provided on the website grant application section entitled, “Other Information”.

**Resolution of Conflict:** The proposal should briefly describe methods for ensuring fair and balanced content, identification and resolution of conflict of interest, with particular emphasis on ACCME criteria (http://www.accme.org/requirements/accreditation-requirements-cme-providers/accreditation-criteria. Accreditation Criteria. Accessed 8 April 2016).^8

**Communication and Publication Plan:** Provide a description of how the provider will keep the supporter informed of progress. Include description of how the results of this educational intervention will be presented, published or disseminated.